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CONTENTS AND DIGEST

Relation Between the Specialist and the Practitioner. James B. Herrick, M.D., Chicago 975

Ethical relations of the practitioner and the specialist. Prerequisites of the specialist. Future relation of the practitioner and the specialist. Need of caution in formulating plans for the training of specialists.

Basal Metabolism Determinations with the Original Portable Benedict Apparatus, and a Simplified Method of Calculation. G. W. McCaskey, M.D., Fort Wayne, Ind.....978

Diagnostic value. Reliability of Benedict apparatus. A simplified method of calculation. Precautions that will eliminate danger of infection in use of apparatus.

Rural Health Centers as Aids to General Practitioners. Victor C. Vaughan, M.D., Ann Arbor, Mich.....983

Contributions of rural physicians to the advance of medicine. Diagnostic facilities of the old and the new era. Handicap under which the rural physician suffers. Present needs of the medical profession.

Cultivation of a Filtrable Organism from the Nasopharyngeal Washings in Influenza. Leo Loewe, M.D., and Frederic D. Zeman, M.D., New York 986

Experimental work with laboratory animals.

Diagnosis and Significance of Tracheobronchial Adenopathy. Ray M. Balyeat, M.D., Oklahoma City.....988

Significance of D'Espine sign. Possible causes of enlarged tracheobronchial glands. Determination of degree of infection by the roentgenogram. Value of physical examination. Importance of right living in the prevention of active tuberculosis in adult life.

The Surgical Treatment of So-called Elusive Ulcer of the Bladder. Herman L. Kretschmer, M.D., Chicago 990

Uncertainty of nomenclature for the lesion. Lack of knowledge concerning the etiology of the condition. Results of histologic examination. Failure of previous operations to relieve the symptoms. Symptoms observed. Results of cystoscopy. Prognosis. Surgical treatment.

Roentgen Observation of a Volvulus at the Duodenojejunal Angle. Charles Winfield Perkins, M.D., New York 995

Report of an unusual case.

Cicatricial Laryngopharyngeal Diaphragm. G. B. New, M.D., and P. P. Vinson, M.D., Rochester, Minn...996

Report of case in which patient swallowed lye.

Nutritional Work in Public Schools: Final Report of Experimental Work Done Under the Supervision of the Board of Education in the Public Schools of Chicago. Katharine B. Rich, M.D., Chicago.....998

Possibilities of the work. Undernourishment as a problem of the medical profession.

The Quinotoxin Myth. Torald Sollmann, M.D., Cleveland.....999

Unjustified fear of toxic effects from transformation of quinin into quinotoxin.

(Continued on next page)

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See Page 3

Two Small Outbreaks of Typhoid Fever Probably Due to a Carrier. Emerson Megrail, M.D.; R. G. Perkins, M.D., and E R. Miller, Cleveland.....1001

Alkali Tolerance in Pellagra. M. X. Sullivan, Ph.D., Spartanburg, S. C. 1002

So-Called Pleomorphic Streptococci from Human Respiratory Tract. John F. Norton, Ph.D.; Katherine Rogers, S.M., and Constantine Georgieff, S.M., Chicago.....1003

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Hypochlorhydria, a Possible Cause of Persistent Erythema Multiforme. Alfred Schalek, Omaha.....1005

Traction Device for Use with Thomas Splint. Harry L. Schurmeier, M.D., Santa Barbara, Calif.....1005

Iodin Swab for Sterilizing Site of Hypodermic Puncture. Cyril J. Marshall, M.D., Sanford, Fla.....1006

A Case of Localized Argyria. B. Barker Beeson, M.D., Chicago.....1006

A New Gastroduodenal Catheter. A. L. Levin, M.D., New Orleans.....1007

NEW AND NONOFFICIAL REMEDIES

Description of Articles Accepted by the Council on Pharmacy and Chemistry 1007

EDITORIALS

Fluke Infection and Snails.....1008
Efficacy of prophylactic procedures.

Cod Liver Oil.....1009
Superiority to butter in vitamin potency.

Is Lefthandedness a Sign of Inferiority? 1010
Suspicion of association with defective organization of central nervous system.

Phenomena of Allergy in Diseases of the Skin.....1010
Cutaneous reactions in various conditions.

CURRENT COMMENT

Qualifications to Treat the Sick?...1011
Question of granting privileges and responsibilities of physicians to persons not properly qualified.

Milk and the Subtle Menace of "Patent Medicine".....1012
Poisoning of infant by bromin in nostrum taken by its mother.

The Capillaries and Acidosis.....1012
Result of injury to the capillaries of the muscles.

The Pandemicity of Encephalitis...1012
Necessity for making cases reportable.

The Cost of Typhoid.....1012
Profit and loss at Salem, Ohio.

CONTENTS AND DIGEST— Concluded

ASSOCIATION NEWS 1013

MEDICAL NEWS 1017

GOVERNMENT SERVICES 1022

FOREIGN LETTERS 1022

MARRIAGES 1027

DEATHS 1027

PROPAGANDA FOR REFORM 1029

CORRESPONDENCE 1030

QUERIES AND MINOR NOTES 1031

MEDICAL EDUCATION, REGISTRATION AND HOSPITAL SERVICE 1032

MISCELLANY 1033

BOOK NOTICES 1035

MEDICOLEGAL 1037

SOCIETY PROCEEDINGS 1038
Coming Meetings.

CURRENT MEDICAL LITERATURE

American Medical Journals

Value of Cutaneous Sensitization Test—Procain Dermatitis—Iodin in Leprosy—Clinical Types of Syphilis—Sachs-Georgi Reaction—Spurious Chancre—Treatment of Botulism.. 1039

Relation of Hyperthyroidism to Diabetes Mellitus—Acute Benign Lymphoblastosis—Focal Infection and Pyelonephritis—Muscular Infantilism — Influenza and Anticyclonic Weather — Changes in Axons and Dendrites —Multiple Corticospinal Hemorrhages—Posterior Fossa Tumors as Cause of Convulsions 1040

Luminal in Epilepsy—Value of Blood Chemistry in Acute Abdomen—Operation for Recurrent Dislocation of Shoulder Joint—Experimental Influenza Studies.....1041

Botulism from Cheese—Acid Fast Actinomycetes —Influence of Chaulmoogra Oil on Tubercle Bacillus—Leukocytosis and Blood Alkali Reserve—Effect of Mustard Gas on Antibody Formation—Effect of Mustard Gas on Tubercle Bacillus—Fate of India Ink Injected into Blood—Tea Intoxication—Alveolectomy for Trifacial Neuralgia.....1042

Calcium Metabolism and Pulmonary Infections —Myelocytic Variations in Leukemic Blood During Treatment—Bordet-Gengou Reaction in Aortic Lesions—Diagnosis of Intrathoracic Neoplasms—New Tests for Alkaline Carbonates in Urine.....1043

Foreign Medical Journals

Measurement of Capillary Blood Pressure—Spontaneous and Artificial Lesions—Nature of Effect of Blood Pigment on Growth of B. Influenzae — Hemagglutination and Its Medicolegal Bearing—Presence of Hemolytic Substances in Human Urine—Sachs-Georgi Syphilis Reaction and Its Relation to Wassermann Reaction—Treatment of Congenital Cleft Palate—Sodium Bicarbonate in Sprue 1044

Angina Pectoris and Auricular Fibrillation—Asthma and Anaphylaxis—Decapsulation of Kidney in Nephritis—Extension for Fracture of Femur—Case of Myelocele Not Immediately Fatal—Labor in Case of Epidemic Encephalitis—Sequels of Congenital Syphilis.. 1045

Nutrition in Vienna—Isolated Case of Plague —Influence of Aeration on Stability of Antiscorbutic Factor — Epidemic Encephalitis Complicating Pregnancy—Intravenous Injection of Antimony Tartrate—Tree Breeding Anophelines—Radium Therapy of Eczema.. 1046

Pulmonary Tuberculosis Simulating Exophthalmic Goiter—Primary Cancer of the Lung—Cancer in Animals — Gastroradiculitis and Enteroradiculitis—Fat Acids and Ammonia in Stools of Adults—Sugar in Infant Feeding—Insufficiency of the Liver with Stomach Disease—Gangrene of Pharynx—Absorption of Hot Drinks 1047

Mycosis of Oysters—Typhoid Fever—Therapeutic Anaphylactic Shock—Separation of Pubic Bones in Riders—Practical Urology—The Sphygmometrograph — Uremic Pericarditis—Edema in a Syphilitic—Uremia and Digestive Hemolysis with Gastric Ulcer—Epidemic Encephalitis—Plague Bacilli in the Blood—Plague at Paris.....1048

Spirocheturia in Syphilis—Amebic Abscess of Liver — Tuberculin Reaction During the Menses—Erysipelas in the Newly Born—Coagulation in Erythremia — Gaps in the Skull—Uric Acid in the Urine in Gout and Gravel—Disease Seen Through Treatment—The Temperature During Incubation of Typhoid Fever—Scarlet Fever and Angina—Necessity for Serologic Tests for Tuberculosis in the Elderly—Rat-Bite Disease.1049

Edema with Pleurisy—Etiology of Epidemic Encephalitis—Stenosis from Umbilical Hernia—The Policlinic and Medical Training—Ligation of Jugular Vein in Otitis—Gastric and Duodenal Ulcer — Bone Implants in Pott's Disease—Bismuth to Expel Oxyurids —Tuberculous Meningitis Diagnosed by Eye Findings—Pellagra from Chronic Poisoning from Corn Liquor 1050

Epidemic Encephalitis — Vulvar Dystrophia—Parenteral Injections of Milk in Eye Disease — Bone Implants in Pott's Disease—Residual Nitrogen in the Tissues—Edema—Measurement of the Venous Pressure—Bilirubin in the Blood Serum.....1051

Epidemic Encephalitis — Muscular Tone and General Metabolism—Reduction of the Suprarenal Glands in Treatment of Epilepsy—Experimental Ventricular Fibrillation—Overexcitability of Nerves as Indication of Spasmophilia in Infants—Capacity for Imbibition of Protein Bodies in Blood Serum—Sequelae of Epidemic Encephalitis in Children—Determination of Objective Power of Audition and Differentiation of Organic from Psychogenic Deafness—Results of Roentgen Irradiation in Uterine Myomas and in Other Pathologic Conditions of the Uterus—Forty Suprapubic Prostatectomies Without a Death —Eye Symptoms in Syphilis—Trauma and Tuberculosis 1052

Acceleration of Blood Coagulation by Roentgen Irradiation of Liver—Operation for Hydrocele—Free Transplant of Costal Cartilage as Support for the Eyeball—To Ward Off Amputation-Neuromas — Blood Pressure in the Newborn — The Differential Diagnosis of Fetal Hydrops Universalis—Diaphragmatic Eventration—The Gaseous Interchanges in Rowers—Subcutaneous Injection of Oxygen —Hysterical Attitudes 1053

Actinomycosis of Salivary Glands—Separation of the Head of the Femur — Cultivation of Nerve Tissue Outside of the Body—Measurement of Temperature Action of Visible Rays — Fluctuations in Weight of the Tuberculous—Sciatica—Vaccine Therapy in Epidemic of Paradysentery — Respiratory Phenomena with Pneumothorax — Rubber-Ball Sound After Cough as Sign of a Cavity—The Corpus Luteum 1054

TONICS AND SEDATIVES—BOOKS RECEIVED.....Adv. Page 20

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OPHTHALMIA AND DIET *

THOMAS B. OSBORNE, PH.D.
AND
LAFAYETTE B. MENDEL PH.D
NEW HAVEN, CONN.

The views of ophthalmologists in regard to the etiology of the type of eye disease designated, among other names, by the terms keratomalacia and xerophthalmia, have changed from time to time under the influence of the prevailing tendencies in the study of pathology. Thus, Goldschmidt [1] has pointed out that long ago a relationship between nutritive disturbances and ophthalmia seemed to be established. With the progress of modern bacteriology, this aspect of the subject became overshadowed by the assumption that the ophthalmia is primarily an infection for which various organisms have been held responsible. More recently, however, through the investigations of the newly recognized factors in nutrition, attention has been centered once again on the possible connection between nutrition and eye diseases.

Early in our investigations of nutrition and growth, conducted on albino rats, we noticed occasional cases of eye disease which we were at first inclined to attribute to accidental infection. Attempts that we made to relieve such conditions by the local application of antiseptics, notably silver-protein combinations were not successful. Presently, however, it became apparent that, despite the common possibility of infection throughout a large colony of animals kept under the same hygienic conditions, *the eye disorders did not occur when good nutritive conditions were secured by suitable diets.*

As early as 1913, we stated in a communication indicating the superiority of butter fat over lard in the nutrition of growth, and in describing what would at the present time be recognized as the result of a deficiency of fat-soluble vitamin: "Another type of nutritive deficiency exemplified in a form of infectious eye disease prevalent in animals inappropriately fed is speedily alleviated by the introduction of butter-fat into the experimental rations." [2] Again in 1914, in referring to the unique nutritive value of cod liver oil, it was stated in regard to the effect of diets consisting of protein, carbohydrate, inorganic salts, and lard that "the failure to make early growth is accompanied by diarrhea, diminished appetite and, after three or four weeks, by inflamed eyes, which soon develop into a purulent state." This condition also was improved by the use of a source of fat-soluble vitamin. Thus:

> We "obtained uniform success by substituting cod liver oil for a portion of the lard in our standard diets. . . . Not only was growth resumed in most cases at a very rapid rate, but all evidence of malnutrition, especially the affection of the eyes, promptly disappeared." [3]

Again, in 1915, in referring to the effects of the inadequate diets it was pointed out that:

> The disturbance of growth may be attended by symptoms of malnutrition (such as infections of the eye) giving evidence of impaired resistance to bacterial invasion. Recovery promptly follows the substitution of a part of the lard of the ration by certain other natural fats. . . . Here again the purulent condition of the eyes, hitherto noted with the lard diets, also occurred with diets containing the inefficient fractions of the butter-fat and were cured by supplying the butter oil.[4]

These references, among many other allusions [5] which we have made to the subject in recent years, suffice to indicate our own attitude toward the abnormal eye manifestations with which we have become acquainted in the progress of our studies in nutrition. They associate the incidence of the malady with the lack of fat-soluble vitamin, and the relief of the condition with the inclusion of this food factor in the diet.

Even before our own observations and at a time when the vitamin hypothesis had not been formulated, observations strikingly similar to those which we have reported were put on record. Thus, Falta and Noeggerath [6] fed rats on food mixtures of casein, lard, starch, dextrose and inorganic salts and, as might now be anticipated, presently observed nutritive decline and death in their animals. They remark:

> At the beginning of the fourth week there developed in both animals a conjunctivitis with crust formation, which persisted until death. These animals, of course, were kept separated. Furthermore, from the beginning of their illness they were weighed individually.[7]

* From the Connecticut Agricultural Experiment Station and the Sheffield Laboratory of Physiological Chemistry, Yale University.

* The expenses of this investigation were shared by the Connecticut Agricultural Experiment Station and the Carnegie Institution of Washington, Washington, D. C.

1. Goldschmidt, M.: Arch. f. Ophth. **90**: 354, 1915.
2. Osborne, T. B., and Mendel, L. B.: J. Biol. Chem. **16**: 423, 1913.
3. Osborne, T. B., and Mendel, L. B.: J. Biol. Chem. **17**: 401, 1914.
4. Osborne, T. B., and Mendel, L. B.: J. Biol. Chem. **20**: 379, 1915.
5. Osborne, T. B., and Mendel, L. B.: Year Book 13, Carnegie Institution of Washington, 1915, p. 368; Proc. Soc. Exper. Biol. & Med. **12**: 92, 1915; J. Biol. Chem. **24**: 37 (Jan.) 1916; J. A. M. A. **69**: 32 (July 7) 1917; J. Biol. Chem. **32**: 369 (Dec.) 1917; **34**: 17 (April) 1918; **37**: 187 (Jan.) 1919; **41**: 549 (April) 1920. Mendel, L. B.: J. A. M. A. **64**: 1539 (May 8) 1915; Am. J. M. Sc. **158**: 297 (Sept.) 1919. Mendel, L. B., and Osborne, T. B.: Proc. Soc. Exper. Biol. & Med. **15**: 71, 1918.
6. Falta, W., and Noeggerath, C. T.: Beitr. z. chem. Physiol. u. Path. **7**: 313, 1906.
7. Im Beginn der IV. Woche entwickelte sich bei beiden Tieren eine Conjunctivitis mit Borkenbildung, die bis zum Tode bestand. Natürlich waren auch diese Tiere getrennt gehalten. Sie wurden überdies vom Beginn der Erkrankung ab in eigenen Wägegläsern gewogen.

Again, in connection with experiments in which a different protein—ovalbumin—was employed, this comment was made:

In the course of the third week both animals, in spite of being segregated, developed conjunctivitis, and later panophthalmia, with abscess formations in the jaw and neck region. Both animals ate well until death.[8]

The foregoing experiments led Knapp[9] to reinvestigate the possible relationship between diseases of the conjunctiva and nutritional disorders. His diets were comparable to those just described. Various additions, such as nucleic acid, cholesterol and lecithin, failed to alter the tendency toward nutritive decline. Knapp describes the eye symptoms as beginning with photophobia, followed by secretion in the corners of the lids, and finally turbidity of the cornea and ulcers. He observes:

I have often made cultures of the secretion on agar and gelatin, with the development of numerous colonies of *Staphylococcus pyogenes-albus* and a few colonies—isolated—of *Staphylococcus pyogenes-aureus,* and likewise micro-organisms found normally on the conjunctiva. It should again be emphasized that the animals were kept apart in individual glass containers, thus excluding contact infection.[10]

In this connection Knapp pointed out that mere cachexia could scarcely account for the invasion of the cornea by organisms which are commonly found there in health, for the types of conjunctivitis described by him were, he states, not ordinarily seen in the usual nutritive decline. Hence he concludes that aside from the marasmus some other cause, some other injury, due to disturbed nutrition, must have been at work (dass da neben dem Marasmus noch irgend eine andere Ursache, irgend eine durch die Ernärung bedingte Schädlichkeit mitspielen dürfte). Knapp seems almost to have postulated a specific deficiency such as that of the fat-soluble vitamin, to which we subsequently related the phenomena, when he stated that:

It was not alone the premortal loss of resistance which predisposed these animals to these catarrhal inflammations, but an additional etiologic factor must be sought for in the diet, perhaps, a lack of an important element. Whether this is the case, and the nature of this element or substance, is a question which, on the basis of my investigations, I am unable to answer. Other carefully conducted experimental investigations are needed before a solution of the problem will be found.[11]

He also refers to reports of the occurrence of conjunctivitis in horses and dogs that have been improperly nourished, and raises the question as to whether these maladies likewise have "the same endogenous origin."

In a paper published in 1915 by McCollum and Davis[12] it was also pointed out that rats which had attained a state of enfeeblement and emaciation on a fat-free diet frequently developed "inflamed eyes" which soon became normal again when the diet was made more suitable. McCollum and his associates subsequently made further reference to inflamed and edematous conditions of the eyes in connection with dietary inadequacies,[13] and later applied the term xerophthalmia to the eye disorder which they too regard as having its origin "in the lack of a sufficient amount of the fat-soluble A".[14]

Since our earliest reference to the subject, the phenomenon and its apparent relation to the lack of fat-soluble vitamin in the diet has been observed by a sufficient number of investigators in various places to render it more than a chance coincidence,[15] although the precise connection between the eye disease and the dietary factor involved was not always appreciated formerly. Something comparable has also been reported for other species: in the rabbit,[16] in mice,[17] and in man.[18]

In discussing the etiology of this type of ophthalmia, Freise, Goldschmidt and Frank[15] early emphasized that it cannot be called forth by mere underfeeding with a food of satisfactory qualitative make-up. In other words, the cause of ophthalmia is not to be sought primarily in inanition; nor do they regard infection as the sole factor in its etiology. Normally nourished animals kept in contact with those exhibiting ulcerations of the cornea failed to develop the malady.

In the British report on accessory food factors,[19] it is assumed, in harmony with our own views, that:

The lessened resistance produced by diets devoid of fat-soluble vitamin first becomes apparent in many cases of rats "by the appearance of a characteristic infection of the external eye, which has been provisionally classified as a xerophthalmia. It usually begins with a swelling of the lids of one or both eyes, which is followed by an inflamed and catarrhal condition of the conjunctivae. This rapidly becomes worse and the discharge which is at first hemorrhagic, frequently becomes purulent. If untreated, the cornea may be involved and total blindness result."

Quite recently in a communication from Professor Hopkins' laboratory by Bulley,[20] the conviction is expressed that:

With avoidance of initial infection, experimental animals can be kept almost entirely free from this so-called deficiency disease, whether fat-soluble A be present or absent, and it is dangerous to draw conclusions as to the fat-soluble A content of any diet from the appearance of xerophthalmia.

This conclusion was reached in view of the absence of evidence of eye symptoms in more than 200 rats that were receiving diets in which "fat-soluble A has been either deficient or absent." The implication is that under proper hygienic conditions and with the use of

8. Im Laufe der III. Woche bei beiden getrennt gehaltenen Tieren Conjunctivitis, später Panophthalmie, und anschliessend daran Abszessbildung in der Kiefer- und Halsgegend. Beide frassen bis zum Tode reichlich.

9. Knapp, P.: Ztschr. f. exper. Path. u. Therap. **5**: 147, 1908.

10. Ich habe öfter das Secret auf Agar und Gelatine abgeimpft, es wuchsen stets massenhaft Colonien von Staphylococcus pyogenes albus und einzelne von Staphylococcus pyogenes aureus, also Mikroorganismen, die wir normaler Weise schon im Bindehautsach vorfinden können. Es sei nochmals betont, dass die Thiere ganz separat in geschlossenen Glasflaschen gehalten wurden, so dass also eine gegenseitige Infection ausgeschlossen war.

11. Es nicht nur die prämortale Resistenzlosigkeit war, welche die Thiere zu derartigen Katarrhen prädisponirte, sondern, wir eine weitere Ursache in der Art der Nahrung suchen müssen, vielleicht in dem Fehlen eines ganz bestimmten wichtigen Körpers. Ob dies der Fall ist, und welches eventuell dieser Körper sein könnte, das ist freilich eine Frage, die nach meinen Versuchen noch nicht entschieden werden kann, und zu deren Lösung es noch sehr zahlreicher und mühevoller Experimente bedürfen wird.

12. McCollum, E. V., and Davis, M.: J. Biol. Chem. **21**: 180, 1915.

13. McCollum, E. V.; Simmonds, N., and Pitz, W.: Am. J. Physiol. **41**: 333, 361 (Sept.) 1916. McCollum, E. V.: J. A. M. A. **68**: 1379 (May 12) 1917.

14. McCollum, E. V.; Simmonds, N., and Parsons, H. T.: J. Biol. Chem. **33**: 411 (March) 1918.

15. Goldschmidt (Footnote 1). Freise, E.; Goldschmidt, M., and Frank, A.: Monatschr. f. Kinderh. **13**: 424, 1915. Halliburton, W. D., and Drummond, J. C.: J. Physiol. **51**: 235 (Sept.) 1917. Drummond, J. C.: Biochem. J. **13**: 81, 95, 1919. Steenbock, H.; Boutwell, P. W., and Kent, H. E.: J. Biol. Chem. **35**: 517 (Sept.) 1918. Steenbock, H., and Gross, E. G.: J. Biol. Chem. **40**: 501 (Dec.) 1919. Steenbock, H., and Boutwell, P. W.: J. Biol. Chem. **41**: 163 (Feb.) 1920; **42**: 131 (May) 1920. Steenbock, H.: Science **1**: 352, 1919.

16. Nelson, V. E., and Lamb, A. R.: Am. J. Physiol. **51**: 530 (April) 1920; Science **52**: 566, 1920.

17. Auer, A.: Biochem. Ztschr. **93**: 1, 1919.

18. Bloch, C. E.: Ugesk. f. Læger **79**: 309 (March 1) 1917. Mori, M.: Jahrb. f. Kinderh. **59**: 175, 1904. The precise significance of this has been questioned by Hess, A. F., and Unger, L. J.: J. A. M. A. **74**: 217 (Jan. 24) 1920. Chick, H.: Brit. M. J., July 31, 1920.

19. Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines), Med. Research Comm., Nat. Health Insurance, Special Report Serics, No. 38, London, 1919.

20. Bulley, E. C.: Biochem. J. **13**: 103, 1919.

boric acid lotions in any cases of "slightly sore looking eyes," the eye symptoms can be completely avoided. This conclusion is contrary in several respects to our own extensive experience, and is further contradicted by the subsequent observations of Stephenson and Clark [21] from the same laboratory, who ascribed the nonappearance of the eye disease in Bulley's experiments to the fact that the diets had not been purified sufficiently to produce the extent of deficiency in the fat-soluble vitamin that is necessary to elicit the symptoms. Among forty-six of their rats on a diet deficient in the fat-soluble factor, 28 per cent. contracted eye disease and were cured of it in every case by the administration of a product containing fat-soluble vitamin. These English investigators emphasize the finding that although the absence of the fat-soluble factor in the diet of young rats almost invariably causes death preceded by cessation of growth, the ophthalmia is not seen in every case.

TABLE 1.—INCIDENCE OF EYE DISEASE IN RATS 5000-5999

	Total Number	Number with Eye Symptoms
On diets deficient in fat-soluble vitamin	136	69
On dies deficient in water-soluble vitamin (B)	225	0
On diets otherwise deficient	90	0
On diets experimental but presumably adequate	201	0
On mixed food (stock animals)	348	0
	1,000	69

Emmett [22] has reported the appearance of xerophthalmia in 120 out of 122 rats kept on a diet from which the fat-soluble vitamin was missing, whereas no symptoms were observed in several hundred rats that were either deprived of water-soluble vitamin (B) or were on an adequate ration, although the latter animals were fed and handled under circumstances that would permit a uniform possibility of infection. This investigator corroborates our earlier experience that solutions of boric acid or silver-protein fail to relieve the condition, although it is promptly cured after the administration of sources of fat-soluble vitamin.[23]

In order to learn something of the incidence of the eye disease in our rat colony, to which no animals have been admitted from extraneous sources for several years, we have reviewed the statistics seriatim from the records of 1,000 animals representing essentially the entire group under study during one year. It should be noted that all of these animals were kept in the same laboratory. The cages in which they were maintained were sterilized twice a week,[24] but the rats were regularly weighed in a common container, and the proximity of the open mesh wire cages to one another offered sufficient opportunity for the equal dissemination of contagion. The animals were not grouped according to any system of feeding, but were arranged in the cages in the order of their serial numbers, independent of the type of experiment for which they were being employed.

Our records for a thousand unselected rats show the incidence of the eye disease given in Table 1.

From this summary it will be seen that although nearly one half of the thousand rats were on diets undoubtedly deficient, not a single case of the eye disease was observed in animals other than those experiencing a deficiency in fat-soluble vitamin in the ration. The incidence of the disease among this group is 50 per cent., somewhat higher than that observed by Stephenson and Clark, and lower than that reported by Emmett. It should be added that in observations on several thousands of rats we have never observed distinct symptoms of comparable eye disease in any animals except those which had experienced a deficiency of fat-soluble vitamin in their diet.

The eye disease is not the only consequence of the deficiency of a diet in vitamin A. Prolonged growth is impossible in young rats when this factor is missing; indeed, the question as to whether any growth whatever can occur in the complete absence of vitamin A from the diet is at present being debated.[25] Drummond has lately pointed out the importance of working with sufficiently purified diets in order promptly to bring the effects of the lack of fat-soluble vitamin on growth into evidence. In view of the possibilities of retention of small quantities of the vitamin in question in diets not sufficiently purified, it may be assumed that our statistics for the unfavorable effects from them represent a low rather than a high incidence of the disease.

Our experience has shown that the eye disease may frequently make its appearance before any noteworthy decline in body weight, i. e., complete cessation of growth, occurs.[26] For example, in the sixty-nine cases from Rats 5000 to 5999 the eye symptoms were first noted as in Table 2.

TABLE 2.—WHEN EYE SYMPTOMS WERE FIRST NOTED

	Number of Rats
At approximately maximum body weight (before nutritive decline ensued)	33
After decline of 10 to 20 gm. from maximum	15
After decline of 20 to 30 gm. from maximum	13
After decline of more than 30 gm. from maximum	8

We have already mentioned the failure to cure the ophthalmia by the usual procedures of local antisepsis; on the other hand, the administration of vitamin A in any of a considerable variety of foods has almost invariably produced disappearance of the *eye disorder,* even though the animal subsequently died. In a few instances, adequate relief has not followed the use of the vitamin. Whether or not in these cases it was applied too late to permit a restoration of the involved structures we are unable to state. In a number of cases the daily administration of only 100 mg. of butter-fat caused the disappearance of the symptoms within a week. In other instances, 42 mg. of "grass oil" per

21. Stephenson, M., and Clark, A. B.: Biochem. J. **14**: 502, 1920.
22. Emmett, A. D.: Science **52**: 157, 1920.
23. Funk, Casimir, and Macallum, A. B. (J. Biol. Chem. **27**: 51 [Oct.] 1916) have reported that "rats on artificial diets frequently contract an eye infection which can be treated with a certain degree of success by an application of a few drops of zinc sulphate solution. If untreated, this condition is accompanied by loss in weight, becomes acute, and terminates fatally. . . . Rats on yeast and butter diets often show the eye affection regarded by most of the investigators as characteristic of dietary deficiencies." Again, in a study of the growth of rats, Macallum (Tr. Royal Canadian Institute, 1919, p. 175) says: "The use of the moist brewers' yeast, in place of the dried article, immediately relieved the eye troubles. . . . In the case of the two animals whose diet contained butter fat there was a slight improvement in the appearance and behavior of the animals in their capacity to resist the eye infection. Slight attacks of the latter trouble made their appearance, but were easily controlled by the application of dilute zinc sulphate solutions." Quite recently, Funk, Casimir, and Dubin, H. E. (Science **52**: 448, 1920) have stated that "out of thirty rats, only one developed keratomalacia, and this rat was getting 5 per cent. cod liver oil. The eye condition cleared up on giving autolyzed yeast (about 2 c.c. per day)." These reports are at variance with our own experiences with eye disease in rats.
24. The methods used in the conduct of our experiments are described by Ferry, E. L.: J. Lab. & Clin. Med. **5**: 735 (Aug.) 1920.
25. Osborne, T. B., and Mendel, L. B.: J. Biol. Chem., to be published. Drummond, J. C., and Coward, K. H.: Biochem. J. **14**: 661, 1920.
26. Sephenson and Clark [21] suggest that "the occurrence of the disease is not coincident with the cessation of growth, but begins at a later stage" (p. 506); and again: "This disease is further differentiated from the cessation of growth-death symptoms by occurring at a later stage in the experimental period and rising more rapidly to a maximum" (p. 520).

day relieved the symptoms within ten days, 70 mg. of alfalfa oil within seven days, and 66 mg. of spinach oil within twenty-one days. In general, obvious signs of the disorder disappeared within two weeks.

Drummond and Coward [25] have lately pointed out anew that the requirements of the growing rat for vitamin A become less as the animal approaches maturity —a statement in accord with numerous observations of our own. In harmony with this is the further fact that the ophthalmia is a rare phenomenon in more mature animals, even when they are kept on diets poor in vitamin A. Freise, Goldschmidt and Frank [15] could not demonstrate it in rats weighing more than 120 gm. when the experiments were started. We have, however, seen occasional instances even in large animals.

The pathology of the eye manifestations is the subject of a separate report by our colleague Dr. Wason, which follows.

OPHTHALMIA ASSOCIATED WITH A DIETARY DEFICIENCY IN FAT SOLUBLE VITAMIN (A)

A STUDY OF THE PATHOLOGY *

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Though ocular lesions in association with dietary deficiency in fat-soluble vitamin have been recognized for a number of years, few descriptions of the condition have dealt with anything but its gross pathology.

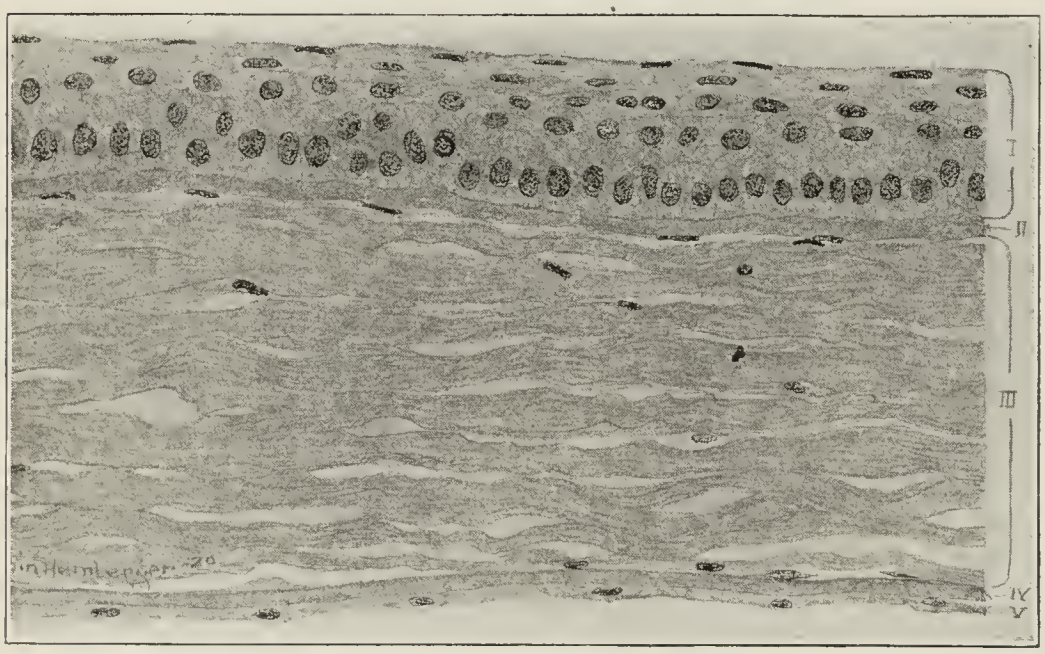


Fig. 1.—Normal cornea: I, epithelium; II, Bowman's membrane; III, substantia propria; IV, Descemet's membrane; V, posterior endothelium.

The occurrence of these changes has been discussed by Osborne and Mendel, and at their suggestion a detailed histologic examination has been attempted. The albino rats on which this investigation is based were bred and dieted in their laboratory, and belonged to the groups described in the preceding communication. I am indebted to Drs. Osborne and Mendel not only for supplying the animals and the feeding charts, but also for bringing to my attention pertinent articles in the recent literature. After a brief review of such histologic and bacteriologic data as have appeared in these publications, I shall report the results of our anatomic studies before discussing the etiology of the condition.

Ophthalmia developing in animals deprived of fat-soluble vitamin (A) has attracted much attention in the recent literature. The occurrence of this condition, as cited by numerous observers, has been reviewed so thoroughly in the preceding paper by Osborne and Mendel that it is unnecessary here to do more than refer to it. Although the nature and etiology of these ocular manifestations have incited considerable speculation, there are remarkably few and meager reports of its histologic and bacteriologic features.

The most complete descriptions are those of Stephenson and Clark,[1] who found the invasion of leukocytes into the cornea to be the earliest change. Later edema and swelling become manifest, and these are followed by the appearance of blood vessels and an increase in the number of corneal corpuscles. In the more advanced stages the cornea may be completely degenerated and the lens protruding. Eyes that have been cured after the addition of fat-soluble vitamin (A) to the diet may be completely restored to normal, or flattened corneas with the presence of blood vessels may testify to the earlier diseased condition. The bacteria cultivated from the pus of the conjunctival sacs in these animals were varied, and included pneumococci, staphylococci, coccobacilli and diphtheroids. Stephenson and Clark concluded that "the condition directly attributable to dietetic deficiency is a predisposition to bacterial infection of the cornea leading to purulent symptoms and the destruction of tissue," but they "failed to demonstrate with certainty any histologic change in the cornea preceding bacterial invasion."

Freise, Goldschmidt and Frank [2] have noted an early cornification of the epithelium; the middle epithelial cells were swollen and stained faintly, and the lower layer was infiltrated by inflammatory cells. The stroma showed edema, the formation of new blood vessels reaching inward from the limbus, and local areas of cell infiltration. Severe cases presented the picture of a perforating ulcer. Bulley [3] has mentioned the extreme condition in which there was extrusion of the lens.

The character of the ocular disease is in many instances mild. A variable but large percentage of animals show no changes in the cornea that can be recognized by a careful gross examination. When definite corneal opacities are present, the course of the disease varies from a slight lesion, which progresses very slowly over a period of weeks or months, to a rapidly fulminating panophthalmitis in which the lens may be extruded. Healing of the condition after change of diet has been noted by numerous observers. The possibility that such healing might follow the application of boric acid, silver protein and zinc sulphate has been discussed in the previous paper by Osborne and Mendel.

In the small series of animals which have constituted the subject of this report, as will be seen in the accom-

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* The terms xerophthalmia and keratomalacia have been applied indiscriminately to lesions of the eye accompanying dietary deficiencies. As both of these terms refer to definite corneal changes whose existence in this condition is as yet unproved, I prefer to use the more general term of ophthalmia.

1. Stephenson, M., and Clark, A. B.: Biochem. J. **14**: 502, 1920.
2. Freise, E.; Goldschmidt, M., and Frank, A.: Monatschr. f. Kinderh. **13**: 424, 1915.
3. Bulley, E. C.: Biochem. J. **13**: 103, 1919.

panying table, it has been impossible to demonstrate any relation between the severity of the lesion produced and either the duration of the condition or the age of the animals at the time the experiment was begun. The



Fig. 2.—Rat eye (5586): mild reaction, showing hyalinization of the outer layer of epithelium, infiltration of cells in the lower layer, injury of Bowman's membrane, and invasion of blood vessels and cells in the stroma.

eleven rats whose eyes have been studied include one normal animal, one fed on a diet lacking water soluble vitamin (B), and nine fed on a diet lacking fat soluble vitamin (A). The eyes of the former two show no gross or histologic changes, while the ocular lesions of the latter group vary from a very mild change to a panophthalmitis. In two of these nine rats one eye was apparently normal and was not removed, while in seven both eyes were sectioned. A total of sixteen eyes was examined. The severity of the involvement is so variable in the two eyes of a number of the rats that it was impossible to divide the group in any other way than on a simple anatomic basis. For purposes of description the condition may be called mild in four eyes, moderate in five, advanced in six, and healed in one.

GROSS AND MICROSCOPIC EXAMINATION

The eyes show, on gross examination, congestion of the conjunctiva with a serous or seropurulent exudate in the conjunctival sacs. The eyelids are swollen and reddened and frequently have lost their hairs. Corneal opacities of less or greater extent are seen in all but a few cases. A few animals show these changes only in one eye; others exhibit lesions marked in one eye and slight in the second, and in still others, both eyes are extensively involved.

The eyeballs with the eyelids were removed in toto and fixed either in formaldehyd or in Zenker's fluid. A number of sections were made through each one and stained with hematoxylin and eosin and by Gram's stain.

Four eyes show a mild change, characterized by edema, congestion, and a slight cellular infiltration of the cornea, conjunctiva and lids (Fig. 2). The outer layer of corneal epithelium is slightly keratinized, and its wavy, deep pink strands are partly detached from the underlying cells. The inner layer of epithelial cells has lost its mosaic, pattern-like regularity here and there where a few leukocytic or mononuclear cells have infiltrated. In such areas an occasional break in Bowman's membrane is found and the epithelial cells apparently project into the substantia propria. The fibers of this stroma are spread apart by edema, definite capillaries are occasionally observed, and cellular infiltration is present. In the very earliest stages all of these changes may not be found. A slightly cornified epithelium, with a local or diffuse edema of the stroma and rare mononuclear and pus cells in the deeper epithelium and substantia propria, may be the only visible changes. Descemet's membrane and the posterior endothelium are always intact. The eyelids exhibit alterations similar to those of the cornea —edema and cellular infiltration in the inner layer of epithelium, in the subjacent connective tissue, and around the hair follicles.

One section is especially interesting because it shows a traumatic origin for the inflammatory injury. A vegetable fiber has penetrated the epithelium and is impacted against Bowman's elastic membrane. A few leukocytes have appeared in the tissues just beneath, and by Gram stains bacteria are demonstrable.

Five examples are found of a moderate change which is still confined to the cornea and lids. In all of these the cornea is thickened, either locally or diffusely, but chiefly in the connective tissue known as the substantia propria. The outer layer of epithelium is keratinized and appears as eosin staining, wavy strands loosely attached to the viable tissue beneath. Two of the eyes show definite necroses of the

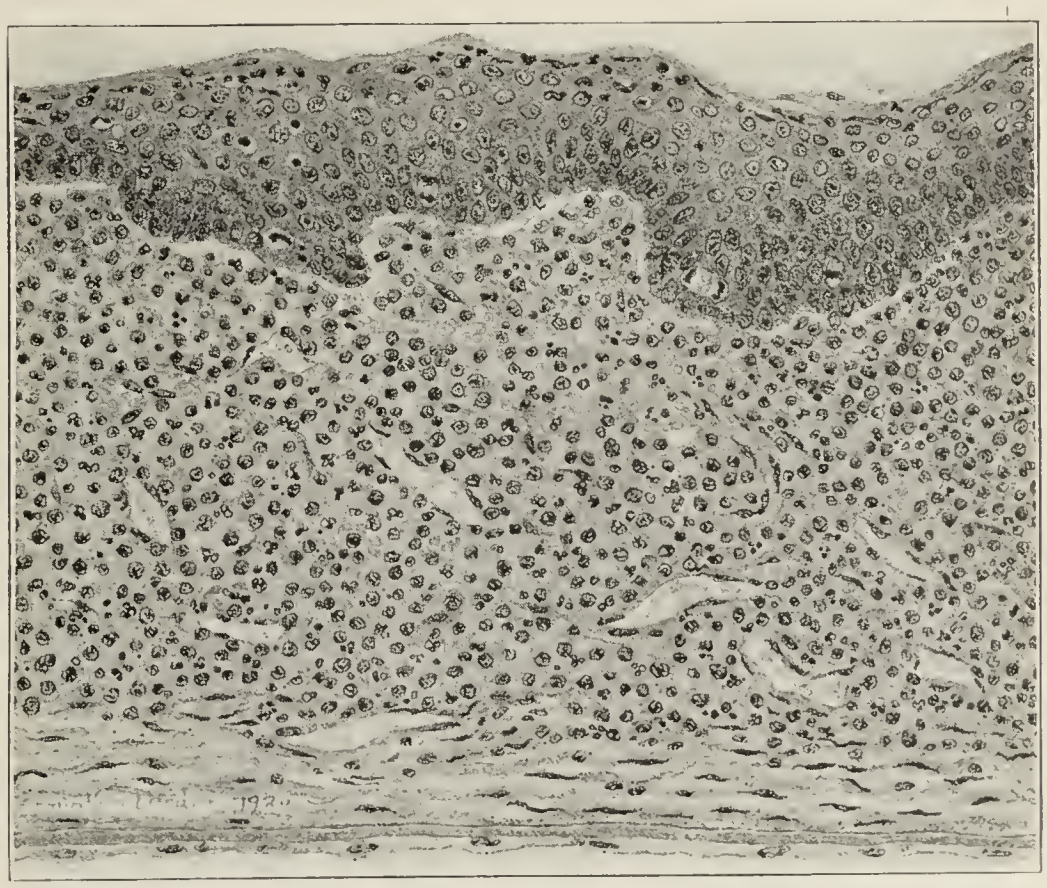


Fig. 3.—Rat eye (5565): Moderate changes: proliferation of epithelium with the presence of many mitoses, absence of Bowman's membrane, and invasion of blood vessels and cells in the stroma; an occasional fibroblast is also seen.

epithelium and of Bowman's membrane, with infiltrations of pus and mononuclear cells into the connective tissue. Where such necroses are not present there may be seen areas in which the regularity of the inner epithelial layer is broken, Bowman's elastic lamella has disappeared, and pus and mononu-

clear cells have invaded deeply into the underlying tissues. Numerous capillaries and occasional fibroblasts are organizing the intermediate layers of cornea, and many of the deeper cylindric epithelial cells are in the process of division. The change in no place reaches the deeper layers of the stroma or appears to injure Descemet's membrane and the posterior endothelium.

In the lids, similar changes are found. The keratinized outer epithelial layer is usually present. Cellular infiltration is especially marked in the inner epithelium and extends into the connective tissue beneath; miliary abscesses are not infrequently found in the hair follicles. Slight proliferation of the epithelium may occur with the presence of occasional mitoses.

Especial interest is attached to the eyes of Rat 5565, which became sore on the one hundred and eighth day of the experiment and continued to be sore in spite of the fact that fat soluble vitamin (A) in the form of butter fat was given a few days latter. One of these eyes shows an extensive necrosis of the surface epithelium and the formation of a broad ulcer to whose ragged edge bacterial masses are attached. The granulations beneath are rich in capillaries and young fibroblasts. The entire field is covered by an infiltration of cells, among which mononuclears with large vesicular nuclei are but slightly more numerous than the pus cells. The epithelium at the borders of the ulcer exhibits marked proliferations, dipping down half the width of the cornea; mitoses are numerous, especially in the deeper cylindric layer of cells. Bowman's membrane appears only at some distance from the edges of the proliferating epithelium. Descemet's membrane, the posterior endothelium, and the anterior chamber are not involved.

The cornea of the other eye is thickened to double its normal width for about half of its length (Fig. 3). Epithelium is present over the entire surface, but is keratinized superficially, and numerous epithelial buds extend downward almost half the depth of the thickened stroma. The demarcation between epithelium and connective tissue is very sharp, although Bowman's membrane cannot be seen. Numerous mitoses of the lower epithelial cells are found here also. The granulation tissue is similar to that described previously, and there is no involvement of the two inner layers of the cornea.

In six of the eyes, still more advanced changes are found. The anterior chamber has been invaded by the inflammatory exudate, and in three of the six, the posterior chamber is also affected. The corneal changes are similar to those in the previous group. Keratinization of the epithelium occurs, but no ulcers are found. The epithelium is thickened, Bowman's membrane partly destroyed, and the line separating epithelium and substantia propria is blurred by the proliferating epithelial cells and the inflammatory exudate. The proliferation is in no case so striking as in two examples of the former group (Rat 5565), but the growth of fibroblasts and capillaries is even more marked, and the reaction extends inward to Descemet's membrane. In a few of the sections, definite breaks in this elastic layer are found and the endothelium beneath is partly destroyed. In four instances the chambers are filled with an exudate consisting of serum, erythrocytes, fibrin, pus and mononuclear cells (Fig. 4). The iris is involved by the inflammatory process. In a fifth eye the iris has become attached to the cornea and is indistinguishable from it except near the corners, where serum still fills the remaining spaces of the anterior chamber. The cornea itself is infiltrated with an acute inflammatory exudate, but shows also a rather marked growth of fibroblasts and blood vessels, and an almost complete obliteration of the line separating epithelial and connective tissue cells. The most advanced stage is found in the last of the six eyes, in which there has evidently been a panophthalmitis with rupture of the cornea (Fig. 5), and the point of rupture is still patent. The anterior chamber is filled by a young granulation tissue which attaches the cornea to the iris and lens. In the posterior chamber the retina is also adherent to the lens. The lids in this group are very similar to those previously described. In no instance is there any involvement of structures surrounding the eyeball.

The eye of Rat 5580 is also of interest, as the ophthalmia noted on the fifty-sixth day of the experiment lasted for eleven days and promptly healed up after the feeding of butter fat. The rat was examined postmortem 100 days after recovery. The cornea was entirely normal except for the presence of a number of small blood vessels in the connective tissue.

FINDINGS IN EXPERIMENTS

Rat	Diet	Age of Rat, Days	Age When Experiment Began, Days	Length of Feeding Experiment, Days	Duration of Ophthalmia Noted, Days	Weight of Rat at Death, Gm.	Other Findings at Necropsy	Eye	Fixation	Stage of Involvement	Microscopic Notes
5480	Normal	126	..	...	..	164	.....	Z		Normal	
5477	Lack of water soluble vitamin	127	52	75	..	69.3	.....	Z		Normal	
5536	Lack of fat soluble vitamin	112	36	76	7	139.9	.....	Z		Moderate	
								F		Moderate	
5565	Lack of fat soluble vitamin till ophthalmia; then given butter fat on 113th day	233	49	184	76	145.8	.....	Z		Moderate	Marked epithelial proliferation
								F		Moderate	Ulceration and proliferation
5576	Lack of fat soluble vitamin	133	51	82	1	88.1	.....	Z		Advanced	Hemorrhage in anterior chamber
								F		Mild	
5580	Lack of fat soluble vitamin till ophthalmia; then given butter fat on 56th day	209	41	168	11	187.1	Fibrosis of testes, bronchitis, peribronchitis, pneumonia	Z		Healed	
5586	Lack of fat soluble vitamin	121	42	79	11	126.7	Fibrosis of testes	Z		Mild	
								F		Moderate	Slight ulceration of epithelium
5591	Lack of fat soluble vitamin	116	29	87	7	74.6	Pyelitis	Z		Mild	Injury by vegetable fiber
6053	Lack of fat soluble vitamin	139	34	105	21	114.2	.....	Z		Advanced	Partial organization of anterior chamber; exudate in posterior chamber
								F		Mild	
6250	Lack of fat soluble vitamin	85	31	54	4	65.6	.....	Z		Advanced	Acute exudate in both chambers
								F		Advanced	Ruptured cornea; organization of both chambers
61600	Lack of fat soluble vitamin	100	42	58	7	112.7	.....	Z		Advanced	Serous exudate in anterior chamber
								F		Advanced	Scropurulent exudate in both chambers

BACTERIOLOGIC STUDIES

Cultures and direct smears were made from the conjunctival and corneal exudates in a number of cases, and staphylococci, streptococci, pneumococci and diphtheroids were obtained. The same organisms have been found by other investigators (Stephenson and Clark). Cultures were not made from the corneal tissue itself, as would have been the method had the bacteriologic examination been considered of primary importance. The procedures necessary for such examination would obviously render the eyes unfit for careful histologic study.

Gram stains were made on the sections from all eyes. Numerous bacterial masses are found on the corneal surfaces and in the conjunctival sacs. Where definite breaks or necroses of the cornea are demonstrable, organisms are fre-

quently seen in the underlying tissues. Occasional bacteria are scattered through the inflamed cornea and conjunctivae, but one of the striking features of the study is the infrequency with which such organisms are found. They are seen in slightly greater numbers in the acute exudate of the anterior



Fig. 4.—Rat eye (6250): Advanced changes: acute exudation of serum and pus cells in both the anterior and posterior chambers.

chambers either lying free or within the bodies of phagocytic cells, and are almost invariably of the coccoid or diplococcoid varieties.

FINDINGS IN OTHER ORGANS

The general pathologic examination of the greater number of the rats is negative except for marked emaciation. The loss of weight affects chiefly the liver and musculocutaneous systems. Marked lymphoid hyperplasia with many mitoses is present in the spleen and lymph glands of both normal controls and animals fed on diets lacking fat soluble vitamin (A) and water soluble vitamin (B). Rat 5580, whose ophthalmia had been healed after the administration of butter fat, shows a purulent bronchitis, peribronchitis and beginning pneumonia. Rat 5591, whose eye shows only an early traumatic injury, exhibits a purulent pyelitis in both kidneys. Fibrosis of the testes is noted in two cases, and apparent diminutions of function in several animals.

COMMENT

No fundamental data concerning the etiology of ophthalmia in rats on deficient diets or the cause of the corneal localization have been derived from these anatomic studies. Statistical evidence offered by many observers leads to the belief that the condition cannot primarily be due to bacteria, nor can it be definitely associated with the degree of cachexia, since an equal loss of weight is found in animals on other defective diets. Rats kept under the same hygienic conditions and on the same deficient diet exhibit corneal changes, if at all, at varying intervals of time and in widely different degrees. Not infrequently a considerable period elapses between the inception of the disease in the two eyes of an animal, and the resultant pictures are also variable. Obviously local conditions play an important part in the production of the change. But as no anatomic manifestation of any preinflammatory lesion is found by our ordinary histologic methods of examination, its nature can only be hypothesized. The well known specificity of chloroform for the liver cells, of mercury for the epithelium lining the convoluted tubules of the kidney, and of tetanus toxin for the central nervous system may serve as possible analogues for a definite relation between the absence of a fat soluble vitamin (A) and corneal lesions. The possibility that a traumatic injury may offer the entering wedge for bacteria in at least a number of cases (as in Rat 5591) must be considered.

It has never been demonstrated that bacteria constitute the primary etiologic factor in the production of this form of ophthalmia. The work of Emmett,[4] who passed sterile threads over diseased eyes and then over the eyes of normal controls and of rats on diets lacking water soluble vitamin (B) without producing any infection, tends to disprove such an etiology. The importance of secondary bacterial invasion, however, cannot be ignored, since bacteria are found almost constantly in these inflamed eyes. Variations in the course of the disease may conceivably depend on the type and virulence of the infecting organism, and it is safe to assume that a rapidly developing panophthalmitis can only be the result of bacterial infection.

Healing of the lesion usually follows a change in diet. In the milder reactions it is probable that complete restoration to a normal architecture, with or without the continued presence of blood vessels, may result. When there has been loss of corneal substance with a subsequent proliferation of connective tissue, and especially when such fixed tissue reaction has involved the anterior chamber and bound iris and



Fig. 5.—Rat eye (6250): Advanced changes: The point of rupture through the cornea is still patent; the anterior chamber has been obliterated by a young granulation tissue.

4. Emmett, A. D.: Science **52**: 157, 1920.

lens to the cornea, a permanent scar must necessarily remain.

CONCLUSIONS

1. The primary etiologic factor in the ophthalmia of rats on deficient diets is the lack of fat soluble vitamin (A).
2. The nature and mechanism of the change in these rats whereby their corneas are rendered susceptible to bacterial invasion is unknown.
3. The type and virulence of the organisms of secondary infection determine, in part at least, the course of the disease.
4. The anatomic manifestations of the disease are characterized by hyalinization or necrosis of the outer layer of corneal epithelium, exudation of serum and cells into epithelium and stroma, and a proliferation of blood vessels and fibroblasts. In advanced cases invasion of the anterior, and occasionally of the posterior chamber, results.
5. The degree to which restoration is possible depends on the extent of the secondary injury.

DIAGNOSIS OF PREGNANCY BY THE ROENTGEN RAY

POSSIBILITIES OF THE PROCEDURE DURING THE FIRST HALF OF GESTATION

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This study was undertaken with the object of determining the earliest stage of gestation at which a diagnosis of pregnancy could be made by demonstrating portions of the fetal skeleton by the roentgen ray. While most investigators agree that positive results cannot be expected until pregnancy has advanced to four and a half or five months, there are some who claim to have demonstrated parts of the fetal skeleton in utero as early as the end of the second or beginning of the third month. As the roentgen ray is occasionally resorted to as the court of last appeal in some cases of abdominal tumor presenting difficulties in differential diagnosis from pregnancy, it would seem desirable to establish, more exactly, the earliest stage of pregnancy at which diagnosis by the roentgen ray can be made.

Some idea of the possibilities of an early diagnosis may be gained from a consideration of the stage of pregnancy at which the various centers of ossification make their appearance. Hess [1] has recently roentgenographed fifty-five specimens of fetus whose ages have been determined from the data furnished by the history of menstruation and pregnancy and also from measurements, and has found a marked constancy in the time and sequence of appearance of the various centers. The first center of ossification develops in the clavicles in the sixth to the seventh week of gestation, and can be demonstrated by the roentgen ray in the seventh week. This is soon followed by a center appearing in each half of the mandible. In the eighth week numerous centers become visible, among them the squamous portion of the occipital bone and superior maxilla in the head, the scapula, the humerus, the femur and some of the ribs. In the ninth week appear centers in the hand and foot, other bones of the head, the axial skeleton and the pelvis; successive weeks on to full term mark the extension of some centers and the appearance of other centers, the sequence of their development being perhaps more constant in the first than in the second half of pregnancy. His results agree closely with those of Keibel, Mall, Rauber and Kopsch, whom he quotes, and he emphasizes the statement of Mall that "the remarkable regularity of the appearance of the bones makes of them the best index of the size and of the age of the embryo that we now possess."

There are certain physical obstacles in the way of obtaining equally early results with the living fetus in utero. One of the greatest obstacles is the thickness of the material tissues and the relatively slight density of the fetal bones early in pregnancy; also the amount of blood contained in the uterine walls, which has been estimated to absorb 60 per cent. of the rays. In addition, the amniotic fluid, the respiratory movements of the mother, the movements of the fetus and the unequal distances of the different parts of the maternal pelvis and of the fetus from the plate make the demonstration of the fetal skeleton in utero more difficult than would be judged from the time of appearance of the centers of ossification.

Some of these difficulties can be overcome to some extent by the technic used. Preliminary purgation, preferably with castor oil, is recommended. The dorsal, prone or lateral position may be used, but in early pregnancy there is advantage in directing the rays in the line of axis of the pelvic canal, either from above downward or from below upward. Ponzio [2] used a 24 by 30 cm. plate with an intensifying screen and 25 ma. through a tube of medium hardness, varying the exposure from one-half to two seconds according to the stage of the pregnancy, the size of the patient and the amount of fluid. Edling [3] made use of moderate compression to minimize movement and blurring on the plate, and used medium soft tubes with 7 to 8 cm. spark and exposure time of two to four seconds during which the patient held her breath. Heynemann [4] used the side position, compressed diaphragm, intensifying screen and enforced apnea during an exposure time of two to ten seconds with a medium soft tube. Von Jaksch [5] used moderately hard rays with metal filter and 40 ma. for from twelve to fifteen seconds' exposure. Fabre [6] used an exposure not to exceed ten seconds. Potocki [7] reduced the exposure time to one-fifth second, using from 40 to 60 ma. O'Donnell [8] used a 4 kilowatt Scheidel-Western interrupterless transformer and soft tube, starting on about 3 ma. of current. For a patient of average weight and four months' pregnant, he recommended 25 ma. for one-fourth second. For each

1. Hess, J. H.: Diagnosis of the Age of the Fetus by the Use of Roentgenograms, Illinois M. J. **33**: 73-78 (Feb.) 1918.

2. Ponzio, M.: La Radio-diagnostica della gravidanza, Radiol. med., Torino, 1914, pp. 56-66.

3. Edling, Lars: Ueber die Anwendung des Roentgenverfahrens bei der Diagnose der Schwangerschafts, Fortschr. a. d. Geb. d. Roentgenstrahlen **17**: 345-355, 1911; München. med. Wchnschr. **58**: 567, 1911.

4. Heynemann, T.: Die diagnostische Verwertung der Roentgenstrahlen in der Geburtshilfe, Ztschr. f. Geburtsh. u. Gynäk. **73**: 92-136, 1913.

5. Von Jaksch, R.: Ueber die Diagnose der Schwangerschaft mittels des Roentgenverfahrens, Zentralbl. f. inn. Med. **32**: 345, 1911.

6. Fabre: De la radiographie obstétricale, Bull. Soc. d'obst. de Paris **14**: 36-39, 1911.

7. Potocki: Note summaire sur la radiographie de la grossesse, Atti d. Cong. ital, di radiol. med., 1913, Pavia **1**: 198-200, 1914.

8. O'Donnell, P. S.: X-Ray Findings in the Differential Diagnosis of Early and Late Pregnancies, J. A. M. A. **58**: 748-750 (March 16) 1912.

succeeding month and 10 pounds more weight, one-sixth second more exposure should be given. He advised four pictures of each subject, the first two of the patient lying on the abdomen, the umbilicus just touching and lying in the center of a 14 by 17 plate, the other two plates being taken laterally, following development of the first plate, in order that advantage might be taken of a knowledge of the position of the fetus. All investigators emphasize the belief that the exposure of the mother and fetus to the roentgen ray is entirely harmless.

MEANS OF ESTIMATING STAGE OF PREGNANCY

Before analyzing some of the cases mentioned by Edling and by Albert-Weil [9] as examples of the demonstration of the fetus in utero by the roentgen-ray as early as the third or fourth month, it is important that careful consideration be given to the means of estimating the stage of pregnancy.

The first requisite in determining the approximate date of conception is an accurate menstrual history. If one knows the interval between the periods, whether regular or not, the duration of the flow, the amount as estimated by the number of changes required on the heaviest day, intermenstrual bleeding, etc., he is then better able to judge whether conception followed soon after the last period or just before the next period, in which case this period is usually scantier, shorter, or both. It is generally agreed that fertilization is more likely to take place directly following the cessation of the period than at any other time of the menstrual cycle. Other checks on the date of conception are the time of onset of nausea and vomiting, which begins five or six weeks after conception; but this is absent in nearly half the cases; also the date of quickening, which is usually the seventeenth or eighteenth week. The height of the fundus can be relied on to give quite accurate information as to the stage of pregnancy, provided such conditions as hydramnios, multiple pregnancy, hydatidiform mole, tumors, and abnormal presentations, such as breech or transverse, do not exist. Finally, the date of delivery and the weight of the baby are important as a further check on the stage of pregnancy at which the roentgenogram was taken.

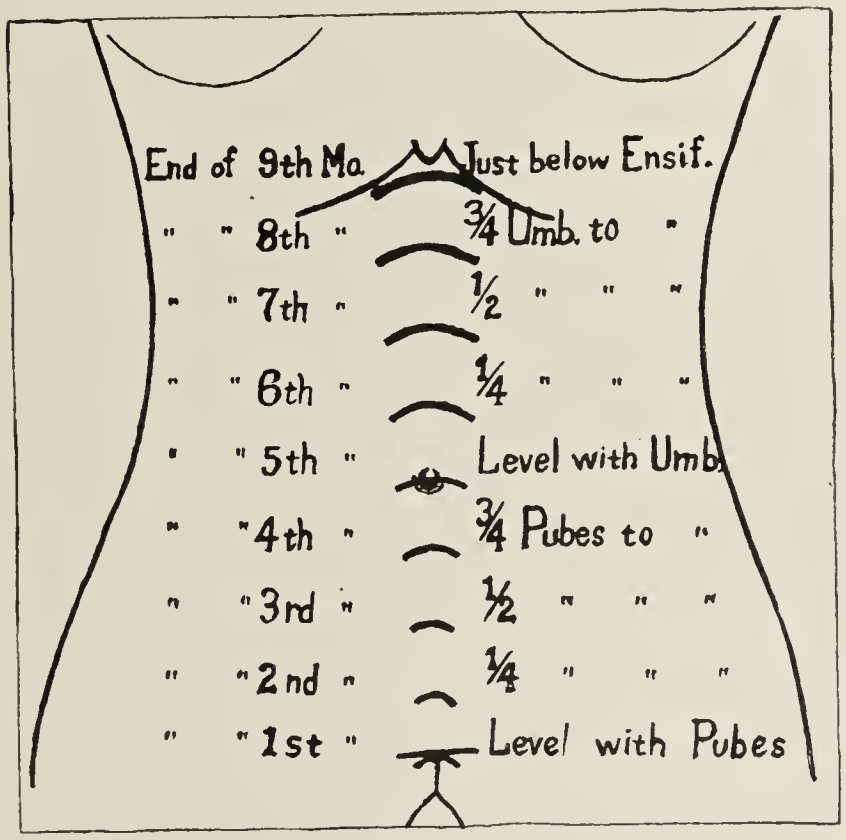


Fig. 1.—Height of the fundus at the various months of pregnancy, according to a "rule of fourths."

For some years past, we have made it a practice to compare the height of the fundus with the stage of gestation as determined by all possible data, and have formulated a rule which we have found to be quite dependable: With the patient in the dorsal position and at the end of the first calendar month of pregnancy, the top of the fundus can be felt on a level with the pubic crest; at the end of the second month, one-fourth the distance from the pubic crest to the umbilicus; at the end of the third month, one-half the distance; at the end of the fourth month, three-fourths the distance; at the end of the fifth month, on a level with the umbilicus; at the end of the sixth month, one-fourth the distance from the umbilicus to the ensiform cartilage; at the end of the seventh month, one-half the distance; at the end of the eighth month, three-fourths the distance; at the end of the ninth month, almost up to the ensiform cartilage. The phenomenon of lightening does not seem to be of sufficiently frequent occurrence or cause sufficient lowering of the fundus to interfere appreciably with the application of this rule. The method is perhaps somewhat more accurate in primigravidas than in multigravidas, but this difference is very slight. There may be found a slight variation from the "rule of fourths" at the end of the third and fourth months, when the top of the fundus may be found slightly more than one-half and three-fourths the distance, respectively, but the difference is not sufficient to change the fraction.

We are aware of the fact that this rule does not agree with the estimates found in the textbooks. For example, De Lee states that for the first three months the uterus is entirely a pelvic organ, which is hardly correct if he means the true pelvis. The same author states that "if the fundus reaches one third the way to the navel, the pregnancy is of four months; if two thirds, five months; at the navel, six months; one third the distance to the ensiform, seven months, etc. Edgar says:

> At the end of the third month the fundus uteri is about on a level with the symphysis. During the fourth month it occupies the hypogastrium; at the fifth it is half way between the symphysis and the umbilicus; by the sixth it is at the umbilicus or just above; by the seventh it is half way between the umbilicus and the ensiform cartilage. It reaches the ensiform by the eighth month, where it remains for about two weeks, then sinks a trifle in the last two weeks of pregnancy.

Farther on he states that in the ninth month the fundus descends almost to the depth at which it was in the seventh month. Williams says

> During the first two months the pregnant uterus still continues to be entirely a pelvic organ, whereas during the third month it begins to rise above the symphysis. Generally speaking, we find that the fundus at the fourth month is several fingerbreadths above the symphysis pubis; at the fifth month, midway between it and the umbilicus; at the sixth month at the level of the umbilicus; at the seventh month three fingerbreadths above the umbilicus; at the eighth month an equal distance above its position at the seventh month; at the ninth month below the xiphoid, whereas in the last month, particularly in primiparous women, it sinks downward and assumes almost the position occupied at the eighth month.

9. Albert-Weil, E.: Roentgenogram Showing Four Months' Fetus in Utero, Paris méd. **7**: 314 (April 21) 1917.

Cragin says:

During the first three months the fundus does not usually rise above the pelvic brim. In the fourth month the fundus rises above the symphysis pubis; at five months the fundus lies midway between the symphysis and the umbilicus; at six months, at the level of the umbilicus; at seven months, one third the distance between the umbilicus and the ensiform; at eight months, two thirds the distance and at eight and a half months, approximately at the ensiform. During the last two weeks the fundus descends to about the level of the eighth month.

The method of estimating the stage of pregnancy by the height of the fundus in centimeters above the pubic crest has also been used, but we do not believe it is any more accurate than the "rule of fourths," and certainly not as easily remembered. The application of this rule may be noted in the appended detailed report of cases in which the roentgen ray was employed.

COMMENT ON CASES OF VARIOUS OBSERVERS

Before taking up in detail the cases presented in this series, we will review certain cases of other authors who have claimed to diagnose pregnancy by the roentgen ray as early as the third or fourth month of gestation. Edling,[3] in his conclusions of an article on the use of the roentgen ray in the diagnosis of pregnancy, states that "it is possible to obtain satisfactory roentgenograms of the fetus in utero at the end of the second or at the beginning of the third month of pregnancy," and in support of this statement mentions the following cases:

"Case 1. Last period, November, 1909. Fetal movements, March, 1910. Examination, April 4, 1910, reveals fundus at level of navel. Roentgenogram, April 12, showed head of fetus corresponding in size to about the sixth month of pregnancy."

Comment.—The data given support a positive diagnosis of pregnancy at about the end of the fifth or beginning of the sixth month.

"Case 3. Last period the last of April, 1910. At examination, Aug. 31, 1910, fundus reaches to the level of the navel. Consistency more elastic than usual. Roentgen ray, Sept. 1, 1910, demonstrated shadows of the fetal head, corresponding to the fourth month. Diagnosis: pregnancy and hydramnios."

Comment.—Lack of history of menses, nausea and date of quickening make it uncertain whether conception preceded or followed the last period. The height of the fundus corresponds to the end of the fifth month. No data are given as to the date of labor, weight of the child, etc., and whether hydramnios continued to be a complication of the pregnancy.

"Case 5. Last period, Nov. 3, 1910. Examination, Dec. 7, showed the uterus the size of a fetal head. Roentgen-ray examination, Dec. 8, 1910, reveals no fetal shadows in the uterus. On examination, Jan. 2, 1911, the fundus reaches to within one fingerbreadth of the umbilicus and has a softer consistency than a normally pregnant uterus. Roentgen-ray examination, Jan. 19, 1911, reveals a distinct circular shadow of the fetal head, a long medullated bone and an indication of the vertebral column. The size of the skeleton indicates at most the beginning of the third month of pregnancy."

Comment.—The uterus would not be as large as a fetal head at the end of only four weeks' gestation. Furthermore, if, January 2, the fundus reached to within one fingerbreadth of the navel, on January 19, the date of the roentgen-ray examination, it must have been on a level with the navel, corresponding to the end of the fifth month of pregnancy. Lack of data in regard to menstrual history, onset of nausea, if present, date of quickening, subsequent evidence of hydramnios, date of labor and weight of child, makes his conclusion doubtful.

"Case 6. Last period the beginning of September, 1910. Examination, Dec. 19, 1910, revealed two tumors in the pelvis, one reaching to the level of the umbilicus and the other to the left and firmer, reaching three fingerbreadths above the symphysis. No heart sounds heard. Roentgen-ray examination, December 21, disclosed, in the middle of the pelvis, a distinct shadow of the fetal pelvis and both lower extremities; also the vertebral column, thorax and head. The size of the fetal skeleton indicated the fourth month. Delivered, May 6, 1911. Child carried to full term and healthy."

Comment.—On the basis of the menstrual history, the fundus would not be expected to reach the level of the navel, but would correspond more to the tumor on the left. However, the roentgen-ray examination showed the fetal skeleton to correspond to the tumor in the midline, and hence probably of fully five months' development. The date of labor, May 6, would correspond to a child of eight months' development; hence it is uncertain whether the last flow was possibly in August or whether it was normal or not.

"Case 17. Last period, beginning of December, 1910. No fetal movements. Examination, March 27, 1911, reveals fundus midway between symphysis and navel. No heart sounds. Roentgen-ray examination, March 28, in the third month, reveals the vertebral column and traces of the head. Delivered of a full term child, Aug. 21, 1911.

Comment.—More accurate data as to menstrual history and nausea, if any, would be desirable. However, this case is of more value, as the level of the fundus and the date of labor corresponds quite well to a positive diagnosis by the roentgen ray near the end of the fourth month of pregnancy.

Hence, close analysis of these cases hardly justifies Edling's conclusion that it is possible to obtain a positive roentgenogram of the fetal skeleton in utero at the end of the second or the beginning of the third month of pregnancy. The data mentioned in Case 17 place his earliest positive result at the end of the fourth month of pregnancy. Heynemann,[4] in criticism of these cases, also concluded that the data did not justify Edling's conclusions, and he did not consider that this author had made a positive diagnosis earlier than the end of the fifth month. In writing of his own efforts to demonstrate pregnancy in the early months, he states that his earliest positive result was at the end of the fifth month, but mentions no data in regard to his cases.

Von Jaksch,[5] in a preliminary report, states that by means of metal filters and moderately hard rays, with 40 ma. and exposure time from twelve to fifteen seconds, he succeeded in making the gravid uterus plainly visible from the second month on. His statement apparently refers to demonstration of the outline of the uterus and not of the fetal skeleton, and hence is not conclusive evidence.

Fabre[6] mentions positive diagnoses in the later months of pregnancy but no early cases. Potocki[7] states that below the fifth month the fetus is almost always invisible, but occasionally a faint image may be obtained. Albert-Weil[9] holds that it is possible to make a positive roentgen-ray diagnosis of pregnancy from the beginning of the fourth month, and mentions the case of a girl of 15 whose menses had been absent four months. Her abdomen had increased in size somewhat, but her breasts had developed very little. Auscultation revealed no heart sounds. Bimanual examination did not give any definite information, and ballottement was not obtained. A roentgenogram taken in line with the axis of the pelvis showed the fetal head and a portion of the vertebral column. This case is very suggestive of a positive diagnosis of pregnancy at the end of the fourth month, although the date of the last period, the date of the roentgen-ray examination and the exact height of the fundus would make it possible to form a more positive conclusion.

O'Donnell [8] states that roentgenograms "will now demonstrate the fetus in utero as early as the fourth month;" and again, "the fetus in utero may be detected from the fourth month." No detailed case reports of such early demonstrations are mentioned.

It will thus be seen that the earliest positive result, that of Edling's Case 17, was attained at the end of the fourth month of pregnancy, and that the data mentioned in connection with cases supposed to have been diagnosed earlier than this will not bear close analysis.

INVESTIGATION BY THE AUTHORS

The persons that were utilized as a basis for this investigation were selected from those attending the prenatal clinic of the Gray dispensary. It was endeavored to select the most favorable subjects for roentgen-ray examination, avoiding those patients with heavy, thick abdominal walls, and those with any evident abnormality of pregnancy. Most of the patients were colored. When a suitable case in the third or early in the fourth month of pregnancy was found, roentgenograms were made at intervals from one to several weeks on the same patient, until the fetal skeleton was demonstrated; but, in many cases it was difficult to get the patient to return at regular intervals, and it was impossible to trace some of them to obtain a final record as to the date of labor and the weight of the child. The patients were instructed to take a sufficient dose of castor oil to move the bowels thoroughly before coming for roentgen-ray examination.

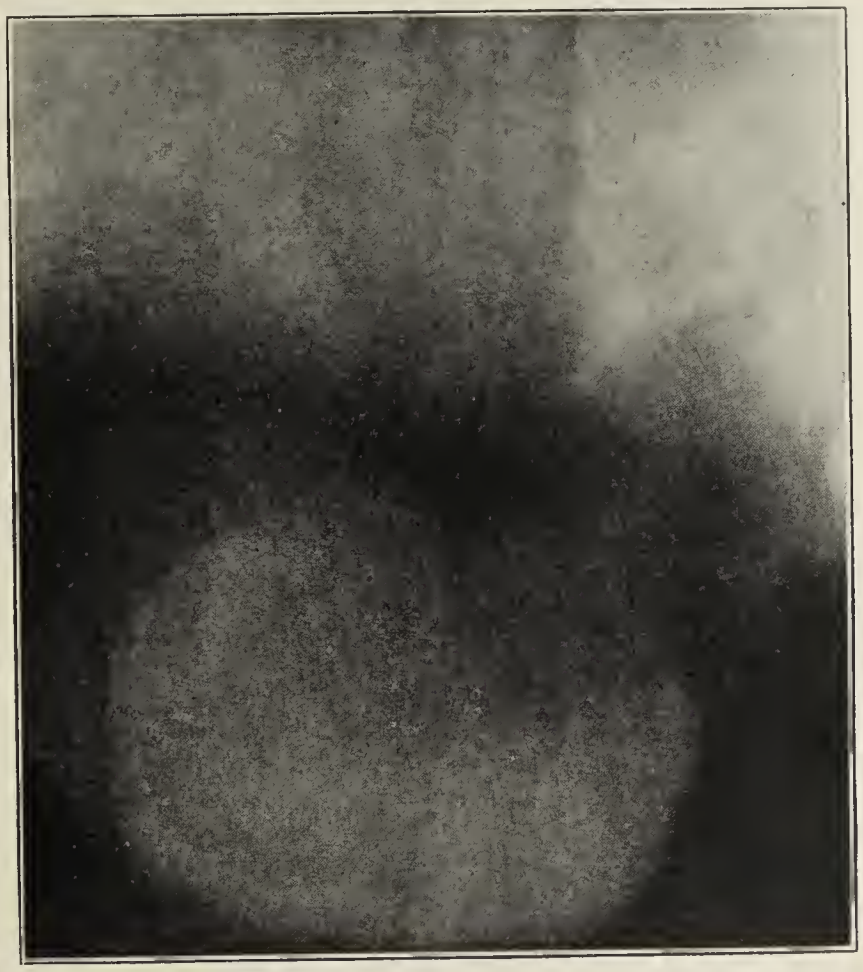


Fig. 2 (Case 7).—Pregnancy at five and one-half months; breech presentation.

In this series of cases, Snook transformer and gas tubes were used exclusively; the exposure elements were varied according to the thickness and weight of the patient, but the average exposure was from four to six seconds with a 5-inch spark gap, using 25 milliamperes and a diaphragm and cone. The greater number of patients were placed in the prone position. In some cases, however, the fetal shadows were shown to better advantage with the patient in the dorsal position, the central ray being, at all times, parallel with the pelvic axis.

CASE 1 (Dispensary Number 35762).—A colored tertipara, aged 32, in whom the menses began at 13, were usually regular every twenty-eight days, with from three to five days' flow, and were rather profuse, had the last flow, Aug. 1, 1919. This was normal, but since the preceding April, the periods had been coming every other month. Nausea began, September 1, and lasted several weeks. She did not remember the date of quickening. The expected date of labor was May 8, 1920. Examination, Dec. 10, 1919, showed the fundus three-fourths the distance from the pubes to the umbilicus. Roentgen-ray examination, December 15, gave no definite diagnosis of pregnancy. The patient did not return for further observation. It was subsequently learned that she had influenza in March, following which she was delivered, March 31, by a midwife of a very small baby that lived only six weeks. Conclusion: Roentgen-ray examination was negative at four and one-fourth months.

CASE 2 (35003).—A colored nullipara, aged 20, in whom the menses began at 15, and were regular every twenty-eight days of three days' flow, three changes at most being required each day; had the last period, July 27 to 29. It was shorter and scantier than usual. Nausea and vomiting began about the middle of August and lasted one week. She had no recollection of the date of quickening. Estimation of the date of labor was uncertain, as there was a possibility of conception's having taken place just preceding the last period. Examination, Dec. 3, 1919, showed the fundus level with the umbilicus. On roentgen-ray examination, Dec. 4, 1919, no definite diagnosis could be made. Examination, March 31, 1920, showed the fundus about three-fourths the distance from the umbilicus to the ensiform cartilage. She was delivered, April 24, of a 7¼-pound boy. Conclusion: Roentgen-ray examination was negative at four and three-fourths months.

CASE 3 (35889).—A white secundipara, aged 22, in whom the menses had always been regular, every thirty days, had been married three years and had two children, the youngest born at full time, March 9, 1919. The flow returned in April, 1919, while she was nursing the child, and continued regular and normal until July 25, 1919, when the last period occurred. She had no nausea and had noticed no fetal movements as yet. Examination, Dec. 29, 1919, revealed the fundus one fingerbreadth below the umbilicus, more than three-fourths the distance from pubes to umbilicus. On roentgen-ray examination, Dec. 30, 1919, no evidence of pregnancy could be seen. The patient passed from observation, but it was subsequently learned that she was delivered of an 8½-pound child, May 2, 1920. Conclusion: Roentgen-ray examination was negative at the end of the fifth month.

CASE 4 (35184).—A colored decipara, aged 32, in whom the menses began at 13, were always regular every twenty-eight days, with seven days' flow, three changes a day at most being required, had the last period the last of August; but it was of only three days' duration and was scantier than usual. Nausea began the last of August. No fetal movements had been felt. Examination, Nov. 26, 1919, showed the fundus three-fourths the distance from the pubes to the umbilicus. From a roentgenogram taken Jan. 22, 1920, a definite diagnosis could not be made. The patient was delivered of a 9¼-pound girl, May 6, 1920. Conclusion: Roentgen-ray examination was negative at five and three-fourths (?) months.

CASE 5 (36129).—A colored nullipara, aged 18, in whom the menses began at 13, and were regular every twenty-eight days, the flow being scanty and of from three to four days' duration, had had two miscarriages, each several months advanced, probably due to syphilis. The Wasserman test was four plus. The last period occurred, Oct. 13, 1919, and was normal; there had been no flow since. There was an indefinite history of nausea, beginning January 1. Examination, January 15, showed the fundus to be one-half way from the pubes to the umbilicus. From a roentgenogram taken Feb. 5, 1920, no posi-

tive diagnosis of pregnancy could be made. The patient miscarried several weeks later. Conclusion: Roentgen-ray examination was negative at three and three-fourths months.

Case 6 (30203).—A colored primipara, aged 23, in whom the menses began at 10, were regular every twenty-eight days, of three days' flow and of average amount, had been married three years and had one premature stillbirth at the eighth month due to eclampsia. The last normal period occurred, Sept. 15, 1919, and there had been no flow since. Nausea and vomiting began in October and continued until February. Fetal movements were first noticed about January 20. Examination, Feb. 4, 1920, revealed: blood pressure, systolic 230, diastolic, 120; fundus one fingerbreadth below the umbilicus. From roentgen-ray examination, February 5, a positive diagnosis of pregnancy could not be made. March 2, the outline of the head and other slight bony structures could be seen. The patient was delivered by a midwife, May 17, of a still-born baby. Conclusion: Roentgen-ray examination was negative at five and one-fourth months, and positive at five and one-half months.

Case 8 (33932).—A colored nullipara, aged 19, in whom the menses began at 12, and were regular every thirty days, of two to three days' flow, and two changes, at most, being required a day, had the last period about March 20, 1919; the exact date was uncertain. The flow was not so free as usual. There was no definite history of nausea or vomiting. The probable date of labor was estimated to be December 27. Examination, August 6, disclosed the fundus one fingerbreadth above the umbilicus. Roentgen-ray examination, August 7, revealed pregnancy, parts of the bony structure being apparent. The patient was delivered of a 10-pound girl, Jan. 14, 1920. Conclusion: Roentgen-ray examination was positive at five and one-fourth months.

Case 9 (33215).—A colored nullipara, aged 18, in whom the menses began at 13, and were regular every twenty-eight days, of four days' flow, and rather heavy, had the last period March 27 to 30, 1919. It was normal, and there had been no show of blood since. She had nausea and vomiting during the last week in May. The probable date of confinement was estimated to be Jan. 3, 1920. Examination, June 18, 1919, revealed the fundus two fingerbreadths above the pubic crest. On roentgen-ray examination, June 18, a positive diagnosis of pregnancy could not be made. Examination, August 6, revealed the fundus one fingerbreadth below the umbilicus. The patient said she felt the first movements, August 4. Roentgen-ray examination, August 7, disclosed parts of the bony structures. The patient was said to have been delivered in December of a full term child. The exact date of delivery and the weight of the child could not be determined. Conclusion: Roentgen-ray examination was negative at two and one-half months, and positive at four and one-fourth months.

Case 10 (23193).—A colored secundipara, aged 20, in whom the menses began at 14 and were regular, every thirty days, with four days' flow, had an abortion at the third month in February, 1919. She flowed again in March, April and May, but in June the flow lasted only three days, from the 15th to the 18th, and was scantier than normal. No flow had occurred since. Nausea and vomiting began about July 15 and lasted two months. The first movements were felt, October 15. The probable date of confinement was estimated to be March 10, 1920. Examination, Sept. 17, 1919, revealed the level of the fundus more than three-fourths the distance from the pubes to the umbilicus. Roentgen-ray examination, September 18, disclosed a shadow that appeared to be the enlarged uterus, but no bony structures could be seen. Another roentgenogram was taken, October 2, but was destroyed by a warm solution before being examined, and the patient failed to return for further examinations. She was delivered, Feb. 20, 1920, of twins weighing 6 pounds each. Conclusion: Roentgen-ray examination was negative at the end of the third month.

Case 11 (30408).—A colored nullipara, aged 21, in whom the menses began at 14, and were regular, every four weeks, with a duration of four days, two changes at most, a day being required, had the last period, Feb. 24 to 27, 1919, which was shorter and scantier than usual. No flow had occurred since. Nausea and vomiting began early in March and continued to the middle of April. The probable date of confinement was estimated to be about November 15. Examination, June 25, disclosed the fundus within one fingerbreadth of the umbilicus. Roentgen-ray examination, June 26, failed to make a definite diagnosis of pregnancy. The patient was delivered, November 18, of a 7-pound boy. Conclusion: Roentgen-ray examination was negative at four and one-fourth months.



Fig. 3 (Case 9).—Outline of head and some long bones in pregnancy at four and one-fourth months. In order to secure greater contrast in Figures 2 and 3, the borders of the bony shadows were penciled.

Case 12 (35185).—A colored nullipara, aged 19, in whom the menses began at 14 and were regular every month, with a duration of five days, rather profuse, flowed normally in July, 1919, and again August 25 and 26, scanty. No flow had occurred since. Nausea and vomiting began the last of September. On roentgen-ray examination, October 30, a positive diagnosis could not be made. She was delivered, April 25, 1920, of an 8-pound boy. Conclusion: Roentgen-ray examination was negative at the end of the third month.

Case 13 (25509).—A white quadripara, aged 26, in whom the menses began at 15, and were regular every thirty days, with a duration of five days, had a full term child Dec. 4, 1918, and nursed the baby one month. The flow returned the latter part of April and again May 23, in normal amount; no flow had occurred since. Nausea and vomiting began the last of June. Examination, Aug. 20, 1919, revealed the fundus about one-third the distance from the pubes to the umbilicus. The patient said she felt the first movements, October 4. When roentgen-ray examination was made, October 22, there was too much gas in the sigmoid and rectum to make a diagnosis. Examination, October 29, disclosed the fundus two fingerbreadths above the umbilicus. Roentgen-ray examination, October 30, revealed the outline of the fetal head. The patient was in the hospital on account of symptoms of toxemia, Jan. 1 to 10, 1920, and returned, February 8, in labor, complicated by influenza and pneumonia. The baby weighed 5½ pounds. Conclusion: Roentgen-ray examination was negative at the end of the fifth month, and positive at five and one-fourth months.

Case 14.—A colored nonipara, aged 33, in whom the menses began at 15, and were regular every twenty-eight days, with a duration of three days, of normal amount, and the last period, August 18 to 21, of normal amount. There was a slight stain

for a few hours, September 20, but no flow since. There was no nausea. She had no recollection of the date of the first movements. The probable date of labor was estimated to be June 20. Examination, Feb. 18, 1920, revealed the fundus three-fourths the distance from the pubes to the umbilicus (corresponding to the end of the fourth month rather than five and one-half or six months, as estimated from the flow). Roentgen-ray examination, Feb. 19, 1920, did not detect any fetal structures. Examination, March 3, disclosed the fundus almost level with the umbilicus. Roentgen-ray examination, March 9, disclosed a large shadow in the pelvis which had the appearance of a fetus; but no definite bony structures could be made out. The patient was delivered, July 28, of an 8½-pound child. Conclusion: Roentgen-ray examination was negative at the end of the fourth month, and again at four and three-fourths months.

After reviewing the results obtained in these cases, it was decided to secure several more roentgenograms of pregnancies in the third or fourth month and, profiting by the experience obtained in the previous series of cases, attempt to demonstrate the fetal bones in the third month, if possible, and more constantly in the fourth month.

CASE 15 (35401).—A colored quadripara, aged 25, in whom the menses began at 13, and were regular, every twenty-eight days, with a duration of six days, of average amount, had the last period, June 16 to 17, 1920, which was shorter and scantier than usual. Nausea was noticed, August 15, and fetal movements were felt, September 25 (?), which had continued since. Examination, October 13, disclosed the fundus three-fourths the distance from the pubes to the umbilicus. Roentgen-ray examination, October 14, failed to establish a diagnosis of pregnancy. Examination, October 20, disclosed the fundus one fingerbreadth below the umbilicus. The patient did not return for another roentgenoscopy. Conclusion: Roentgen-ray examination was negative at the end of the fourth month.



Fig. 4.—Pregnancy at eight months; vertex presentation.

CASE 16 (39047).—A colored nullipara, aged 24, in whom the menses began at 13, were regular, every twenty-eight days, with a duration of three days, two changes at most a day being required, and in whom there was no intermenstrual flow, had the last period, June 15, 1920, lasting only one and one-half days and being scantier than usual. No flow had occurred since. Nausea and vomiting began, August 1, and had continued up to the present time. No movements had been noticed as yet. Examination, September 29, revealed the fundus one-half way from the pubes to the umbilicus. Roentgen-ray examination, September 30, revealed the shadow of an enlarged uterus, but no bony structures. Examination, October 6, showed the fundus about two-thirds the distance from the pubes to the umbilicus. From a roentgen-ray examination, October 7, a diagnosis of pregnancy could not be made. Examination, October 20, disclosed the fundus more than three-fourths the distance from the pubes to the umbilicus. The patient did not return for another roentgenoscopy. Conclusion: Roentgen-ray examination was negative at three and one-half months, and again at three and three-fourths months.

CASE 17 (38992).—A colored nullipara, aged 16, in whom the menses began at 12, and were always regular, every twenty-eight days, with a duration of from three to five days, three changes at most a day being required, and in whom there was no intermenstrual bleeding, had the last period, May 10, 1920, which was normal. No flow had occurred since. Nausea and vomiting began the latter part of June and still continued. No movements had been noticed as yet. Examination, August 18, revealed the fundus one-half way from the pubes to the umbilicus; September 29, one fingerbreadth below the umbilicus. The patient was to have a roentgen-ray examination the following day, but did not appear on account of sickness. Examination, October 6, revealed the fundus practically level with the umbilicus. On roentgen-ray examination, October 7, the head and long bones were visible. Conclusion: Roentgen-ray examination was positive at four and three-fourths months.

CASE 18 (38435).—A colored secundipara, aged 21, in whom the menses began at 16, and were irregular, the interval varying from three to six weeks, the duration from four to five days, two changes at most per day being required, had the last period, April 25, 1920, which was normal. There had been no flow since and no nausea or vomiting. The first fetal movements were thought to have been felt, August 25, and had continued since. Examination, September 15, showed the fundus one fingerbreadth below the umbilicus. On roentgen-ray examination, September 16, the spine of the fetus was visible, but the head could not be outlined. Conclusion: Roentgen-ray examination was positive at four and three-fourths months.

The estimation of the stage of pregnancy at which the roentgen-ray examination was positive or negative in the last four cases was based entirely on the evidence furnished by the history of menstruation, nausea and vomiting, fetal movements and the height of the fundus, as these data had been found to correspond quite accurately to the date of labor.

SUMMARY OF RESULTS

The total number of roentgenograms taken was twenty-four. The earliest stage of pregnancy attempted was at two and one-half months; the latest stage about the end of the sixth month. From the end of the second to the end of the third month, one roentgenogram was taken and was negative. From the end of the third month to the end of the fourth month, five roentgenograms were taken and all were negative. From the end of the fourth month to the end of the fifth month, ten roentgenograms were taken and three were positive. From the end of the fifth month to the end of the sixth month, eight roentgenograms were taken and four were positive.

In other words, during the third month, no positive results were obtained; during the fourth month, no positive results were obtained; during the fifth month, positive results were obtained in one-third the cases;

and during the sixth month, positive results were obtained in one half of the cases. The earliest positive result was obtained at four and one-fourth months.

A FOURTH POSITIVE SIGN OF PREGNANCY

Since a roentgenogram which shows a sufficiently characteristic part of the fetal skeleton in utero is a positive sign of pregnancy, concerning which no two observers could possibly disagree, it must be regarded as evidence of the most positive kind. From the foregoing results it would seem apparent that the roentgen ray may be of value in the diagnosis of pregnancy at practically the same stage of gestation that the other three positive evidences are obtainable, namely, (1) hearing the fetal heart beat, (2) being able to outline the fetus by palpation, and (3) seeing and feeling its active and passive movements, and should be mentioned as the fourth positive sign of pregnancy. However, it should be emphasized that its diagnostic value in the second trimester of pregnancy is limited by the fact that a negative result does not necessarily mean that the patient is not pregnant. This is evident from the considerable number of negative results in this series; but, just as the fetal heart sounds, outlines and movements become increasingly recognizable as pregnancy advances beyond the fifth month, so the roentgen ray will be positive in an increasing percentage of the cases as full term approaches.

Attention may be called to the application of the "rule of fourths" in determining the stage of gestation, as illustrated above, particularly in Case 14, in which the level of the fundus indicated the end of the fourth month, which was later shown to be correct by the date of labor, although the menstrual history indicated that labor would occur much earlier.

From a review of the literature and from the results obtained in this series of cases, the following conclusions would seem justifiable, although it is admitted that a larger series of cases would have been desirable.

CONCLUSIONS

1. A positive diagnosis of pregnancy has been made by demonstrating portions of the fetal skeleton in utero as early as the end of the fourth month of gestation (Edling,[3] Case 17).

2. The earliest positive diagnosis in this series of cases was obtained at the beginning of the fifth month of pregnancy (Case 9).

3. During the third month of pregnancy, roentgenoscopy is uniformly negative.

4. During the fourth month of pregnancy, a positive diagnosis may very exceptionally be obtained toward the last of this period.

5. During the fifth month of pregnancy, a positive diagnosis of pregnancy may be obtained in at least one third of the cases.

6. During the sixth month, a positive diagnosis may be obtained in at least one half of the cases.

7. During the seventh, eighth and ninth months of pregnancy, a positive diagnosis of pregnancy should be obtained in the great majority of all cases.

746 Peachtree Street.



Fig. 1.—Pyelogram showing filling defect in kidney pelvis. Note the abnormal size and shape of the pelvis and increase in width of lumen of ureter.

PAPILLARY EPITHELIOMA OF THE KIDNEY PELVIS

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AND
ROBERT H. HERBST, M.D.
CHICAGO

Primary papillary epithelioma of the kidney pelvis may rightly be called a rare tumor. Watson and Cunningham,[1] in 1908, reported that Israel found only two cases of kidney pelvic tumors, as compared with sixty-eight in the kidney parenchyma, and that there was but one tumor (a papilloma) in ninety-four cases of renal and perirenal growths recorded at the Massachusetts General and the Boston City Hospital in ten years. Wilson,[2] in 1912, reported three papillomas, and according to Braasch,[3] only five have thus far been observed at the Mayo Clinic. McCown,[4] in a recent presentation of a case in which he reviewed the entire literature, found only ten cases reported by American authors and thirty-eight from foreign countries. In the discussion that followed his paper, Stevens, Hyman and Goldstein each mentioned personal experience with one, and Kretschmer with two cases of papillary tumor of the kidney pelvis. To this number we add the following case:

History.—A. J. P., a man, aged 46, entered the Presbyterian Hospital, Oct. 22, 1920, because of pain in the left loin, hematuria and occasional jaundice. His trouble began in April, 1919, with pain in the left kidney region severe enough to double him up. It lasted half an hour, gradually subsided, and left him covered with a cold sweat. He did not vomit or pass blood in the urine. He was free from trouble until March, 1920, when a similar attack occurred, this time persisting for forty-eight hours and radiating toward the bladder. He was relieved by morphin and the pain subsided gradually. During the attack he passed blood in the urine. Between March and August he had intermittent attacks of pain associated with hematuria. During August the hematuria was marked by the presence of bright red blood, and on the following day there was an acute urinary retention, for the relief of which he was catheterized. On removal of the catheter, dark red clots came away. Since that time he had never been entirely free from trouble, but the pain had been noticeably less severe. Occasionally during the last year his friends had noticed a yellow tinge to his skin, but he himself had not observed any jaundice.

1. Watson and Cunningham: Genito-Urinary Diseases **2**: 261, 1908.
2. Wilson, L. B.: The Embryogenetic Relationship of the Tumors of the Kidney, Suprarenal and Testicle, Collected Papers of the Mayo Clinic, 1912, p. 304.
3. Braasch, W. E.: In the Discussion on McCown's paper (Footnote 4).
4. McCown, P. E.: Papillomatous Epithelioma of Kidney Pelvis, J. A. M. A. **75**: 1191 (Oct. 30) 1920.

There had been no loss of weight, and he had worked practically every day. He denied venereal disease. The past history and family history were negative. He had been married eighteen years. Two daughters were in good health. His wife was subject to epileptic attacks.

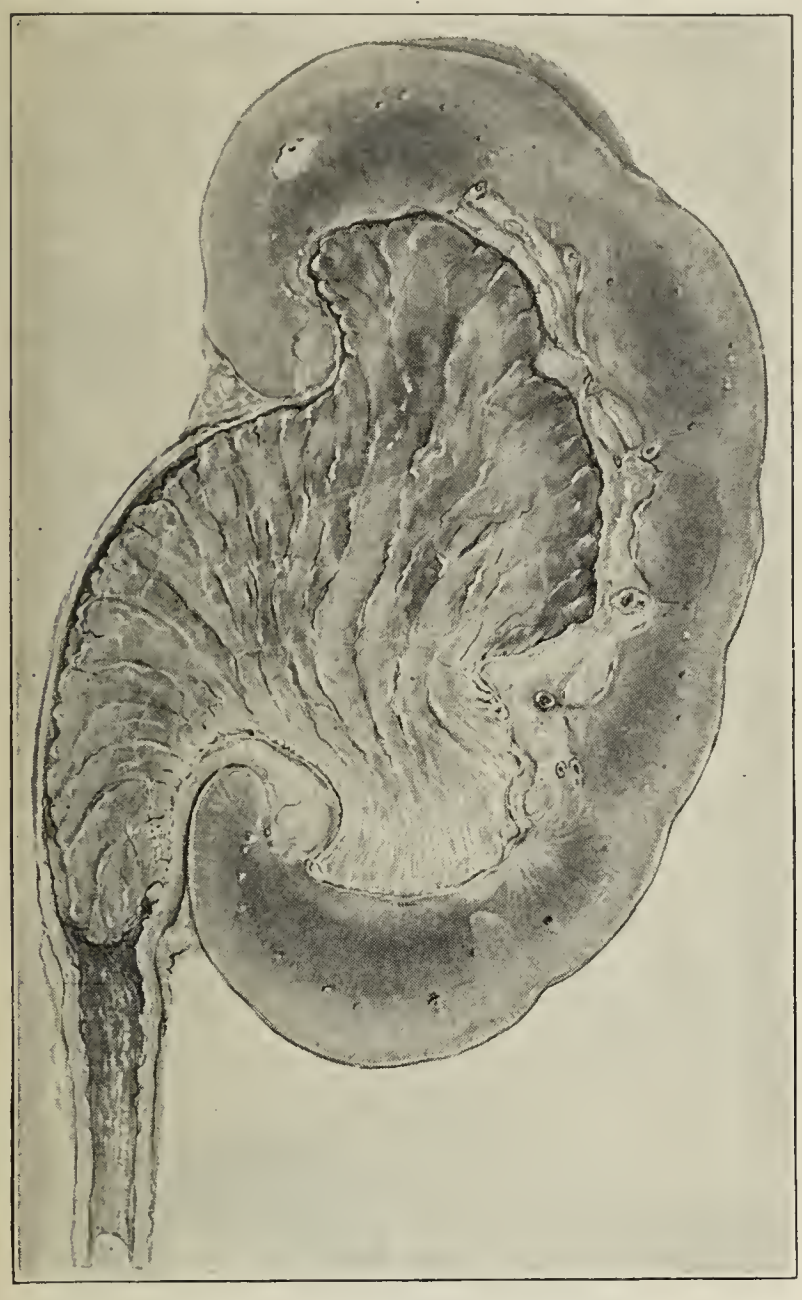


Fig. 2.—Longitudinal section of kidney through center of the papilloma. The tumor is attached at the ureteropelvic junction and along the lower margin of the pelvis.

Physical Examination.—The patient was somewhat emaciated, with a distinctly yellow complexion. Findings were normal except for the abdomen, the wall of which was held fairly rigid. There was tenderness on deep palpation over the left kidney, but no tumor could be felt. The liver and spleen were not palpable. The prostate and genitalia were normal.

On entrance, blood examination revealed: leukocytes, 15,900; hemoglobin, 90 per cent. The systolic blood pressure was 130; diastolic, 80. Roentgen-ray examination of the genito-urinary tract was negative for stones. The urine was normal.

Cystoscopy by Dr. Robert H. Herbst, November 23, revealed the bladder wall normal; the ureteral orifices tunnel shaped. The right orifice took a No. 6 catheter readily. The left stopped at 8 cm. After some manipulation it was advanced to 12 cm. The right kidney drained normally. The left drained 0.5 c.c. in half an hour. Cultures and cell count of urine from both kidneys and bladder were negative. Guinea-pigs injected, November 24, were negative to tubercle bacilli.

Specimens of urine, October 30 and November 1, showed albumin, red blood cells and pus.

November 1, Dr. Herbst passed a shadowgraph catheter and injected the kidney pelvis with thorium solution. The roentgenogram showed the pelvis greatly dilated, the calices obliterated, and a definite oval-shaped filling defect about 5 by 4 cm. occupying the central portion of the pelvis (Fig. 1).

Diagnosis.—In view of the history of intermittent bleeding and passage of clots, the pain referable to the left kidney, the absence of function of the affected side, the negative tests for tuberculosis, the evidence of an abnormal ureter by the difficulty in the passage of the catheter, and the clear-cut filling defect within the kidney pelvis without material increase in the size of the kidney shadow, a diagnosis of papillary epithelioma was made. A review of the fifty-three cases previously reported showed that the true pathology was determined in thirty-seven after removal of the kidney by operation, in twelve at necropsy, and in the remainder by the finding of bladder implantations. In not a single instance was it clearly stated that the condition was recognized previous to operation in the absence of a pathologic condition of the bladder. We feel, therefore, that this case is in that respect unique.

Operation.—November 21, the usual oblique incision was made. A somewhat enlarged kidney was readily freed from the surrounding tissues, but could not be delivered. The surface appearance was normal. The pelvis was large and bulging, about the size of a large hen's egg. The ureter was distinctly enlarged and the walls much thickened. Several large, soft glands were easily palpated just mesial to the kidney pelvis. It was the intention of the operator to perform a complete ureterectomy, but in view of these evident metastases already present, only the upper 3 inches of the ureter was removed with the kidney.

Pathology.—Gross: On section of the kidney along the convex border, the pelvis collapsed, allowing a soft, cauliflower-like, papillary tumor to bulge into the incision. It was about the size of a small orange. The parenchyma was thinned by pressure of the distended pelvis, was pale, and the pyramids were not distinct. The average thickness was about 1.2 cm. The tumor was adherent at the ureteropelvic junction and along the lower portion of the pelvic wall. Elsewhere it was easily separated by loose blood clots. It apparently did not invade the parenchyma, and did not extend downward into the upper 3 inches of the ureter (Fig. 2).

Microscopic.—The tumor presented the typical picture of a papillary epithelioma, in certain areas appearing quite benign (Fig. 3) and in other places distinctly malignant (Fig. 4). Beneath the mucosa of the ureter were isolated groups of what appeared to be cancer cells (Fig. 5).

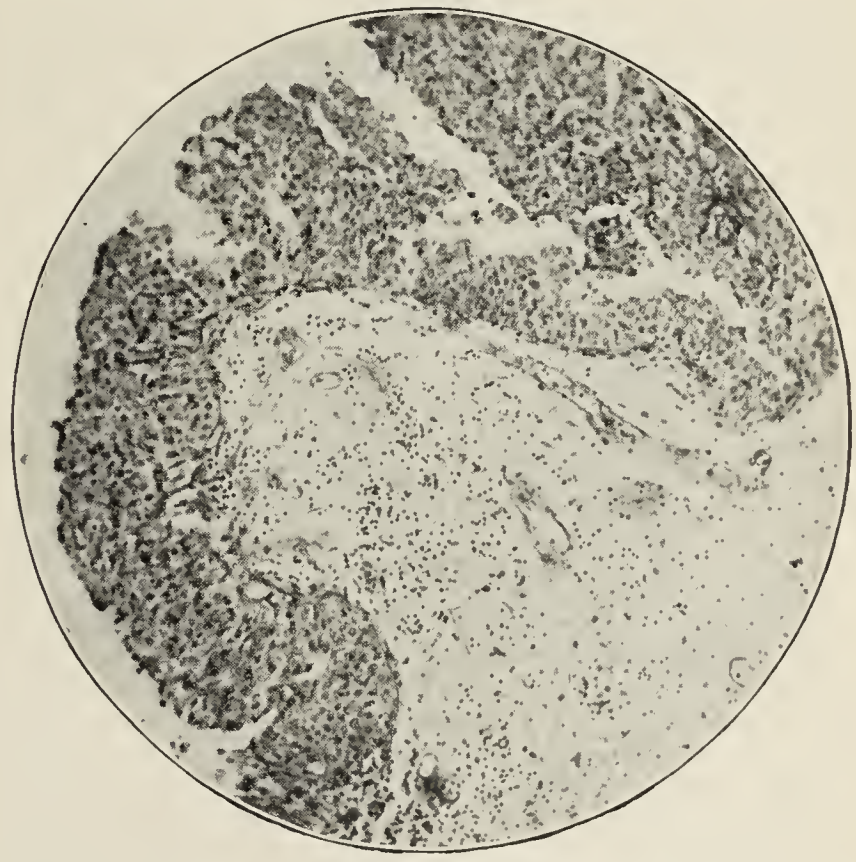


Fig. 3.—Low power view of area relatively benign in appearance. Orderly arrangement of epithelium. Basement membrane intact. Few mitotic figures.

Postoperative Course.—The patient made a good recovery. After resting at home for two weeks he returned to work, at which he has continued every day. He has gained several pounds and feels much improved.

INCIDENCE

From an analysis of the cases thus far recorded, we find that papillary epithelioma is more common in

males than in females in the proportion of about 2:1. As to age, nearly one half occur between the fiftieth and sixtieth year, about one fifth between the fortieth and the fiftieth year, and the same number between the sixtieth and seventieth year. The oldest patient on record, that of Toupet and Guerniot,[5] was a woman, aged 86; the youngest, that of Kretschmer, was but a boy.



Fig. 4.—Low power view of field relatively malignant in appearance. Great variation in size of nuclei. Basement membrane not completely intact. Large number of mitotic figures.

ETIOLOGY

The etiology of these tumors is not known. It is reasonable to suppose that irritation, such as from a calculus, or chronic infection, might be a predisposing factor; yet, in the fifty-four cases from which the data in this report are obtained, infection was made note of but three times, and the presence of calculi in only ten.

PATHOLOGY

These tumors vary in character from multiple, small, isolated, budlike growths to a single, large, cauliflower-like mass filling the renal pelvis and producing as it grows destruction of the kidney parenchyma. The condition is usually unilateral, although Murchison,[6] in 1870, reported a death from uremia caused by obstruction of both ureters with clots derived from bilateral pelvic papillary tumors. They arise, as a rule, from the lining of the pelvis of the kidney, but, as in Wilson's cases, may originate in the terminal portion of the collecting tubules. Histologically, they resemble papillomas elsewhere in the urinary tract, the covering of the vascular connective tissue stalk being either a tall or short, oval, cylindric or club-shaped epithelium. They tend to bleed readily and the clots formed may obstruct the outlet of the pelvis, with a consequent hydronephrosis, or cause varying degrees of obstruction as they pass downward along the urinary tract. The tumor may start and remain localized in the kidney, but the striking tendency is to involve secondarily either by direct extension (as in McCown's case) or, by implantation (as in Lower's[7] case), the lower urinary tract.

5. Toupet and Guerniot: Bull. Soc. anat. de Paris, 1898.
6. Muchison: Tr. Path. Soc. London **31**: 353, 1870.
7. Lower, W. E.: Neoplasms of the Renal Pelvis, with Special Reference to Transplantation in the Ureter and Bladder, Surg., Gynec. & Obst. **18**: 151, 1914.

Of these fifty-four cases, twenty-five showed involvement of the ureter, while in eighteen the tumor had invaded the kidney, ureter and bladder.

It has been said that this type of growth may be primary in the bladder and, by mestastasis through the ureteral lymphatics, involve the kidney tissues. Haessler[8] has cited such an instance in a man of 77 years who had profuse hematuria during the five days preceding his death. Necropsy revealed a papillary epithelioma invading the renal parenchyma and a similar tumor in the bladder. The ureter was normal. The author assumes that the bladder was the primary site, and the kidney involved by metastasis through the ureteral lymphatics; but no evidence is presented pointing toward a pathologic condition in the ureteral lymphatics. Stevens[9] also has recently cited the case of a man, aged 70, who was seen in 1913 because of hematuria and frequent urination. Cystoscopy at that time revealed a pedunculated papilloma of the bladder near the left ureteral orifice. This was removed by snare and cautery. Nineteen months later he began to have severe pain in the right kidney region, and his urine contained albumin, casts and a few pus cells, but no blood. Three years later cystoscopy revealed an inflamed bladder mucosa and blood coming from the right ureteral orifice. Six months later the same findings were present. A diagnosis of renal tumor was made, and at operation a walnut-sized papilloma of the pelvis was found. It is assumed that in view of the delayed (nineteen months) onset of symptoms referable to the kidney, the papilloma was primary in the bladder, and the kidney involved secondarily through the ureteral lymphatics. This assumption evidently is based on the belief that tumors of this nature at all stages of their growth give rise to symptoms referable

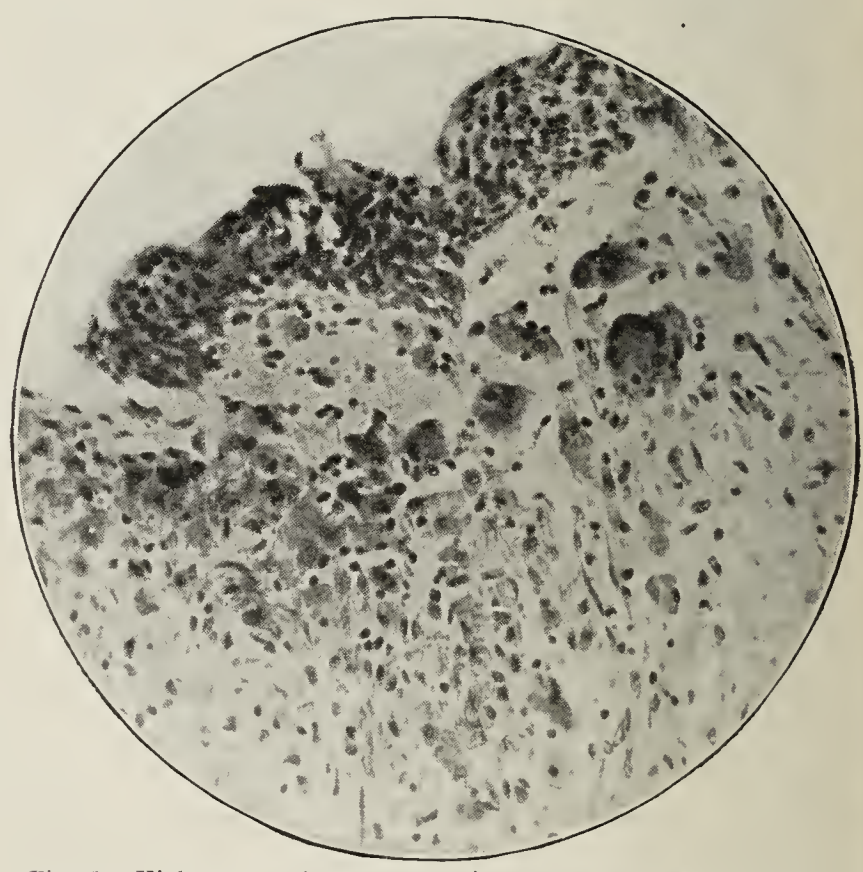


Fig. 5.—High power view of wall of ureter just below ureteropelvic junction. Mucosa normal. Submucous layer the seat of groups of malignant epithelial cells.

to the kidney; yet we find that, in Neelsen's[10] case, necropsy disclosed one half of the kidney pelvis filled by numerous villous growths only a few days after the

8. Haessler, F. H.: Papillary Epithelioma of Bladder, Metastatic in the Kidney, J. A. M. A. **76**: 446 (Feb. 12) 1921.
9. Stevens, W. E.: Tumors of the Renal Pelvis, J. A. M. A. **74**: 1576 (June 5) 1920.
10. Neelsen: Beitr. z. path. Anat. u. z. allg. Path. **3**: 277, 1888.

patient's first symptom. In addition, as in Haessler's case, there is no evidence to show that the ureteral lymphatics were the pathway of the metastases.

The degree of malignancy of these tumors is often uncertain, but the findings of metastasis at operation or necropsy in fifteen of the fifty-four cases speaks against the likelihood of many of them being permanently benign.

SYMPTOMS

The symptoms vary considerably with the size of the tumor and the associated pathology. Hematuria is by all odds the most constant sign. It is usually intermittent in character, and may vary in severity from a slight cloudiness of the urine to a copious hemorrhage, as in Rayer's [11] case, in which the patient died from exsanguination. Clots are frequently passed, and when of sufficient size, as in our own case, may obstruct the ureter or outlet of the bladder. Pain is rather inconstant. It may be characterized by mild bladder irritation, a steady ache in the kidney region, or by severe colicky attacks similar to that seen with ureteral stone. It is not uncommon to find these attacks precede or follow the passage of clots. The course of these symptoms, if not interrupted by surgical treatment, may extend over a period of several years; but in the large majority of cases, termination is seen relatively early.

DIAGNOSIS

In spite of the rarity of occurrence of this type of tumor as compared with hypernephroma and tuberculosis, its presence should be kept in mind in all cases in adults when intermittent hematuria is noticed, especially when associated with pain in the kidney region. It should be strongly suspected if, the roentgenograms being negative for stone, there are colicky attacks of pain radiating along the course of the ureter, a diminished or absent function of the suspected kidney, and a palpable tumor mass in the loin. If, in addition, cystoscopy reveals a papilloma in the bladder or ureteral orifice, the urine contains unidentified epithelial cells, and the pyelogram portrays a filling defect in the kidney pelvis, the presence of a papillary tumor is practically certain.

TREATMENT

As stated by Braasch,[3] as far as treatment is concerned these cases may be divided into two groups, those with and those without bladder involvement. In the former nothing will suffice short of complete removal of kidney and ureter followed later by fulguration of the bladder implantations. If the procedure is reversed, endless trouble may arise. This is well illustrated by McCown's case, in which repeated fulgurations and later nephrectomy failed to bring permanent relief and had eventually to be followed by complete ureterectomy before bleeding could be controlled. Obviously, in those of the second group, removal of the affected kidney and entire ureter is indicated as soon as the diagnosis is made.

Presbyterian Hospital.

11. Rayer: Traité des maladies du rein.

Aims of Health Departments.—Many health departments as constituted today fall far short of the ideal in scope and activity. In many the aims are narrowed or confined to communicable disease, either by their own sluggishness or by the encroachments of more active agencies. The aims of health departments should be the eradication of preventable disease, the elimination of corrigible physical and mental defects, and the maintenance of all individuals in the best possible physical and mental condition.—A. J. McLaughlin, *Commonhealth,* Nov.-Dec., 1919.

THE MEDICAL PROFESSION AND THE PUBLIC*

WILLIAM J. MAYO, M.D.
ROCHESTER, MINN.

INDIVIDUALISM IN MEDICINE

On every side we see the acceptance of an idea which is generally expressed by the loose term "group medicine," a term which fails in many respects to express conditions clearly. In my father's time, success in the professions was more or less dependent on convention, tradition and impressive surroundings. The top hat and the double-breasted frock coat of the doctor, the wig and gown of the jurist, and the clerical garb of the ecclesiastic, supplied the necessary stage scenery. The practitioner of medicine today may wear a business suit. The known facts in medicine are so comprehensive that the standing of the physician in his profession and in his community no longer depends on accessories.

So tremendous has been the recent advance of medicine that no one man can understand more than a small fraction of it; thus, physicians have become more or less dependent on the skill, ability and specialized training of other physicians for sufficient knowledge to care for the patient intelligently. An unconscious movement for cooperative medicine is seen in the intimate relation of the private physician to the public health service made possible by the establishment of laboratories by the state board of health and similar organizations. On every hand, even among laymen, we see this growing conception of the futility of individual effort to encompass the necessary knowledge needed in treating the simplest and most common maladies because of the many complications which experience has shown are inherent possibilities of any disease.

It is well for America that the medical profession has recognized the necessity for organized scientific effort which is taking the place of former competitive medicine. Competitive medicine was the response of the individual physician to his training and environment. It fostered self sufficiency and jealousy. The physician has been the council for the prosecution and the defense, the jury and the judge. It has been necessary for him to acquire the facts, to sum up the evidence, and to give the verdict. Too often the facts that he acquired have been improperly interpreted.

MEDICAL COOPERATION

MacKenzie points out that medical treatment has always been in advance of knowledge, that treatment has been empiric, even experimental, and that knowledge has come later from the results of these unorganized attempts to palliate or cure the diseases of man. The medical profession has long recognized the great value of the facts resulting from the work in clinical laboratories, but only of late has it recognized the great practical value of the labors of the physiologist, the physicist and other heretofore cloistered departmental workers. The organization of departments of trained workers in special fields of medicine and allied sciences greatly aids in obtaining knowledge which permits a better interpretation of all the facts of the case by the diagnostician and brings knowledge closer to treatment. We can hope that eventually knowledge

* Read at the opening of the Cleveland Clinic, Cleveland, Feb. 26, 1921.

will precede treatment and that treatment will be based on knowledge, and not, as heretofore, largely on empiricism.

The corrective legislation which reflects the reaction of countries to the manifest failures of individualistic competitive medicine has been like the groping of a blind man. The leaders in these so-called health movements too often have not been members of the medical profession, which has at least all the knowledge and experience extant, but they have been largely politicians, men without knowledge or experience who have taken little advice from those who had knowledge. The general program has been based on an honest attempt to alleviate the condition and diseases of man, but unfortunately it has been based also on the political expediency of an appeal to the prejudices of some classes of voters. These abortive attempts at class legislation in medicine have not given better treatment to the sick man or even more treatment. Let it be said to the eternal credit of the medical profession that the sick have never lacked for medical attention because of poverty. And no matter how many the shortcomings of competitive medicine, the medical profession as a whole has always struggled to reduce sickness and to rid the earth of contagious disease; to this, no doubt, is due much of the misunderstanding in legislative bodies with regard to the motives of the medical profession. The average legislator cannot conceive that any man without an ulterior motive should ask for legislation which would reduce the business on which his livelihood depends.

No group of men is brought into contact with people quite so intimately as the members of the medical profession, yet there is something about this very intimacy which seems to prevent medical men as a whole from understanding mass psychology. The normal human being when well is not conscious of organs; he is little interested in preventive measures to maintain his health, unless sickness either of himself or of his family directs his attention to them. If he is ill he demands a remedy. This is true of public ills as well as physical ills, and every session of a state legislature is crowded with bills, remedies for specific evils, usually quack remedies, which do not strike at the root of the evils or prevent the suffering which they cause; for each little political ill a little political remedy is offered, legislative "patent medicines." It is difficult, therefore, in the face of the enormous number of immediately annoying, petty ills to secure legislation for fundamental health issues. Of each hundred dollars spent by our government during 1920, only one dollar went to public health, agriculture and education—just 1 per cent. for life, living conditions, and national progress.

The medical profession as a body is altruistic. Appeals for any purpose of human betterment are made to no class of citizens with greater certainty of ready response than to the medical profession. Collectively, physicians have little influence. The fact that treatment has for so long a time outrun knowledge, and that with little knowledge there are many kinds of treatment, injures the standing of the medical profession with the public.

HIGHEST INTELLIGENCE A POLITICAL LIABILITY, AND LOWEST INTELLIGENCE A MENACE, TO GOOD GOVERNMENT

Dr. Arthur Sweeney, in an article on "The Measure of Mentality," gives the results of testing the intelligence of 3,000,000 drafted men, grouped according to mental age: Class A, mental age 18 and over, 5 per cent.; Class B, mental age from 16 to 18, 10 per cent.; Class C+, mental age from 14 to 16, 18 per cent.; Class C, mental age from 13 to 14, 25 per cent.; Class C—, mental age from 11 to 13, 20 per cent.; Class D, mental age from 9 to 11, 15 per cent.; Class D—, mental age from 7 to 9, 7 per cent.

THE MEASURE OF MENTALITY*

Classes A and B, Superior and Very Superior		Classes C+, C, and C—, High Average, Average and Low Average		Classes D and D—, Inferior and Feebleminded	
Mental Age	Per Cent.	Mental Age	Per Cent.	Mental Age	Per Cent.
A 18+	5	C+ 14.5 - 16	18	D 9-11	15
B 16-18	10	C 13+ - 14.5	25	D— 7-9	7
	15	C— 11 - 13	20		22
			63		

* After Dr. Sweeney.

In one of Darwin's interesting essays he speaks of the mentality of childhood. The child up to 1 year of age is a little savage, biting, kicking, striking, without regard to personality. After this period, up to 5 or 6 years the child has no regard for the right of property. One child will take a plaything away from another, recognizing only force. Between the ages of 7 and 13 years the child displays well developed feudalistic tendencies with clan leadership; this is the Boy Scout period, during which children are organizable and obedient to their leader. Notice how closely this 7 to 13 normal mental age of childhood corresponds with Classes C—, D and D—, which shows that 42 per cent. are mentally children. Persons below average intelligence can be organized into groups which are easily led by specious argument, and therefore under cunning leadership they exercise political control entirely out of proportion to their numbers. On the contrary, Classes A and B, 15 per cent., composed of persons of high mentality, cannot be organized; there is almost nothing on which they will agree collectively, although individually they may act intelligently and often with altruism. This group comprises the persons who are vigorous critics of public measures but who will not vote; they are full of precept without example, pacifists, pink socialists, antivivisectionists and so forth, of little worth politically. These have ever been the ardent supporters of cults and quackeries. Politicians appreciate this fact and as a group consider the political influence of persons of the highest intelligence to be negligible. Many men elected to hold office would like to act wisely and in the interest of the public, but they receive no real support from the so-called upper class and thus are forced to become politicians and appeal to the lower class. The men elected to our legislatures may be said to be of at least average mentality. To be effective, power and responsibility must go together. While the legislators have great responsibilities, they have little power to act independently. The power which controls them is the organizable political power which represents the lower order of intelligence. We should not complain if the least intelligent exercise the privilege of the ballot. Rather let us say that they appreciate the ballot more than the so-called intelligent, and in this respect at least are better Americans. A great political burden is thrown on the average man. The high average, the average and the low average man form 63 per cent. of the total number of male voters. These are the common people who face life's sternest aspects, and with this experience are often enabled to

act with superior political intelligence. These people are, all in all, the best friends of the medical profession, and to them we must appeal. Persons in Classes D and D— (22 per cent.) do not think intelligently, but they act, and usually under bad leadership. The ignorant negro vote has been eliminated in the South, but congested in Northern cities it is a menace to good government. Is it wise to put the loaded gun of the ballot in the hands of persons who are mentally children, and of aliens who have no racial sympathy with Anglo-Saxon institutions? Education will do much but not everything to remedy the situation. Men are not born into the world intellectually equal. Equal suffrage doubles the electorate and introduces an element of the highest importance into the political life of the nation. Women are more conscientious than men, and as a group less organizable. They appreciate education, sobriety and peace. The life of a woman centers in the home and she can be depended on to do everything possible to benefit the home. The medical profession must present medical problems to the woman and to the average man.

FUNCTIONAL NERVOUS DISEASES THE SMOKE SCREEN OF QUACKERY

We cannot blind ourselves to the fact that functional nervous conditions may closely mimic physical conditions. Neurasthenia, psychasthenia, hysteria and allied neuroses are the causes of more human misery than tuberculosis or cancer. The tuberculous patient is always happy and "getting better," and at least the cancer patient comes to a termination of his miseries. My brother once said, "The neurasthenic enjoys bad health; the family and friends suffer." Our knowledge of all the nervous conditions which we have not proved to be physical is slight, and for their treatment an enormous number of quack remedies is used outside the medical profession, and unfortunately inside as well. To quote again from my brother, "All varieties of game are protected by a closed season. There is no closed season for the neurasthenic." The medical profession as a whole has not realized that for all practical purposes the cerebrospinal nervous system represents man, and that man is not so much concerned with whether his suffering depends on physical disease as he is with the fact that he suffers. The suffering is real to him, whether or not it is real to the medical man. Social conditions are the common cause of disaster to an unstable nervous system and lie behind the bulk of the nervous disturbances which mimic physical conditions, breed neurosis, and result in sorrow and misfortune. The patient demands a remedy, not prevention. Perhaps life obligations are the fundamental cause of the disturbances, and we cannot change the social condition of our patient. If relief is given it must be through change of mental attitude; after all, life is what we believe it to be and happiness is a state of mind, not necessarily a state of body. In homeopathy, mental suggestion appeared in the simplest form and was often effective in the treatment of functional disorders. We must remember the fact that most diseases are self limited and that nature tends to cure rather than to destroy. High dilutions, in two glasses, a teaspoonful each hour taken alternately, pleasantly suggest betterment. The opposition of the regular medical profession lengthened the days of homeopathy but shortened the days of so-called "allopathy," whose nasty medicines induced the patient in self defense to get well. Today homeopathy is a part of regular medicine, its follies have been dropped and the good added, and the sons of homeopathic practitioners, like the sons of the "allopathic" and eclectic practitioners are studying regular medicine which is broad enough to contain all honest searchers for the truth in medicine.

Christian science has capitalized and commercialized the mentally healing virtues of Christianity. Among all peoples in all times the prevailing religion has been successful in relieving sickness so far as mental suggestion could give comfort or indirectly affect the physical condition. To comfort the sick and those afflicted mentally as well as physically has been the great function of religion, and we see this effect in all its variations, from the cheering up of the downcast to the production of the hypnotic state. The great opportunity of Christianity lies in the moral, mental and physical misfortunes of man. I venture to say that people of this generation have not had the comforts of religion received by people of earlier generations. Religion is no longer such a potent force in the sickroom; I would not presume to say that too much time has been put on the state to come, but there appears to be a distinct loss of relation to the state of the living. In this field, so sadly neglected by the protestant churches, Christian science, while wholly devoid of science, at least brings the comfort of religion to bear on a great number of human misfortunes. If Christian science would confine itself to mental and functional disturbances of man it might do more good and less harm. The very absurdity of the book "Science and Health" has aided, perhaps, in obtaining effect; possibly one might say that the unstable type of mind nowhere better expresses itself than in the book "Science and Health," in which an appeal is made to similar minds of persons similarly situated. Gazing at the pages of this book apparently has the same effect on the reader that gazing on the crystal ball has on the subject of the hypnotist. Not all persons have sufficient imagination to accept the Christian science jumble. It takes real imagination to reach a hand into the air, bring it down empty and say, "See what I have in my empty hand."

It is said that the Chinaman and the East Indian worship wooden images. But they do not. To them the images are emblematic, and they need these physical emblems to bring the mind to bear on the religious side. Religious forms and ceremonials aid in impressing on the mind eternal truths. For people lacking in imagination and to whom Christian science cannot appeal, there are a host of other cults, each with its remedy, in which sufficient of the physical is present to give body to mental effect.

Osteopathy appears to be a combination of mental suggestion and certain definitely valuable mechanical practices. Anterior poliomyelitis once was called "the Scandinavian disease" because of its ravages in the Scandinavian countries. In Sweden massage was highly developed, and for years trained masseurs have been doing much for certain types of physical disabilities. The war has taught the medical profession the great value of active and passive movements and how much can be accomplished thereby in suitable cases of disorders of the muscles, bones and joints, and such treatment is now a recognized medical asset. Osteopathy, with all its absurdities, therefore, has had a certain degree of usefulness in this field, until recently neglected by the medical profession, but it has depended largely on suggestion for its effect. This cult has tried

to improve its educational basis but it is doomed. To tell a man that his ribs or knees or other visible parts of his anatomy are dislocated may be credited for a time, but if he compares these parts of his anatomy with those of members of his family, or perhaps joins a Y. M. C. A. physical training class where he may see other men's ribs and knees, he loses faith because the absurdity is evident. Poor osteopathy: Chiropractic has stepped in and taken the spine out of osteopathy. Every man knows that he has a spine, but it is behind him, he cannot see it, and therefore he cannot get those enlightening comparisons open to most patients of osteopathy. Chiropractic simplifies the whole theory and practice of osteopathy. The barber, the underpaid minister and teacher, and the clerk quickly acquire the jargon in chiropractic schools for a price. Chiropractic does less good perhaps than osteopathy, but it has a better alibi, with a shrewder conception of the possibilities of concealment of the absurd.

Can we wonder that the public at large fails to appreciate the essential differences between what we speak of as functional nervous diseases and their mimicry of the physical, when we as a profession have so little knowledge concerning these matters? In these cults is represented treatment without knowledge, in response to the desire of the people for a remedy for existing ills, real or imaginary. The "patent medicine" business is based on the same desire for a remedy and faith in a suggested cure. The public is satisfied with each new cult until its failure become known. Hope springs eternal in the human breast, and quack remedies and cults with new names take the place of the old.

As one looks, then, to the future of medicine, he sees the necessity of the earnest study of the relation of the nervous system not only to disease but also to unhappiness in all forms, resulting from all causes. It is trite to say that the public must be educated, when our own education is incomplete, our knowledge small. This problem is being attacked from many sides. The educational health work of the Rockefeller Foundation and other well known philanthropies in the elimination of the hookworm, and mosquito-borne, and other diseases, has been heaven sent and has helped every state in the Union to create health legislation for the public good. Individually persons will pay for a remedy for existing ills, even for treatment without knowledge; but collectively the public will not give money until knowledge outruns treatment by a margin so great that all may see and be convinced:

THE MEDICAL PROFESSION AND THE PUBLIC

The striking feature of the medicine of the immediate future will be the development of medical cooperation in which the state, the community and the physician must play a part. Just how shall this cooperation be effected? If conditions are studied as they exist abroad, the tendency will be found to develop so-called class health legislation. In Germany it was believed that health legislation would lead to earlier recognition of disease and better care of the sick workman and his family. Injuries and all kinds of disease were to be greatly reduced in amount and lessened in effect, but the results were anything but desirable. The plan did not lead to better care of the sick; they were cared for as badly as before. Doctors who could not make a living in any other way were obtained, chiefly, to fill the places created. As there was a certain element of free choice of physicians by the sick beneficiary, the doctor had to please the patient in order to hold the job. The system led to malingering which the honest physician could not check if he tried, and the result was that he lost his patient to an unscrupulous competitor. This form of dishonesty became so prevalent as to be a public scandal. Disability from sickness was not reduced but rather increased. The man with an injured finger who could have been a part time producer within a week did nothing until his finger was entirely well, perhaps for two months. There was no medical cooperation to give better care. In England the same plan is in use with the same results. Patients who were treated by physicians without charge before are now treated as badly at the expense of the taxpayer.

It is very evident that health insurance, while sound in theory, has not taken human nature sufficiently into account. The early organization of our hospitals shows the same one-sided tendency. American hospital organization was modeled on that of Great Britain. In the early days a hospital was a place where persons who had no homes, and charity patients, could go when sick. This ancient conception of hospitalization did not anticipate modern conditions. The continuance of this outgrown practice resulted in denying hospital care to the honest but poor taxpayer, and we had the extraordinary spectacle of a premium given to inefficiency and laziness, special hospital privilege for the unproductive person who was a liability instead of an asset to the community. The worthless were given all the benefits of modern science and group medicine which could not be obtained by the average man at an expense which he was able to bear.

I could never quite understand the point of view of the man who leaves a large amount of money for a charity hospital. The care of the poor and the unfortunate is as much the duty of a city as taking care of the streets or the sewers or the water mains. The community will do only those things which it must do. There is no reason why a man should give money to relieve the taxpayers of this just burden than there is why he should pay for the street paving or perform any other public function. What he should do, I believe, is to step in at the point where the public cannot or will not expend money, that is, to advance knowledge by research and investigation which will prevent sickness in the future, and furnish better care for patients suffering from certain diseases which require more study than is given in the average municipal hospital. If hospitals are to be a part of a plan of philanthropy, at least let their benefits be for all classes of the community, each patient contributing a just proportion of the expense according to his means; in this way is forwarded the cause of true Americanism, in which each man is taught to be self-supporting and to pay, so far as he is able, for what he gets, rather than to encourage mendicancy.

To sum up these reflections on the relation of the public to medicine I have at least a few words of comfort. I donned the uniform during the war, knowing that we as a nation were 100 per cent. right and believing that we were at least 90 per cent. efficient. The war ended: I still have my faith that we were 100 per cent. right, but my idea of public efficiency has dropped from 90 to about 50 per cent. Individually the American is the most efficient man on earth; collectively and politically, extraordinarily inefficient. Many varieties of human selfishness reduce our effi-

ciency to a low point, yet at heart 85 per cent. of American people are sound. The medical profession made a great record in the war. The degree of medical efficiency was higher, in my opinion, than that of any other similar body of men, and there was no medical scandal. This was largely due to the leadership of Surgeon-General Gorgas and of Surgeon-General Ireland. The average human being, however, distrusts trained ability and skill in every department of life, and much of the difficulty that was encountered in caring for the sick soldier was due to this distrust, the result of ignorance and prejudice. And yet America functioned on not much better than 50 per cent. average intelligence and was the greatest single factor in the ending of the war, and this was by reason of character and ideals, what Bismarck called the "imponderables." We can weigh many things, but not the results of human sentiment. America is today successfully functioning on the average intelligence, which is steadily growing as the result of publicity, a form of education to which the American is most responsive. Russia today is sadly functioning on the average intelligence of Russia, England and France are functioning on their highest intelligence. Their political systems afford an opportunity for service to their great men. Pierce Butler, one of the leading members of the American Bar Association, once remarked, "Under an autocracy the Ship of State glides smoothly through uncharted political seas, but when it goes on the rocks, every one on board is drowned; while under a republic, the passengers' feet are wet all the time but the Ship never goes on the rocks." There is much to be hoped for and much to be expected from a better understanding of medicine by the American public.

FROM THE ABSTRACT TO THE CONCRETE

The medical profession can be the greatest factor for good in America. The greatest asset of a nation is the health of its people. Our failures as a profession are the failures of individualism, the result of competitive medicine. The real job of the medical profession is the extension of knowledge of what the medicine of today is doing and can do in the future, and this must be done by collective effort. A frank recognition of the necessity for cooperation is necessary. One of the signs of the times is the development of such institutions as the Cleveland Clinic. Such an institution recognizes the rights of the sick man to more careful treatment. It recognizes that the cause of the sick man in this and future generations depends on education and research, and it provides that these things shall be done, not only as the result of philanthropy but also as a well thought out self-supporting plan under the guidance of the medical profession. Clinics of the nature of the Cleveland Clinic cannot be organized generally, but community of medical interests can be established everywhere. As I have previously pointed out, a medical building with a medical library where physicians can meet, common access to laboratories containing modern means of diagnosis with good technicians in charge, the whole managed and controlled by the physicians of a community, would enable every patient, rich or poor, to obtain proper treatment. A basic fee, like a club due, may be charged each physician, the remainder of the expense to be divided in proportion to each member's use of the equipment. Arrangements for mutual consultations for early diagnosis and for the proper handling of emergency cases should be made. The city's health and institutional work should also be cared for by the medical group at a decent remuneration, and the unexpended proceeds devoted to bettering the medical equipment. All these desirable arrangements may be possible by cooperation between the physicians of a community.

Properly considered, group medicine is not a financial arrangement, except for minor details, but a scientific cooperation for the welfare of the sick. Medicine's place is fixed by its services to mankind; if we fail to measure up to our opportunity it means state medicine, political control, mediocrity, and loss of professional ideals. The members of the medical fraternity must cooperate in this work, and they can do so without interfering with private professional practice. Such a community of interest will raise the general level of professional attainments. The internist, the surgeon and the specialist must join with the physiologist, the pathologist and the laboratory workers to form the clinical group, which must also include men learned in the abstract sciences, such as biochemistry and physics. Union of all these forces will lengthen by many years the span of human life, and as a byproduct will do much to improve professional ethics by overcoming some of the evils of competitive medicine.

RECURRENT DISLOCATION OF THE SHOULDER JOINT

A MECHANICAL CONSIDERATION OF ITS TREATMENT

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Recurrent dislocation of the shoulder joint following a primary traumatic dislocation is not an uncommon condition, and various operative procedures have been advocated in the attempt to cure it. No operative procedure as yet, so far as could be determined, has considered the muscular mechanics of the joint or the effects of muscular contraction as a factor in producing recurring dislocations.

In this discussion I will not take into consideration lesions of the shoulder joint in which fractures of the humerus or joint cavity exist, and are a cause of the dislocation. The mechanics of treatment, however, is not radically different.

It is well known that any joint injury followed by consequent disuse leads to muscle atrophy of all the muscles which are directly concerned with the control and function of that joint. These muscles, in relation to the shoulder joint, are the coracobrachialis, triceps, deltoid, supraspinatus, infraspinatus, subscapula, rhomboids and latissimus dorsi.

It is well recognized that the ligamentous capsule of the shoulder joint is an insignificant structure and is very lax, and that the shoulder owes its stability to its muscular capsule, formed by the subscapularis, supraspinatus, infraspinatus and teres minor muscles, and not to its ligamentous one. The muscular bellies of these muscles completely surround the joint and have large tendinous expansions at their insertions into the capsule.

The only portion of the joint capsule left unguarded by muscular insertions is that between the insertion of the triceps on the lower edge of the glenoid fossa and the subscapularis above. This is the portion of the

capsule which is supposed to be most frequently torn in these dislocations, and as a result of this primary tear there results a relaxation of this portion of the capsule which allows subsequent and recurring dislocations, always, however, the result of unbalanced muscular efforts.

The atrophy of the above mentioned muscles, all of which have a direct action in keeping the head of the humerus in the glenoid cavity, would naturally lead to a loss of this control more or less great; and, plus the presence of a weak, stretched or torn capsule, would establish an ideal condition for recurring dislocations.

PATHOLOGY

Any definite evidence apart from complicating fractures is generally lacking in any given case. The best evidence is that of Schultz,[1] who shows that the dislocation was caused in his cases not by a lengthwise tear in the capsule, but by the capsule's being torn loose from its attachment to the humerus or scapula. The capsule consequently could not repair itself enough to prevent subsequent dislocation.

Joessel [2] has observed cases in which the supraspinatus and infraspinatus muscles had been torn loose and retracted.

Thomas [3] believes that a tear in the anterior portion of the joint capsule is the one and only cause, due primarily to hyperabduction of the arm, and impingement of the head of the humerus on the taut capsule, the tip of the acromion being the fulcrum.

All of this evidence leads to the secondary conclusion that the muscular control of the capsule and therefore the joint is diminished, or lost, especially in certain positions of the arm. It is a fact that abduction and elevation are the two motions which lead to recurring dislocations, and consequently this loss of muscle control must be in those muscles which prevent dislocation with the humerus elevated and abducted. These muscles are the subscapular and the supraspinatus principally, as opposed to the normal action of the pectoralis major.

ANALYSIS OF MUSCULAR ACTION

The action of the muscles which have to do with the mechanical control of the shoulder joint is as follows: [4]

Pectoralis Major.—Adduction of humerus. Draws humerus forward; pulls upper portion of humerus inward and downward.

Deltoid.—Abducts humerus. Resultant action of all fibers is to drive head of humerus in glenoid.

Latissimus Dorsi.—Adduction of humerus; internal rotation of humerus. Tends when contracted with arm abducted to oppose pull of pectoralis major.

Supraspinatus.—Assists deltoid in abducting arm and fixes head of humerus in socket.

Infraspinatus.—Rotates head of humerus outward and, with teres minor, assists in holding head of humerus in socket.

Subscapularis.—Rotates head of humerus inward. When arm is raised, pulls head of humerus backward and downward. With the supraspinatus, infraspinatus, teres minor and teres major, it prevents forward displacement to head of humerus.

Coracobrachialis.—Draws upper arm forward. When contracted, tends to force head of humerus into glenoid.

METHODS OF CAPSULE SUTURE

Leaving now out of consideration the various methods of resection of the head of the humerus that have been practiced in the past, and later such unnecessary operations as devised by Loeffler [5] of using a strip of fascia from the thigh to fasten the acromion and the greater tuberosity together; the Schultz [1] method of nailing a piece of fascia over the line of capsule suture, and bone transplants by Eden,[6] or the muscle flap operation as devised by Ollerenshaw [7] and by Clairmont and Ehrlich,[8] we come to the consideration of the various authors who have used the capsule suture by different methods.

A certain number of good results have followed the pleating of the capsule in the hands of a certain number of operators, but there have also been many failures.

No one except Young [9] has really sensed the mechanics of the cause of recurrent dislocations, and he has not gone far enough in one way, and has gone too far in another, in my opinion. He advocates the partial division of both pectoralis major and latissimus dorsi muscles, with subsequent suture of the pectoralis major to the deltoid.

The success of many of the capsule pleating operations has been due to the fact that the subscapularis tendon has been shortened in the procedure, and the result is due to that fact rather than to the pleating of the capsule itself.

In other operations, in order to get a clear exposure of the joint capsule it has been necessary to divide a portion of the pectoralis major, which has later been left free or partially sutured. The subscapular tendon has also been divided and later sutured, following the pleating of the capsule. This suturing of the subscapular tendon, and dividing the pectoralis major tendon, are the two important factors, and are all that are really necessary. In pleating the capsule, the subscapular tendon is undoubtedly shortened and is the real cause of the good result and not the pleating of the capsule itself.

To go back to the muscle analysis presented above, it will be noted that the pectoralis major, especially the lower portion, is the one muscle which pulls the head of the humerus forward when the arm is abducted and elevated, the one position in which the dislocation almost invariably occurs. This force, combined with a lax subscapularis, must result in an anterior dislocation in this type of case. Anterior dislocations are not infrequently seen in cases of obstetric paralysis in which the subscapular muscle is paralyzed and the pectoralis major contracted. Complete division of the pectoralis major without subsequent suture and pleating of the capsule, but especially shortening of the subscapular tendon without division, are the two essentials for success.

The deltoid and coracobrachialis will hold the head of the humerus in place if given a chance; and by removing the pull of the stronger pectoralis major and taking up the slack in the stretched subscapularis, one can be assured of a permanent cure.

The good results reported by Burrell and Lovett,[10] Williams,[11] Thomas [12] and others, I believe, are due not so much to capsulorrhaphy as to the fact that they unwittingly either divided the pectoralis major and the subscapularis tendon and then sutured the latter, or

1. Schultz: Arch. f. klin. Chir. **104**, No. 1 (March 24) 1914.
2. Joessel: Delitsch. Ztschr. f. Chir. **12**: 167, 1880.
3. Thomas, T. T.: A Common Mechanism for Most Injuries of the Shoulder Region, J. A. M. A. **63**: 1018 (Sept. 19) 1914.
4. This analysis of muscular action is the result of having consulted Beevor, Cunningham, Gerrish, Gray and Piersol.
5. Loeffler, F.: Zentralbl. f. Chir. **47**: 324 (April 3) 1920.
6. Eden, R. T.: Zentralbl. f. Chir. **47**: 1002 (Aug. 14) 1920.
7. Ollerenshaw: J. Orthop. Surg. **2**: 255 (May) 1920.
8. Clairmont and Ehrlich: Arch. f. klin. Chir. **89**: 798, 1909.
9. Young, J. K.: Am. J. Orthop. Surg. **11**: 243 (July) 1913.
10. Burrell and Lovett: Am. J. M. Sc. August, 1897.
11. Williams: U. S. Naval M. Bull. **7**, No. 4 (Oct.) 1913.
12. Thomas, T. T.: Recurrent Anterior Dislocation of the Shoulder, J. A. M. A. **54**: 834 (March 12) 1910.

both. In one case the subscapularis was shortened, and in the other the pectoralis major was lengthened.

The complete division of the pectoralis major, then, should be practiced in all cases without subsequent suture as well as definite shortening of the tendon of the subscapularis. These two procedures are essential. Repair of other torn or stretched tendons, such as the supraspinatus and infraspinatus, may also be done, but are not as necessary. Capsulorrhaphy may also be performed in conjunction with these two primary steps, but is not an essential to success.

Complete division of the pectoralis major has been done by the author in about forty cases with no untoward results. The arm can be adducted quite as well as before, and no essential loss of function has been observed.

This paper is offered as a suggestion that these cases be treated on mechanically intelligent lines and not on the basis of the results of secondary joint and bone abnormalities due to recurring dislocations.

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UNUSUAL MANIFESTATIONS OF HEROIN INTOXICATION AND SYMPTOMS OF WITHDRAWAL

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The character of this habit-forming drug, its dosage and the symptoms during intoxication and after its withdrawal are of such special interest as to warrant the report of a case.

REPORT OF CASE

History.—A woman, aged 27, married, during a prolonged period of painful menstruation contracted the habit of using a narcotic. At first, she would inject hypodermically morphin sulphate, but soon she abandoned it and had recourse to heroin. After a period of several months of daily use of the drug, she came under my observation, saying that for the last twelve weeks she had consumed 30 grains of it every day by mouth.

Examination.—The most striking and unusual manifestations were those of the motor apparatus. While the patient lay in bed, every muscle of her body was continuously and uninterruptedly contracting. The abdominal wall showed rhythmic, wavelike elevation without any regularity: one rectus muscle contracted, then another, one oblique and then another oblique. At times, the anterior abdominal wall would rise. The intercostal spaces of the thorax would at times become deeper and then rapidly return to normal. The pectoralis muscles would suddenly become rigid and then rapidly relax. One could observe sudden contraction of the extensors of the thighs and of the legs and the extension of the feet dorsally. At another moment, the gastrocnemii would become very rigid and gradually relax, but soon again they would contract. Similar contraction of the biceps would bring up the forearms abruptly. A contraction of the triceps would abruptly extend the forearm. Curiously enough, the small muscles of the hands and feet were unaffected.

While in bed, the patient turned from side to side abruptly and sometimes curved her back in the position of opisthotonos. The muscles of the neck contracted rapidly: the contracted sternocleidomastoid muscles would throw the head from side to side with corresponding rapidity. The trapezius muscles would elevate the shoulders at each contraction. The face was strikingly grimacing. Frequently the angles of the mouth would be drawn up, showing the teeth. She frowned and wrinkled her forehead continuously. The orbitalis palpebrarum muscles would be equally agitated: the eyes would suddenly open very wide, remain in a state of contraction for a while, and then relax and close. The muscles of the eye globes were also affected: the eyes would roll and turn from side to side, upward and downward. The condition of the orbital cavities, together with the constant display of the frontal muscles, gave the patient's facies an appearance of frightfulness and extreme anger. The glossopharyngolaryngeal musculature was also involved. The tongue would frequently protrude and retract; there was a continuous attempt to swallow, and the contraction of the muscles could be heard at a distance. The voice was frequently interrupted and somewhat harsh and hoarse. Of similar interest was the state of the sphincter of the bladder. There was no incontinence, but when the patient commenced to urinate, the micturition would frequently be interrupted, so that it required some time before the bladder was emptied; evidently it was due to alternating contractions of the sphincter muscle.

The general characteristic of the muscular contractions was tonicity. After the muscle contracted its belly became very rigid; this extreme hardness remained for a few moments, and then it suddenly (not gradually) relaxed. The interval between the phases of contraction of individual muscles was brief in the short muscles but longer in the long muscles. For example, the contractions of the muscles of the back occurred after a longer lapse of time than those of the trapezii, so that turning from side to side or curving the dorsum was less frequent than shrugging the shoulders.

The patient was unable to stand still or walk, in spite of the fact that there was no paralysis of the limbs. As the hands were free from muscular contractions, she was able to hold objects placed in them, but she was unable to feed herself because of the repeated contractions of the muscles of the arm and forearm. The tendon reflexes were markedly increased in all extremities, but there was no other abnormal reflex. There was an extraordinary hypersensitiveness all over the body. The least touch or even approach to any portion of the body would precipitate and intensify the muscular contractions. The prick of a pin would throw the entire body into violent twitchings.

The patient's mentality was impaired; her memory for recent events was defective; at times she was confused; hostility and aggressiveness were quite pronounced. She would frequently pick up heavy objects and throw them violently at persons, including children, who were standing near by. She appeared to be in terror, constantly fearing that she would be attacked. On several occasions she was delirious and had visual hallucinations of a frightful character. She slept poorly, and would wake up frequently during the night and remain awake for an hour at a time. She often refused food, ate very little, and was losing in weight.

The heart action was precipitated, but the sounds were normal. The pulse rate was 120. Urinalysis revealed a heavy trace of albumin.

Treatment and Result.—The patient was kept in bed and given purgatives and diuretics. Heroin was rapidly reduced. The muscular contractions became less and less violent. When the daily dose of the drug was suddenly reduced from 5 to 2 grains, and then completely removed, the patient began to present an entirely different clinical picture. Convulsive seizures appeared. In onset, termination and general characteristics they resembled but somewhat differed from those of typical epilepsy. Suddenly she would begin to scream, would flex the legs over the thighs and the thighs over the pelvis, raise the forearms and hold them tightly against the thorax, flex the fingers and insert the nails into the palms. The abdominal muscles were rigid, the chin was raised, showing rigidity of the neck muscles; the eyes were staring, and respiration ceased. The patient groaned during the entire attack, which lasted only a minute. The tonic state of the entire musculature of the body was not followed by a clonic phase, which is usually observed in genuine epilepsy, and yet the patient was unconscious during the seizures and had total amnesia of their occurrence. Each attack was followed by a state of complete exhaustion, headache and mental hebetude. During the entire period of total withdrawal, which lasted three days, the convulsive seizures occurred frequently, from six to twelve a day. In the intervals between individual attacks, the patient had the muscular twitchings already described, but the latter were much milder and occurred less frequently than during the withdrawal period.

The convulsive seizures were so violent, the tonicity of the muscles during the seizure was so pronounced, that the respiration would cease, the face would become markedly cyanotic, and the entire condition would become alarming. A complete withdrawal of the drug was then considered dangerous. A return to the heroin in small quantities, 1/20 grain, three times a day, was first tried, but an increase was soon found to be necessary, as no amelioration could be obtained from small doses. With 2 grains, three times a day, improvement began. After an interval of three weeks a decrease of the daily dose was again attempted, but no ill effect was observed. After that, gradual diminution of the quantity was carried out, and within a period of three months, complete withdrawal of the drug was accomplished. The patient's convalescence was of long duration, as there was a pronounced state of neuromuscular asthenia over a period of many weeks. The recovery was complete.

COMMENT

An analysis of the muscular manifestations during the phase of gradual withdrawal of heroin leads to the diagnosis of tetany. It is true that the contractions were bilateral and intermittent like those in tetany, but close observation reveals these peculiarities: There were at no time contractions of the fingers, with the attitude (obstetric or writing), very frequently found in tetany. It was, indeed, curious to observe muscular contractions everywhere except in the distal terminations of the extremities. As to Trousseau's, Chvostek's, Hoffmann's, Erb's or Schlesinger's signs, all characteristic of tetany, it was impossible to affirm or deny their presence in the present case, since the least touch or approach would throw the entire body into violent muscular twitchings. An individual examination for each of these signs could not be attempted.

Tetany, as a rule, affects a small group of muscles at a time, although it may involve individual muscles of the entire body. In the present case, the muscles of the body were simultaneously involved and their contractions were frequently repeated; they were almost of a continuous character. The resemblance to tetany consisted in their tonic character, but they were of greater intensity. As to the element of pain which usually accompanies tetanic contractions, it is difficult to say, in the present case, as the patient's mentality was not to be relied on. The presumption, however, was that the patient was suffering during the muscular manifestations.

The phenomena during the period of withdrawal of heroin presented great similarity to those of epilepsy, but they were not completely identical. There was apparently loss of consciousness and genuine postepileptic amnesia for the manifestations occurring during the attack. The convulsive seizures were limited only to the tonic phase of epilepsy. On the other hand, in epilepsy the tonic contractions affect the extensors of the extremities, that is, the arms and legs are usually violently extended. In this case, there was intense flexion of the limbs; the arms were flexed and held tightly against the thorax, the legs against the thighs and the thighs against the pelvis. The sudden onset and similar termination, the unconsciousness, the amnesia, the extreme rigidity of the muscles during the attack—all these features justify the diagnosis of epilepsy with the special characteristics that the tonic manifestations were limited to the flexor group of muscles of the limbs instead of to the extensors, and that the clonic phase was wanting. The case under discussion, therefore, is of unusual interest on account of the phases presented during intoxication and disintoxication.

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THE AURICULAR HEART SOUNDS*

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The auricular heart sounds are not appreciable in the normal heart, but it is well established that they may be audible in certain cases of heart block. The question naturally arises, Why? A consideration of some of the known facts pertaining to the sounds produced by systole of the auricles would seem to suggest an answer to the question.

Burton-Opitz [1] states that the contracting auricles cause a sound as well as that due to ventricular systole, but that the former is inaudible owing to the smallness of the mass of tissue involved. Bridgeman [2] has reported the occurrence of a normal presystolic sound detected in the electrophonograms of boys. Its rate of vibration was about 25 per second and therefore, he states, below the limits of audibility to the human ear. This author suggests, and in fact it is generally accepted, that the presystolic vibrations noted in his electrophonograms are the instrumental record of a sound produced by auricular systole.

But to fall back upon the smallness of the mass of tissue involved or the low rate of the vibrations, or both, does not satisfactorily answer why the auricular sounds may be heard in some cases of heart block. Thus, in cases of complete heart block in which the ventricles are contracting slowly at their own rhythm and the auricular rate is normal, and therefore much faster than the ventricular, the auricular systoles occurring during diastole may not only be detected by instrumental means but are often appreciable to the human ear as faint sounds. Lewis [3] suggests that the reason the auricular sounds are not heard in the normal heart is that the auricular and ventricular systoles occur too close together.

In heart block when the contraction of the auricles may be audible, the human ear may sometimes appreciate a double sound, and an electrophonogram [3] clearly shows the dual nature of the sound. The first element may be explained as produced by the tension of the contracting auricular muscle, while the second is probably due to the vibrations caused by the tension of the suddenly closed auriculoventricular valves, which occurs just at the end of the auricular contraction.

Lewis further states that "there is no intersystolic period," which at once sounds incongruous with the a-c interval of the phlebogram, the P-R interval in the electrocardiogram, and what is known of the rate of conduction across the bundle of His. Also, if the production of the auricular sound, though on a smaller scale, is analogous to that due to ventricular contraction, the former should begin with the "setting" of the auricles and continue until the highest intra-auricular pressure has been produced.[1] In my opinion there should be a period before the onset of the sound of ventricular systole, namely, the first heart sound. An examination of the excellent diagram in Lewis' recent book [4] would allow about 0.055 second for the interval in question. If Bridgeman's presystolic sound,[2] as seems probable, is of auricular origin, the space between

* From the Heart Service of the Boston City Hospital.

1. Burton-Opitz, R.: Textbook of Physiology, Philadelphia, W. B. Saunders Company, 1920, p. 289.
2. Bridgeman, E. W.: Notes on a Normal, Presystolic Sound, Arch. Int. Med. **14**: 475 (Oct.) 1914.
3. Lewis, T.: Lectures on the Heart, New York, Paul B. Hoeber, 1915, p. 61.
4. Lewis, T.: The Mechanism and Graphic Registration of the Heart Beat, New York, Paul B. Hoeber, 1920, p. 24.

it and the succeeding first sound is 0.03 second. Thus, the electrophonograms from these two authors show an interval varying from 0.03 to 0.055 second. Now, it is conceivable that the human ear can detect this interval, short as it is; for when the third heart sound is present (in 65 per cent. of those under 40 years of age [5]) there is small difficulty in appreciating its separation from the preceding second sound. Reference to the time relations of the cardiac sounds, as given by Burton-Opitz,[1] discloses from 0.02 to 0.08 second as the duration of the interval separating the third and second sounds of the heart.

In view of the fact, therefore, that the human ear will readily detect the short period separating the third and second heart sounds, it is surprising that it consistently fails to appreciate a time interval between the faint auricular sounds and that of ventricular systole. It is because, save in heart block, a comparable period does not exist. I therefore agree with Lewis that the auricular and ventricular systoles occur too close together to permit appreciation of an interval between them; but, as stated above, I doubt the accuracy of the statement, "There is no intersystolic period." The auriculoventricular interval does, of course, exist; but it is occupied, if my conception is correct, by the second of the auricular sounds.

The analogy of the sounds produced by ventricular systole serves to make the foregoing easier to understand. The contraction of the ventricle, as is well known, produces a sound, the first heart sound, which persists until the maximum intraventricular pressure has been achieved. Systole then continues in silence the output of blood from the ventricles until its termination, which is marked by the second heart sound due to the abrupt closure of the semilunar valves. As already stated,[3] systole of the auricles also produces two sounds, but the separation between them is almost nil because of the fact that the contraction of the auricles is not sustained in type. The second component of the auricular sound follows promptly on the first, and its vibrations may well fill the interval of 0.055 second which a diagram [4] of the heart cycle would allow before the onset of the sound due to ventricular systole. That the sound of the contraction of the auricular muscle and that of the closure of the auriculoventricular valves, caused by the former, should lack an appreciable separation is consistent with the work of Henderson,[6] who has shown that, in the normal heart, auricular systole impels only a trifling volume of blood into the ventricle. The same physiologist has very prettily demonstrated [7] that a mere wave passing through the auriculoventricular orifice may successfully close the valve.

It is suggested, therefore, that in the normal heart there may be five sounds, namely, the first and second auricular, the first and second ventricular, and at times the well-known third heart sound. The auricular sounds are faint and not separated by an appreciable interval. The second of the auricular sounds fills up the gap which should conceivably represent the auriculoventricular intersystolic interval. This would seem to explain more reasonably the failure to detect the sounds of auricular systole in the normal heart, though they may often be heard in cases of heart block in which the auricular contractions occur in the time of ventricular silence. It is also, of course, probable that in many cases the vibrations caused by auricular contraction are below the level of audibility to the human ear.

5. Thayer, W. S.: Further Observations on the Third Heart Sound, Arch. Int. Med. **4**: 297 (Oct.) 1909.
6. Henderson, Yandell: Am. J. Physiol. **16**: 353, 1906.
7. Henderson, Yandell, and Johnson, F. E.: Heart **4**: 69, 1912-1913.

CONCLUSIONS

1. The sounds produced by auricular systole are faint and may often be below the level of audibility.
2. Systole of the auricles is marked by two sounds, which are related to its intitial phase and termination just as the first and second heart sounds are to the contraction of the ventricles.
3. As the contraction of the auricles is not sustained after the maximum tension has been achieved, the auricular second sound follows almost immediately on its first sound.
4. The second sound produced by the contracting auricles, namely, that due to the closure of the auriculoventricular valves, occurs during the auriculoventricular intersystolic period.
5. The filling of this intersystolic period by the auricular sound is suggested as a more reasonable explanation of the well known fact that the auricular sounds are never detected save in cases of heart block, when the auricular contractions may occur well separated from those of the ventricles.

510 Commonwealth Avenue.

SPECIFIC PRECIPITIN FOR BENCE-JONES PROTEIN *

LUDVIG HEKTOEN, M.D.
CHICAGO

Nov. 1, 1845, Dr. Henry Bence-Jones [1] in London received for analysis from Dr. Watson a thick yellow fluid accompanied with this writing:

> The tube contains urine of very high specific gravity; when boiled it becomes highly opalic, on the addition of nitric acid it effervesces, assumes a reddish hue, becomes quite clear, but, as it cools, assumes the consistence and appearance which you see; heat reliquifies it. What is it?

The patient was a man of 45 who died after an illness of about fifteen months; postmortem examination revealed the sternum, ribs and vertebrae soft and infiltrated with grayish gelatinous masses, and MacIntyre [2] regarded the disease as a malignant tumor of the bones and called it "mollities and fragilitas ossium." Undoubtedly this was a case of myeloma, and it forms the starting point of an interesting chapter in pathology.[3]

Through the kindness of Dr. Charles A. Parker, I have been able to study the precipitin reactions of the Bence-Jones protein in the urine and blood of a typical case of myeloma under his charge in the Cook County Hospital in Chicago; and Dr. Waltman Walters of the Mayo Clinic, Rochester Minn., was good enough to send me samples of urine from two of the three cases of Bence-Jones proteinuria studied by him [4] which I have used in a number of tests. Rabbits have been

* From the John McCormick Institute for Infectious Diseases.

1. Bence-Jones: On a New Substance Occurring in the Urine of a Patient with Mollities Ossium, Phil. Tr., London **138**: 55, 1848; Edinburgh M. & S. J. **74**: 362, 1850.
2. MacIntyre: Case of Mollities and Fragilitas Ossium, Accompanied with Urine Strongly Charged with Animal Matter, Med.-Chir. Tr., London **33**: 211, 1850; Edinburgh M. & S. J. **75**: 157, 1851.
3. The most complete presentation of mycloma at hand is by Arvid Wallgren: Untersuchungen über die Myelomkrankheit, Upsala, 1920.
4. Walters, Waltman: Bence-Jones Proteinuria: A Report of Three Cases with Metabolic Studies, J. A. M. A. **76**: 641 (March 5) 1921.

injected intravenously every four or five days four or five times with increasing quantities of urine containing Bence-Jones protein. The amounts injected have been 2, 4, 8, 12 and 16 or 20 c.c. as a rule, and the animals have been bled on the seventh or eighth day after the last injection because at that time the antibody content of the serum usually has reached its high point. The tests are made in small tubes by the contact or ring method, a small quantity of antiserum being placed below the dilution of urine or blood serum, and the results are read after one hour at the room temperature. Briefly stated, I have found that the serum of rabbits injected as described may contain a specific precipitin or precipitins that cause precipitates in urine or blood serum containing Bence-Jones protein. Depending on the concentration of the Bence-Jones protein on the one hand and of the precipitin on the other, such precipitation may be obtained in dilutions of urine from say 1:20 up to as high as 1:32,000 or 40,000. In certain cases low dilutions of urine may not react while higher dilutions do—another illustration of the so-called prozone of antigen-antibody reactions.

SPECIAL METHODS REQUIRED

As urine containing Bence-Jones protein usually contains small quantities of ordinary proteins also, special methods are necessary to demonstrate conclusively the specificness of the Bence-Jones precipitation:

1. Positive reactions are obtained with the Bence-Jones precipitin serum in dilutions of the urine far beyond the highest dilution giving precipitation with ordinary antihuman rabbit serum (rabbits injected with human serum) of far greater precipitating effect in dilutions of human serum than the Bence-Jones antiserum.

2. On removal of the ordinary proteins from the Bence-Jones urines by precipitation with antihuman serum, the Bence-Jones protein is left behind and now no precipitate takes place except with the Bence-Jones antiserum and in practically as high dilutions of the urine as before.

3. All the precipitins in Bence-Jones antiserum for the serum albumins and globulins may be removed by adding suitable quantities of human serum followed by centrifugation after some hours, a procedure that leaves behind pure Bence-Jones precipitins in about one-half the original concentration. This purified Bence-Jones antiserum may give reactions with blood serum in cases of myeloma, showing conclusively the presence in the blood of Bence-Jones protein, and it goes without saying that it can be used to detect this protein in other fluids as well. By mixing the myeloma serum with Bence-Jones antiserum the Bence-Jones protein may be removed completely, and by treatment with ordinary antihuman serum the serum albumins and globulins may be taken out without removing the Bence-Jones protein.

Further details will be published later, when there will be considered also previous observations of immune reactions of Bence-Jones protein which, however, do not seem to have dealt with specific precipitins. Finally, we have in the precipitin reaction of Bence-Jones protein a good example of the fundamental relations, emphasized especially by Wells,[5] that exist between chemical structure and immunologic specificness, the latter being in all probability merely another expression of chemical specificness.

5. Wells, H. G.: Chemical Pathology, Ed. 4, 1920, p. 165.

Clinical Notes, Suggestions, and New Instruments

VERMIFORM APPENDIX, WITH SUPPURATION, IN FEMORAL HERNIA

A. D. HOIDALE, M.D., TRACY, MINN.

Keen[1] makes these statements relative to the frequency of the appendix in femoral hernia:

"Of 1,586 hernias operated upon in the clinic of Colzi, Florence, the appendix was present in 27. At the hospital for Ruptured and Crippled, in 2,200 cases of hernia operated upon, . . . the cecum and appendix, either alone or in combination, were found in 36 cases. In not a single one of these cases was the appendix found in a femoral hernia. . . . I cannot agree with the opinion of Wood, that the appendix is more often found in femoral than inguinal hernia. I have operated upon 140 cases of femoral hernia and have never seen a hernia of the appendix, while in 1,874 cases of inguinal hernia it has been found in 36 cases."

REPORT OF CASE

In 1916, Mrs. C. H., aged 60, consulted me about a swelling in the right femoral region, which caused her no discomfort and disappeared on lying down. She had always been in good health and active, the mother of several children. Femoral hernia was diagnosed and operation advised, which was refused. Aug. 26, 1919, I was called into the country to see her. On the night of the 23d she went to bed feeling as usual, but the next morning she noticed some pain in her right leg on trying to rise, and then discovered that the hernia had not disappeared as usual during the night. She stayed in bed. On the 25th she began to feel somewhat sick and nauseated, but not ill enough to think it necessary to call a physician. On the 26th she was quite ill; there was no particular pain, except some radiating down the leg; she was somewhat nauseated most of the time, with anorexia and general weakness.

On examination I found the temperature 100; the pulse 130, rather weak and irregular; the face flushed; the appearance in general was that of fairly profound toxemia. The swelling in the groin was about the size of a hen's egg, very tense and tending to redness. There had been stools each day, progressively smaller. The general appearance of the patient was very unfavorable. Since it was late in the day of the 26th, I advised the application of ice bags to the swelling, and proctoclysis. On the 27th conditions were about the same, though the patient had rested better during the night. We moved her in to the hospital, where supportive measures were continued, since the heart condition was so bad that there seemed no hope that she could weather the shock of any operative procedure. The swelling became noticeably more red. On the morning of the 28th it was decided that we should open the hernia under local anesthesia. This I did by infiltration about the noninflammatory base. Incision was followed by a gush of pus. A conglomerate mass of necrotic tissue was found, so adherent that it was impossible to differentiate its structure. In trying to separate the mass into various parts and find an opening into the sac, I came across what looked like the appendix, but decided that it was more likely the fallopian tube. By pulling up on the mass, I could discern at its base what appeared to be some discolored bowel.

If it was the latter, the possibility of having to resect a portion of the bowel presented itself. The case being desperate, it was decided to open the abomen in the midline. An incision extending from the umbilicus to the pubes was made, under local anesthesia. The mass in the femoral opening was found to consist of the hernial sac, a large mass of omentum, the appendix, and a small portion of the cecum at the base of the appendix. After a thorough cleansing of the tissues in the femoral opening, all of which were necrotic except the cecal portion, and packing off the abdominal contents carefully, the whole mass was pulled back into the

1. Keen, W. W.: Surgery, Philadelphia, W. B. Saunders 4:78, 79, 1910.

abdomen and out through the abdominal incision. Up till the time that traction was made on this mass to pull it back, everything had been done under procain (with epinephrin), without any undue complaint from the patient; but at this stage it became necessary to give a slight amount of ether. The necrotic sac, omentum and appendix were removed, and drains were put in through the femoral opening and at the bottom of the abdominal incision. The condition of the patient at the end of the procedure was apparently as good as when she was placed on the table. She made an uneventful recovery, except for some fat necrosis in a small portion of the abdominal incision which delayed healing somewhat, and the developing of a parotid abscess. At this writing she is well and strong at the age of 65.

Evidently the appendix had become abscessed within itself or had ruptured with extrusion of its contents, after its incarceration in the hernial sac, thus starting the abscess formation. The cecum at the base of the appendix had begun to take on a necrotic aspect, but not sufficient to warrant the added risk of resection.

TWO CASES OF HEMORRHAGE FOLLOWING PERITONSILLAR ABSCESS

WILLIAM J. THOMASSON, M.D., NEWPORT, KY.

CASE 1.—E. C., a man, aged 45, who had had frequent attacks of tonsillitis and quinsy all his life, was seen by me for the first time, May 2, 1920. The patient was an active business man with a history of diabetes. At no time were we able to find more than a trace of sugar while he was under observation. He gave the history of tonsillitis with quinsy of a week's duration. The left tonsil was much swollen, the uvula was pushed to the opposite side, and the swollen tissue gave every evidence of pus in the supratonsillar space. The abscess was opened. The tissue covering the abscess was so thin that the knife punctured it as readily as it would a toy balloon. A large quantity of pus was evacuated. May 5, I found the right tonsil swollen and an active quinsy present. A rather deep abscess was opened, and a small amount of pus was found.

On the morning of May 12, ten days after the first abscess was opened, while the patient was in the bath room, he was taken with a sharp hemorrhage, and the loss of blood was estimated at a pint. The hemorrhage had stopped when I reached the patient, but a small amount of blood was found oozing from the site of the abscess on the left side. The patient was put to bed and quietude insisted on. He ate his noonday meal, had a very light supper, and at 8 p. m. left his bed and walked to the bath room, where he again had a severe hemorrhage. When I saw him fifteen minutes after the hemorrhage started, the blood was pouring from his mouth, and the bath room was covered. We estimated the loss as much greater than that occurring at the first attack. The man was put to bed, morphin given, and pressure made to the point of hemorrhage. His family physician and I stayed with him all night, and before we left him the abscess space was packed with 1½ yards of ¼ inch plain gauze. A consultation was held in the afternoon and the question of ligating the carotid was considered and rejected. At this consultation the packing was removed. The cavity was the size of a small English walnut, and a large blood vessel could be seen pulsating in the cavity. The wound was again packed with iodoform gauze, and the packing was repeated twice a day until the wound had healed. The amount of gauze was lessened each time to allow healing by healthy granulations from the bottom of the wound. Plain gauze was used for the first packing because it was all we had.

The patient was given 10 c.c. of horse serum every twelve hours, beginning the morning after the hemorrhage and continuing until four doses had been taken. An anaphylaxis followed, which was unpleasant to the patient but soon disappeared under alkaline baths. The man was kept in bed for two weeks, a nurse being with him night and day. He was not permitted to sit up or exert himself. He was given a good, substantial diet, and at the end of three weeks was able to get around his room. He made a complete recovery.

CASE 2.—J. U., a man, aged 48, had tonsillitis followed by bilateral peritonsillar abscess. The first abscess ruptured spontaneously, Jan. 2, 1921; the other side ruptured, January 5, a few hours after the second abscess ruptured. There was a brisk hemorrhage from the site of the first abscess. The family physician was called and the man continued to bleed. He was taken to the hospital late in the afternoon. When I first saw him, blood was oozing from the left cavity behind the tonsil. This was three days after the rupture of the first abscess. The cavity was packed with iodoform gauze, 1 yard of ¼ inch gauze being used. Morphin was given at once, and preparations were made for the use of horse serum. It was learned that the patient was an asthmatic; the horse serum was not given but held in readiness in case a severe hemorrhage occurred. The cavity oozed all night, but when I saw him at 10 a. m. the bleeding had stopped. The packing was removed and the wound was clean, and no more gauze was used. From the anemic condition of the patient, I feel safe in saying that he had lost a large amount of blood before entering the hospital. At the end of one week he returned home and made a good recovery.

COMMENT

In the first case, the bleeding occurred after a late incision of the abscess, and in the second, after a spontaneous rupture of the abscess.

These two cases convince me that an early incision in a peritonsillar abscess is much safer to the patient than a late incision or a spontaneous rupture; for, if the abscess is let alone until late, the pus, by necrosis or pressure, may erode the tonsillar arteries or even the carotid, causing death.

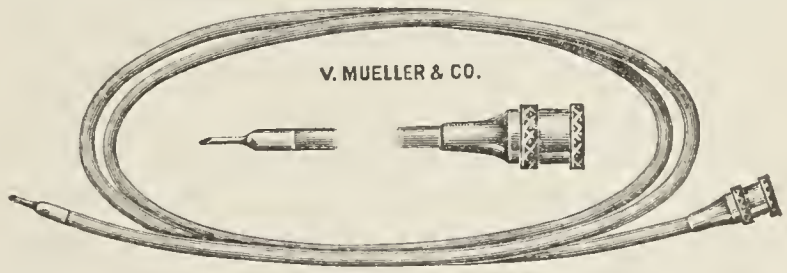
942 York Street.

A NEW INJECTION CATHETER

E. W. WHITE, M.D., CHICAGO

The appliance consists of a No. 7 ureteral catheter, to one end of which is attached a platinum needle and to the other end a suitable female fitting for a Luer syringe. The needle is 25 gage and approximately three-eighths inch long. In order to be assured of permanence in the connection of the needle, we have had it constructed thus:

A thimble, slightly larger than the catheter, was made of nickled silver. The platinum hypodermic needle was brazed with silver solder into this thimble. The inner portion of



Injection catheter, showing needle and Luer syringe fitting in detail.

the thimble was threaded and tightly screwed on the catheter. This in itself would probably be sufficiently strong to make a permanent connection; but, in addition, we have had a fine pin placed crosswise through both thimble and catheter, thus anchoring the fitting securely. The same method was used for the attachment of the fitting for the syringe.

This catheter is satisfactorily used through any operating cystoscope and is indicated in any condition within the bladder or deep urethra in which any anesthetic effect is desired by infiltrating the mucosa. We have used it with much satisfaction in the treatment of frequency of urination, of supposed unknown origin, in women, particularly in those cases in which the pathologic condition is limited to the trigonum. During the last year, we have seen a great many cases of frequency of urination of this type in women, in whom all other findings were absolutely negative, except a terrific engorgement of the small vessels of the trigonum. These patients have been given prompt relief, and, in many cases, permanent relief, by infiltrating the trigonum with quinin and urea hydrochlorid through the injection catheter.

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SATURDAY, APRIL 2, 1921

EXPERIMENTAL STUDIES OF EPIDEMIC ENCEPHALITIS

By intracerebral injection of emulsions of brain from patients dead of epidemic encephalitis, Levaditi and Harvier [1] produced lesions in rabbits that appeared similar to those in man, and consisted essentially of a mild meningitis in which lymphocytes and plasma cells predominated, of perivascular infiltration in the gray matter and infiltration with polymorphonuclears. From rabbits a like disease has been transferred to guinea-pigs and occasionally to monkeys, also by intracerebral and other injections of brain emulsions. It was found that the incubation period varied with the animal, the portal of entrance, and the activity of the virus. The incubation period for intracerebral injections of rabbit brain was from four to six days for rabbits, six days for monkeys, and from seven to fifteen days for guinea-pigs. The symptoms in rabbits in typical cases are described as stupor, tremors, epileptiform seizures and myoclonus of the extremities, and sometimes nystagmus. In monkeys, nystagmus, feebleness of motion and somnolence were observed, but no paralysis. When once the symptoms developed, the animals never recovered. The lesions produced in rabbits were confined to the central nervous system except for occasional hyperemia and hemorrhages in the lungs and liver. Many attempts at cultivating the virus from various tissues by the ordinary methods and by the Noguchi method failed, nor were any micro-organisms found in the brain or other tissues in stained preparations.

Levaditi and Harvier further found that the virus in emulsions of rabbit brain tissue would pass through Chamberland filters Nos. 1 and 3. Since four of six rabbits injected with filtrate contracted the disease, while all six controls became sick, it appears that filtration in some way reduced the activity of the virus. They have found also that the virus remains active after being placed in glycerol and kept at icebox temperature for nineteen days; further, that virus withstood drying for four days, but was killed by heating at 55 C. for one hour; it remained active, however, when left in the dead body for forty-eight hours at room temperature; it survived an exposure to 1 per cent. phenol (carbolic acid) for five minutes, but was killed by this phenol solution in three days. Rabbits may be infected also by injecting the virus into the anterior chamber of the eye, into the sheath of the sciatic nerve, into the testicle, or when applied to the abraded or inflamed nasal mucosa. The incubation period, however, was lengthened in such conditions, being as long as sixteen days when the virus was introduced into the eye; when injected into the testicle the virus remained active in one instance for seventeen days without producing any disease, but an intracerebral injection of an emulsion of this testicle into another rabbit caused death with typical lesions of encephalitis. Rabbits did not become infected when the virus was injected intracutaneously, subcutaneously, intravenously, intraperitoneally, or into the salivary glands, trachea or stomach. By inoculations it was found that in injected animals the virus may be present only in the brain and spinal cord, and not in the blood, spinal fluid, lung, kidney, spleen, liver, salivary gland, testicle, or the salivary and nasal secretions. It appears also from the experiments of these French investigators that a certain degree of immunity may be produced by subcutaneous injections of virulent brain emulsions because rabbits so treated were not susceptible to injections into the anterior chamber of the eye or to applications of the virus on the broken or inflamed nasal mucosa, but the serum of such partially immune rabbits had no protective action against intracerebral injections. The serum of monkeys and convalescent patients had no protective action for rabbits. There was no demonstrable serologic relation between epidemic poliomyelitis and epidemic encephalitis, that is to say, the immune serum of one disease had no protecting effect against the other in monkeys.

Loewe and Strauss [2] have reported that by the use of ascitic-tissue culture methods a minute filtrable organism may be grown from the brain, nasopharyngeal mucous membrane, nasopharyngeal washings, spinal fluid, and blood of cases in man and from the brain in experimentally infected rabbits; but Levaditi and Harvier were unable to corroborate these results, as all their cultural experiments gave negative results.

From the epidemiologic standpoint there has been much discussion concerning the relation between epidemic encephalitis in the United States in 1918-1919, and it is interesting to note that in 122 cases of encephalitis of which definite data were obtained and analyzed,[3] there was a history of influenza in 46 per cent., while the general attack rate of influenza was nearly 30 per cent. It has been suggested that influenza may reduce the resistance of the individual to the virus of epidemic encephalitis. Levaditi and Harvier observed that in rabbits abrasions or inflammatory conditions of the nasal mucosa may predispose to encephalitis, and perhaps influenza acts in the same manner. Altogether,

1. Levaditi, C., and Harvier, P.: Etude expérimentale de l'encephalite léthargique, Ann. de l'Inst. Pasteur **34**: 911, 1920.

2. Loewe, L., and Strauss, I.: Studies in Epidemic Encephalitis, J. Infect. Dis. **27**: 250 (Sept.) 1920.

3. Smith, H. F.: Pub. Health Rep. **36**: 207 (Feb. 11) 1921.

this work by Levaditi and Harvier, if corroborated, will prove a highly important contribution to the study of epidemic encephalitis, which perhaps is another disease that is transmitted by the secretions of the nasopharynx and in the spread of which mild and abortive cases and carriers play the most important part.

VARIABILITY IN CRUDE PRODUCTS CONTAINING ALKALOIDS

Few substances occupy a more important position in the therapeutic equipment of the physician than do the alkaloids. These compounds were first described as nitrogenous vegetable bases found in special parts of certain plants. For the most part, medicine is dependent on the plant structures for its supply of those alkaloids which are employed as remedial agents, only a few instances of successful chemical synthesis of the compounds in the laboratory being on record. Hence it is that the production of morphin, codein, strychnin and similar alkaloidal products still remains a problem of agriculture. Moreover, it is not only these isolated compounds with which the physician is concerned. The less refined mixtures represented by tinctures and extracts of various plant products, including opium and its derivatives, nux vomica and cinchona, still play an important part in the field of drugs.

The botanic aspects of the subject sometimes attain greater public prominence when the regularity of the supply of alkaloid products or their quality becomes subject to change, owing to altered possibilities of production or distribution. Thus, before the war the bulk of opium required for alkaloidal manufacture and for medicinal purposes was provided by Asia Minor, the Balkans and Persia. The morphin content of Indian opium was too low to enable it to compete in that market. With the entry of Turkey into the war, supplies of medical opium were threatened and it became imperative to make use of Indian opium. The question has therefore arisen as to why the content of morphin varies and how it may possibly be altered or better controlled.

A number of students of plant biochemistry have arrived at the conclusion that the alkaloids must be more or less accidental products of chemical change in the living structure in which they are found. It is generally supposed that they are formed by the decomposition of proteins. But, as Thatcher[1] has just pointed out, they are developed in only a few particular species of plants, and are always present in these plants in fairly constant quantities. Hence, it appears that in these species the production of alkaloids is in some way definitely connected with protein metabolism; but it is certain that this is not a common relationship, as it is manifested by such a limited number of species of plants, and there is absolutely no knowledge as to its character and functions. Some authorities prefer to regard the alkaloids as waste products of protein metabolism; but here, again, as Thatcher reminds us further, it is difficult to understand why such products should appear in certain species of plants and not in others.

Recent investigations by Annett[2] for the government of the United Provinces in India have led him to the conclusion that morphin in the opium poppy is a useless end-product of metabolism. The plant, having no mechanism for excreting an end-product of such complicated structure, stores it in places where it can do no harm to its own metabolism, i. e., chiefly in the capsule. The lactiferous system would seem to represent a means of removing waste products of metabolism. The evidence for these views is derived from observations on the variations in the composition of the latex, the milky juice that exudes when the plants are incised. When a capsule is lanced for the first time, the concentration of morphin in the latex is at a maximum in the first latex to flow out. As the flow continues, the morphin concentration diminishes. At each successive lancing, the morphin content of the opium obtained decreases rapidly; and, if sufficient successive incisions are made, latex can eventually be obtained which contains no morphin. The amount of morphin produced seems to be proportional to growth, whatever the race of poppy, the alkaloid being produced at the same rate as plant tissue. Morphin is thus represented as an excretory product. As Annett concludes, the animal organism takes in complex food materials, and excretes its end-products of metabolism, which are mainly of a simple structure. The plant, on the other hand, feeds on simple substances and therefore it is not surprising if some of its end-products are complex substances, which it finds difficult to excrete. Metabolism is a complex variable; hence the products of its reactions are likely to be varied quantitatively if not qualitatively. This helps to explain the importance of escaping from dependence on mixtures of changing composition as immediate remedial agents and of turning toward isolated, measurable products when definite therapeutic responses are desired.

EXPERIMENTAL RICKETS

One by one, many long familiar maladies have been investigated from the standpoint of possible dietary etiologic factors, and in consequence are likely to be placed sooner or later in the category of dietary deficiency diseases. Among them is rickets, a characteristic disorder for the genesis of which various hypotheses have been offered. A recent student of the literature of the subject remarked that rickets occupies a preeminent place among diseases whose etiology is surrounded by conjecture, and it is hardly an exaggeration

1. Thatcher, R. W.: The Chemistry of Plant Life, New York, 1921, p. 159.

2. Annett, H. E.: Factors Influencing Alkaloidal Content and Yield of Latex in the Opium Poppy (Papaver Somniferum), Biochem. J. **14**: 618 (Oct.) 1920; the detailed account of Annett's important studies is published in the Memoirs of the Department of Agriculture in India.

to say that every specialist in children's diseases has his own hypothesis as to the causative factor of rickets. For example, it has been rated as a disease due to deficiency of fat, excess of carbohydrate, or both combined; again, a deficiency of calcium in the diet has been held responsible, although it is impossible to cure the condition by administration of lime salts alone or to initiate it by diets deficient only in respect to lime. Bone defects may occur under these circumstances, but the result is not one that pathologists recognize as true rachitis. The theory that defective hygienic conditions are the forerunners of rickets has been widely discussed. So far as these are associated with urban life they may involve confinement and lack of fresh air, and likewise dietetic factors connected with such domestication.

The special report to the British Medical Research Committee [1] has been widely quoted of late in reference to the subject at issue. It maintains that there is good evidence that rickets is a deficiency disease due to diets which are unbalanced in that they contain too little of those substances rich in antirachitic factor and too much of those substances deficient in this respect. The antirachitic factor has, in many respects, a similar distribution to the fat-soluble A factor, and is possibly identical with this substance. The observations of Mellanby, which form the experimental basis for much contained in the British report, are by no means entirely convincing, particularly because the distinctions which he found between rachitic and antirachitic foods are not always easy to interpret in terms of his own hypothesis. Consequently, the latter has not gone unchallenged. Hess,[2] for example, cannot believe that rickets is brought about merely by a deficiency in the vitamin A. However, McCollum and his associates [3] at the Johns Hopkins University have observed the gross picture of rickets in many animals restricted to faulty diets, and have demonstrated that this condition develops on diets in which the faults lie in several different factors. At first the Baltimore investigators were inclined to believe that a low content of fat-soluble A, low calcium content, poor quality of protein, and unsatisfactory salt mixtures acting in combinations may all contribute to the etiology of the disease. They felt confident that specific deficiency of vitamin A cannot be regarded as the sole and only possible cause of rickets. In the most recent investigations [4] in which Park and Shipley have collaborated, we are told that it is possible to say only that the etiologic factor is to be found in an improper dietetic regimen.

The large variety of dietary formulas the administration of which results in rickets and kindred affections gives abundant evidence of the complex nature of the causes operating in the production of the disease. One factor has been brought into clear relief by the most recent of these studies. They afford ocular and conclusive evidence of the specific beneficial effect of cod liver oil on rats suffering with experimental rachitis, in that some substance or substances in the oil cause calcium to be deposited in the same fashion in which deposition occurs in spontaneous healing of rachitis in man. Moreover, they prepare the way for the elaboration of a new test, which it is to be hoped may eventually prove even to be roughly quantitative, for the determination of the calcium-depositing potentiality of any substance in terms of cod liver oil units. It is interesting to note that calcium may be deposited in the cartilages following the initiation of the cod liver oil treatment in spite of the fact that in some cases the calcium intake was far below normal. Not without significance is the fact, first reported by Osborne and Mendel,[5] that cod liver is rich in vitamin A.

1. Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines), Medical Research Committee, National Health Insurance, Special Report Series, No. 38, London, 1919.

2. Hess, A. F.: The Rôle of Fat-Soluble Vitamine in Human Nutrition and Its Suggested Relation to Rickets, J. Biol. Chem. **41**, 32 (March) 1920.

3. McCollum, E. V.; Simmonds, Nina, and Parsons, Helen T.: The Etiology of Rickets, J. Biol. Chem. **41**: 31 (March) 1920.

4. McCollum, E. V.; Simmonds, Nina; Parsons, H. T.; Shipley, P. G., and Park, E. A.: Studies on Experimental Rickets, I, The Production of Rachitis and Similar Diseases in the Rat by Deficient Diets, J. Biol. Chem. **45**: 333 (Jan.) 1921. Shipley, P. G.; Park, E. A.; McCollum, E. V.; Simmonds, Nina, and Parsons, H. T.: Studies on Experimental Rickets, II, The Effect of Cod Liver Oil Administered to Rats with Experimental Rickets, J. Biol. Chem. **45**: 343 (Jan.) 1921.

5. Osborne, T. B., and Mendel, L. B.: The Influence of Cod Liver Oil and Some Other Fats on Growth, J. Biol. Chem. **17**: 401 (April) 1914.

Current Comment

POSTENCEPHALITIC INSOMNIA

As our experience with epidemic encephalitis increases, we are realizing more and more that this dreaded inflammation of the brain is quite likely to leave serious sequelae. Permanent mental disturbances, disorders of vision and other injuries of the sensory or motor nervous systems are being reported. In addition to the recent reports of American observers, foreign medical literature contains frequent references to disturbances of sleep as a frequent sequel of this disease. Roasenda [6] describes the case of a man, aged 36, a mechanic, who, for eight months following convalescence from the acute attack of epidemic encephalitis, was unable to sleep at night. Extreme mental and motor restlessness occurred during the wakeful hours at night, and the man talked continuously in a loud voice, deploring his condition and relating family, business and other matters. There were no hallucinations, and at about 6 a. m. he fell into a quiet sleep until noon. Sedatives in normal doses acted for a night or two and then lost all efficacy. Several other patients, among them a child of 5 and a woman of 35, also presented such postencephalitic insomnia, but otherwise seemed normal. Rütimeyer [7] has reported similar experiences in a group of eight children at Zurich in Switzerland. Janecke [8] reports the case of a boy of 5 with postencephalitic inversion of the rhythm of sleep. After a

6. Roasenda, G.: Inversione del ritmo del sonno, con agitazione psico-motoria notturna (Sindrome post-encephalitica), Policlinico **28**: 181, 1921.

7. Rütimeyer, W.: Postencephalitische Schlafstörung, Schweiz. med. Wchnschr. **51**: 7 (Jan. 6) 1921; abstr. J. A. M. A. **76**: 621 (Feb. 26) 1921.

8. Janecke, Alida.: Fall von postencephalitischer Schlafstörung, Deutsch. med. Wchnschr. **46**: 1388, 1921.

night of restless agitation with singing and whistling, the child fell asleep about 5 a. m. This condition continued for about six months and was then treated with heliotherapy and general hygiene, followed by recovery. Janecke adds that the treatment must be regarded as proving effectual only by its tonic effects. Hufstadt [9] reports twenty-one cases of encephalitis in children from 2 to 13 years of age. Here, again, for weeks and months the patients who formerly had been normal were no longer able to sleep before 5 or 6 in the morning, presenting marked motor restlessness. He reports that the children went to bed at the usual hour, but instead of sleeping would toss from side to side, sit up, arrange the bed covers, beat and turn the pillows, lie down again, lie quiet for a few moments, and then again begin their restless tossing about. Some kept silent during their restlessness, whereas others talked, sang, whistled, prayed and shouted. The usual sedatives proved unavailing in ordinary doses. In some instances the condition lasted for several months. These cases indicate the subacute or chronic nature of the attack of encephalitis, and may be considered as evidence of localization of the infection in certain centers of the brain. The subject merits special investigation.

AN EXPLANATION OF SENSITIZATION IN INFANCY

It has been far from easy to account for the occurrence of those unique forms of hypersensitiveness to certain substances which are particularly striking in childhood, in which the opportunities for antigenic reactions may be assumed to be less frequent or varied than in later life when diet and environment are far more frequently changed. Reference of the result to "personal idiosyncrasy" can no longer receive the approval of scientifically minded persons. Idiosyncrasy has a cause perhaps more conspicuous than that of "normality" of physiologic behavior. Sensitiveness or the anaphylactic state presupposes the introduction of a specific sensitizing substance into the organism, from the standpoint of present-day investigations in immunology. However, the amounts of the substance necessary to sensitize the individual may apparently be so small as to help explain the existence of allergy under otherwise quantitatively unbelievable conditions. In guinea-pigs, which, it must be admitted, are peculiarly responsive, albumin sensitivity has been produced with one twenty-millionth gram, and fatal reactions are obtained after sensitization with one-millionth gram. With reactions of this order of magnitude, even the human person may become responsive to very small quantities of the foreign antigen. Admitting the potent possibilities of minute dosage, how does the antigen find access to the circulation in infancy? Whether or not sensitization can be accomplished by introduction of the antigen into the intestinal canal has been a matter of uncertainty.[10] Grulee and Bonar [11] of Chicago have investigated the permeability of the intestinal wall to foreign proteins by feeding egg-white solutions to infants at an early age. Precipitin tests with an anti-egg-white serum were then made on the urine. Positive reactions were obtained on the fourth day of life after giving quantities of albumin not exceeding 0.82 gm. for each kilogram of body weight in twenty-four hours. From their studies, the investigators conclude that the intestinal wall of the new-born infant from the fourth to the tenth day, inclusive, is permeable to small quantities of egg white which can be determined by the precipitin reaction in the urine. With these findings it would seem likely that this is not a reaction of specific cases but is a general characteristic of that period of life. The results suggest an explanation of sensitization to egg and other foreign albumin.

9. Hufstadt, F.: Eigenartige Form von Schlafstörung im Kindesalter als Spatschaden nach Encephalitis epidemica, München. med. Wchnschr. **67**: 1400, 1921.

10. For a discussion of the subject see Zinsser, H.: Infection and Resistance, New York, the Macmillan Company.

11. Grulee, C. G., and Bonar, B. E.: Precipitins to Egg White in the Urine of New-Born Infants, Am. J. Dis. Child. **21**: 89 (Jan.) 1921.

A MATTER OF DRESS

In matters of dress, masculine and feminine psychology have frequently run on divergent tracks. Many of us of the sterner sex have often wondered how femininity survived arctic conditions while attending midwinter festivities clad in decolleté gowns, filmy stockings and charmingly and absurdly inadequate slippers. Nietzsche says, "No woman who felt herself well-dressed has ever caught a cold, even when she had next to nothing on, *en costume de bal.*" Securely intrenched in the fortress of the *Paris médical,* Dr. G. Milian voices some of the perplexity which surges at times in every male breast over the charming inconsistencies of feminine array—or disarray—to judge by the context of his plaint:

> Before the beginning of the war, feminine fashion decreed the establishment of a hiatus in the waist of the dress which took the form of an isosceles triangle with the base at the neck.

And note the careful observation of the trained man of science:

> This had a base of 15 centimeters and an altitude of 25, and thereby exposed to the light of day and the gaze of the interested observer 167.50 square centimeters of surface which had hitherto been preserved from any such contingency.

As a clinical result of this custom which winter seemed to aggravate rather than diminish, he cites the fact that French dermatologists were at once called on to treat a Brocq dermatitis, mediothoracic in anatomic location, which varied in intensity from a faint rose pink to a hue so deep that neither rice powder nor cosmetics had any remedial effect. With the advent of war, those of the fair sex who garbed themselves as *infirmières* abandoned this custom. Milian insinuates that the reform was due to the lynx eyed watchfulness of the chief nurses and a justifiable apprehension as to what the effect of this policy of the open door might have on the war worn poilu of the zone of the advance. However, even while he admits an advance, or regression, in this matter of attire so far as the nursing element was concerned, he pessimistically shows that there was a direct ratio of effect of this reform at the front, and that as the bodice of the nurse crept up to impinge on the symphysis menti, the result as to femininity in the zone

of the interior was a rapid increase in the length of the legs of the triangle. With the increase of the triangle, the question passed from a computation of square surface and the figures of half the base by the altitude to one involving the principles of spherical geometry. Milian dwells on the shoulder straps which support this diminishing "confection" and, manlike, refers to them as suspenders (*brételles*). Owing to the increasing scantiness of the bodice, one string of pearls is altogether insufficient, and a triple row or even a dog collar is requisite, thus giving my lady the appearance of one of the most famous aviators liberally bedecked with *fourragères*. In spite of Dr. Milian's raillery as to feminine foibles, it is entirely probable that he finds the gentler sex altogether charming and adorable. He sums up his statement by the French equivalent of "Well, you know how women are."

Association News

THE BOSTON SESSION

Assistance in Securing Hotel Reservations

The Committee on Hotels, Dr. John T. Bottomley, Chairman, 8 The Fenway, Boston 17, Mass., will gladly assist in securing hotel accommodations at Boston. Applications should be made on the form which was printed in The Journal for March 19, advertising page 29.

Time for Purchase of Railroad Tickets Extended

The Trunk Line Association and the Central Passenger Association have extended the time for the purchase of round trip tickets to Boston within their territories so that these tickets may be purchased June 1-5, inclusive. They may be validated for the return trip at Boston, June 3-11, inclusive, instead of the dates previously announced. These two associations serve most of the territory east of a line drawn from Chicago to St. Louis and north of the Ohio and Potomac rivers to the New England states. The special rate for the round trip ticket announced is one and one-half fares from the place of purchase to the gateway into the New England Passenger Association territory plus a double one-way fare from that gateway to Boston.

Stamped, addressed envelops should be mailed, by members who desire to take advantage of this special railroad fare, to the Secretary of the Association, Dr. Alexander R. Craig, 535 North Dearborn Street, Chicago, with requests for identification certificates. These requests will not be acknowledged, but will be given attention as soon as the certificates are available.

GRANTS FOR RESEARCH IN THERAPEUTICS

The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry will consider applications for grants to assist research in subjects which, in the opinion of the committee, are of practical interest to the medical profession, and which research might not otherwise be carried out because of lack of funds.

Applications should be addressed to: Chairman, Therapeutic Research Committee, Council on Pharmacy and Chemistry, 535 North Dearborn Street, Chicago, Illinois.

Requests should state the specific problem which is to be studied, the qualifications of the investigator, the facilities available to him, and, if work is to be undertaken in an established research institution, the name of the individual who will have general supervision. The committee will also apprcciate offers from research workers to undertake investigations of questions which may be suggested by the Council.

ANNUAL CONFERENCE ON MEDICAL EDUCATION AND HOSPITALS, LICENSURE AND PUBLIC HEALTH

(Continued from page 873)

THE FEDERATION OF STATE MEDICAL BOARDS OF THE UNITED STATES

Annual Meeting, held in Chicago, March 9, 1921

Medical Examinations and Licensure

Dr. David A. Strickler, President of the Federation, Denver: In Colorado under the initiative and referendum we have had different opportunities to test the attitude of the people on the same line of argument. Our contention is that no one should be licensed to practice the healing art who cannot show knowledge of disease in its common forms; that no one should be permitted to treat communicable or contagious diseases who has not shown to the state reasonable ability to recognize the same; that the only logical reason for licensure to practice the healing art is that public health may be conserved and not endangered thereby. In 1916, the medical practice act, which had been passed by the legislature in 1915, was referred to a vote of the people. It was carried by a vote of 96,879 to 82,317. In November, 1920, an initiated chiropractic bill which provided for a separate chiropractic board which should examine in anatomy, physiology, symptomatology, sanitary science, etc., and which granted the licentiate all the privileges accorded physicians and surgeons except the right to give medicine, to perform surgical operations or to attend obstetric cases, was defeated by a vote of 109,385 to 84,286. The vote in both instances was favorable to our contention by majorities which were uncomfortably small. It is a notorious fact that in all states it is exceedingly difficult to have a jury finding against a drugless healer unless a layman testifies to personal injury from his treatment. The chiropractor, with his well organized and highly financed national, state and local bodies, is present as lobbyist in large forces in season and out of season to convince the unsophisticated legislator of his superiority in all matters relating to the care of the sick, even his greater ability to examine in the science of anatomy, physiology, symptomatology, etc., because of his better methods of teaching and extraordinary judgment in general. Assuming it to be conceded that the public should be properly educated in the physical betterment of the race, in public health and preventive medicine, how shall we proceed to accomplish it? First, we suggest that it begin in the public schools to the end that no student shall graduate from high school without an intelligent conception of personal hygiene, of modes of transmission of communicable and infectious diseases, and the general means for their prevention. This should be supplemented by a well organized campaign for education of the masses on like subjects through the daily and weekly press; by suitable moving pictures designed for educational purposes; by suitable articles in the popular magazines and periodicals; by the establishment of public health journals for popular consumption, and by such other means as may from time to time be deemed best by such organizations as may be created for the purpose.

Medical Education and Licensure in the United States as Viewed by European Visitors

Dr. Walter L. Bierring, Des Moines, Iowa: The visiting commission that came to this country last April and May under the auspices of the National Board of Medical Examiners was representative of such interests in their own country as would enable them to draw comparisons of special value and import regarding the problems of medical education, qualification and licensure, particularly concerning the United States at this time. Their impressions and views may be given in abstract under the three main headings: 1. Comments on methods of instruction. 2. Qualifying examinations and licensure procedure. 3. Teaching hospitals and graduate medical education. They emphasize the intensive ordeal that examination means to the candidates as well as the examiners, and advise that it be divided into three parts along the line of the British examination. The written

grades should be completed before the practical tests are taken up, and they further favor the English custom of two examiners for each oral examination, one to examine, and the other to assess. They find it difficult to reconcile themselves to the rather high passing or average grade of 75 per cent. required generally in this country for qualifying examinations, as compared with the 50 per cent. passing mark of the English examinations. The French members acknowledge the comprehensive character of the examinations and admit that there is nothing to compare with it in France, but they are inclined to judge the examination as a criterion of medical training in this country.

In analyzing the answers, they are struck by their uniformity, even though the candidates came from different medical schools; furthermore, "the answers indicate that the teaching is not only for the 'elite' but for the average student as well. At these tests we were very much struck by the fact that although few brilliant scholars are met with, the great majority of candidates came up to the average and showed sufficient knowledge to make good practitioners." Again, in clinical diagnosis, they were impressed by the emphasis given to laboratory tests which seemed to indicate the tendency to regard clinical conditions largely from the laboratory point of view at the sacrifice of clinical observation and description of disease conditions. They give as examples: 1. In the diagnosis of syphilis greater stress is given to lumbar puncture, examinations of cerebrospinal fluid, and the Wassermann reaction than to the well known clinical signs that are classic criteria of the disease. 2. In the recognition of acute nephritis complicating scarlet fever, much more import was given to the chemical and microscopic examination of urine and leukocytosis than to the fever, facial edema and diminished secretion of urine which often permit a bedside diagnosis.

The Development of a Model Qualifying Examination by the National Board of Medical Examiners

DR. HORACE D. ARNOLD, Member of the National Board of Medical Examiners, Boston: The first examination by the National Board was held in October, 1916. The essential success of this movement is shown by the wide recognition of its certificate at the present time. The certificate is officially accepted in lieu of a professional examination by the medical examining boards of twenty states; it is practically so recognized in twelve other states whose examining boards are legally required to give some form of examination themselves; and in still other states the worth of the certificate is recognized by the state boards, although technicalities of the statutes prevent official recognition at present. It is accepted as equivalent to the professional examination for the service by the Army, the Navy and the Public Health Service. It is accepted as qualification for admission to the Graduate School of the University of Minnesota, including the Mayo Foundation. And the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Triplicate Examining Board of Scotland, after careful investigation by their representatives a year ago, have extended to the holders of the certificate of the National Board the highest recognition that they can give legally, namely, admission to the final, practical examinations given by these bodies. Such recognition is gratifying. It seems reasonable to expect that in the very near future the certificate will be practically recognized by all state boards in the United States. But the National Board is not yet fully satisfied with its examination and will shortly inaugurate changes which it expects will make the examination even better.

One of the chief reasons for change is the desire to extend to all well trained graduates in medicine in this country the opportunity to take this examination if they are eligible. To accomplish this, associates and assistant examiners must be appointed at various centers throughout the country, and these will constitute subsidiary examining boards. The National Board itself will become essentially a supervising body of examiners. It must exercise such control over the examinations as will assure essential uniformity in the examination of candidates, and the maintenance of the high standards that have prevailed under personal examination by members of the board.

Under the new plan the examination will be divided into three parts. Part 1 will consist of a written examination in each of the six fundamental medical sciences—anatomy, physiology, physiologic chemistry, general pathology, bacteriology and materia medica and pharmacology. The board reserves the right to require also a laboratory examination in any of these subjects, if not fully satisfied as to the thoroughness of the laboratory training the candidate has had. Part 2 will consist of a written examination in each of the four clinical subjects: medicine, surgery, obstetrics and gynecology and public health. Part 3 will consist of thorough clinical examinations in the four subjects of Part 2.

There is one other important change. During these five years of experiment and study by the National Board, the Carnegie Corporation has generously furnished the necessary funds. It has been necessary to require only a nominal fee of $5 from the candidate for registration. It is unreasonable to expect the Carnegie Corporation to continue its support indefinitely, or to bear the increased expense involved in the wide extension of the examinations. The plan must therefore be put on a self-supporting basis. This, in the judgment of the board, will require a total fee of $100 for the complete examination. It will be thus divided: $25 for the written examinations of Part 1; $25 for Part 2, and $50 for the practical examinations of Part 3. We shall need the hearty cooperation of the faculties of the medical schools in stimulating the interest of their students during the next year or two, otherwise the movement inaugurated by the National Board may come to grief on financial reefs. We shall need a helpful and sympathetic attitude by the state boards. We believe that all will willingly cooperate to make this movement—so important in fixing good standards and in stimulating better medical education—a success.

Education of the Public Regarding the Problems of Medical Licensure

MR. GEORGE W. WHITESIDE, counsel for the New York State Medical Society, New York: The public evinces only mild interest in the finished product of medical education and less in the training and tests that the licentiate undergoes before he is permitted by the state to practice his profession. I have been told, when engaged in the prosecution of chiropractors whom I knew from investigation were ignorant men of small mental capacity, that they had among their patients people of refinement, education and professional and social position in the community. I have been told by the courts before whom I have appeared in the prosecution of such practitioners that people of high station in professional life in the city had written letters of commendation of such practitioners to the court before which they had been convicted. In a recent instance I learned that a chiropractor who had quit common school at the age of 12 years, had been a cabaret singer and habitué of the white light district of Broadway, and after a twelve months' course in an unauthorized and unrecognized so-called school of chiropractic, was openly advertising himself as a doctor of chiropractic and undertaking chiropractic adjustments in cases of serious human diseases. These unauthorized and poorly equipped schools appeal to an unthinking and uneducated class of the community. One of their potent arguments in the obtaining of students is that the course is a short one, that no preliminary educational standard is needed, that a clerk, a bookkeeper or a man in any other walk of life whose income is meager can make from $5,000 to $10,000 a year by practicing chiropractic. The appeal is made to man's cupidity and results in a great influx of students of very low mental grade.

Under our present laws the establishment of these standards and the adherence to them by the medical practitioner afford inadequate protection to the public unless the standards are similarly applied to all who engage in the healing art, and those standards established for all practitioners must be strictly enforced as to all. The main problem of medical licensure which now confronts the profession is one that depends for its solution on a public education of the underlying reason for and public importance of medical licensure and the dangers to public health that are sure to follow public indifference to this problem. A campaign of public education on this matter is not an activity for which the medical man's

scientific training appropriately fits him. The presentation of facts in such manner as to grip the public interest and to arouse a public conviction is a profession in itself. To undertake a proper campaign of public education on the matter of the problems of medical licensure would require the use of experts who have been trained in publicity work. During the war the government recognized the necessity of the use of such agents and employed them to advantage. While the medical profession has been inactive in this method of educating the public, the propagandists of various cults and healers have developed publicity organizations with little regard to the financial cost and less respect for the truth of their claims. In addition to public indifference to the importance of the maintenance of adequate standards for licensure in those practicing the healing art, we have the destructive force of propaganda carried on for the purpose of undermining and destroying public confidence in the medical profession. The medical profession has not sufficiently answered these false claims, has not rebutted these absurd contentions, has not exposed the fallacy and fraud that lurk in them; it has rather been content to rest and rely on the ultimate recognition by the public of the truth. The results of such investigations as have been made under the auspices of medical organizations have not been adequately brought before the public. Such confidence and faith in the public are well founded, provided the public is given facts, in properly digestible form, which will support a conviction of truth.

But there should be, in my judgment, an adequate means of expressing the congregated judgment of the medical profession to the public on all matters concerning which the public seeks information from the profession. The fundamental truths on which all scientific men must agree can and should be presented to the public with convincing force. The lying propaganda should be answered and exposed, and for this purpose systematic and persistent discussions of medical truths, ideals and problems in the public forum and the lay press should be undertaken.

The Chiropractic Problem

Dr. Charles B. Pinkham, Secretary, Board of Medical Examiners State of California, Sacramento, Calif.: A chiropractic wave is sweeping over the country, carried by organized publicity, propagated by both the schools and graduates of chiropractic, centralizing their forces on convincing the public that chiropractic is an exact science; that the origin of all disease is pressure on the spinal nerves as they emerge from the vertebral foramina; that a knowledge of the chiropractic chart showing disease or physical disability alleged to be controlled by designated spinal nerves is practically the only essential professional education; that treatment directed thereto will cure every ill to which flesh is heir; that a course at a chiropractic school is all sufficient to qualify one to treat the public; that the examining boards are state representatives of a visionary octopus called the "Medical Trust," which seeks to crush all save the licensed physician and surgeon, who, the chiropractic claims, is selfishly protecting his own financial interests from the competition of the chiropractor, who boasts that he is gradually taking from the doctor of medicine his clientele.

Chiropractic schools of mushroom growth have sprung up all over the country, privately owned and supported by the fees accrued from student enrollment. Pause to estimate the income of the Palmer School, with an enrollment of more than 2,000 at a minimum of $300 per capita: practically an annual income of $600,000 from student fees alone. The majority of chiropractic schools augment their income from fees by collecting in advance a monthly fee of $5 for treatment in the clinic of the school and thereby obtain material whereon the students may practice the various adjustments and learn the technic. The advertised common school requirement exacted of the matriculant in chiropractic colleges must not be taken too seriously. The prospective student is not required to furnish even a grammar school diploma. A statement is made by the president of one of the well known eastern chiropractic schools that the only education necessary is the ability to read and write. The better class of chiropractic schools announce that a three-year course is required to earn the degree of Philosopher of Chiropractic. Their graduates glory in availing themselves of every opportunity to boast of their three years' education, a palpable deception in that they fail to mention that six months constitute a chiropractic year. The boast of a three years' education is frequently made by chiropractors in an endeavor to convince the public in a state maintaining a reasonable educational standard that the board of medical examiners is biased in denying the right of examination to chiropractors or others who fail to meet the statutory educational standards. The equipment of the average chiropractic school is pathetically meager, particularly in the laboratory branches.

Will an aggressive campaign of prosecution gradually drive out the violators by either forcing compliance with the law or, by means of some penalty imposed, drive the violator from the state? Our experience in California convinces us that the situation cannot be successfully handled along this line, and for two reasons: 1. The product of the chiropractic institutions, schooled to defy the law and denounce all regulations except by a chiropractic board, is multiplying to such a voluminous extent that to attempt to eradicate these violators is about as effective as commanding the waves of the sea to cease to roll. 2. An active campaign of prosecution in an attempt to compel respect for law invariably results in arousing public sentiment in the conviction that the medical board is waging a war of persecution. The chiropractor is fully alive to the psychology of the masses. He fully realizes the infinite value to his cause if well directed publicity is given each arrest and prosecution of a chiropractor. That this impression may be stronger, the chiropractor is urged to affiliate immediately with fraternal, religious, social and civic organizations as soon as he locates in a town so that he may arouse a commanding interest from diversified sources should he be arrested for violating the law.

As the chiropractor educates the public, so should the medical profession educate the masses that they may have a clearer perception of the effect of disease, the cause of disease and the prevention of disease. This campaign of education should convince the public that an individual untrained in the diagnosis of communicable disease is a serious public menace. National, state and municipal organizations should join, waging the campaign comprehensively, intensively and unceasingly. Newspapers and lay magazines should be utilized in convincing the public that: (1) a minimum standard of education should be required of every one who seeks the authority of the state to practice any system of the healing art. 2. Chiropractic nomenclature must be changed so that (*a*) the hour of instruction will be at least fifty-three minutes and not as now, but thirty minutes; (*b*) the year of instruction will conform to that of modern education, which cannot concede that three years of education can be completed in eighteen months' continuous work.

DISCUSSION

Dr. James Ewing, New York: If I understood Dr. Arnold correctly, I regret to learn that the National Board of Medical Examiners has decided not to admit any one to examinations who has not had the fifth clinical year. In the state of New York the requirement of the fifth clinical year in institutions under the direct control of the universities is dead and will not be revived until the universities request a fifth clinical year in such institutions. The requirement of this fifth clinical year by the National Board cuts off a group of men who are going into the scientific branches and are desirous of becoming teachers of medicine. The fee of $100 is an additional obstacle in securing that group of scientific men who would likely take the examination.

Dr. John M. Dodson, Chicago: I should like to make a plea for an enlargement of the requirement of the intern year. I think it most important that an alternative be offered. In 1905 the institution with which I am connected (Rush Medical College) first offered a fifth year which was for the time being optional. We made these two alternatives, that the year should be a year of intern service in an approved hospital under the supervision of the faculty, or a year of advanced research work in a college as a fellow or an advanced student. I think we can find a satisfactory solution if we adopt the modification which we have adopted in order to meet some of the requirements of state boards, namely,

that this should be a year of advanced research work in one department of the college, including clinical training. For instance, take physiology. The student should come in actual contact with clinical material in relation to physiology and clinical medicine at the same time. We have small groups of exceptional students for whom we cannot secure internships. Some years ago there was a time when it was difficult to find internships for graduates. That has not been the trouble for the last two or three years. However, we find that proposition always and we must have some alternative to offer such a student as that other than actual internship in a hospital. More important still, we must not cut off the supply for the teaching of these fundamental branches.

DR. HORACE D. ARNOLD, Boston: The National Board recognizes an extra year in an approved laboratory. It is not limited to the one year, and it is for the purpose of recognizing men of the type mentioned we have used the word approved laboratory which is interpreted by the board.

DR. WALTER P. BOWERS, Clinton, Mass.: As we interpret the functions of the National Board, it requires of recent graduates the demonstration of a knowledge of the basic subjects in medicine. If I understood Dr. Arnold's report, the National Board's examination in anatomy is a written one. The Massachusetts board has felt that the anatomy examination should be a practical one. We all feel that the older men should not be required to pass these practical examinations.

DR. DODSON: It is contemplated, I take it, to utilize the services of those engaged in teaching these subjects in examinations, provided they do not examine their own students.

DR. ARNOLD: Yes, the point raised by Dr. Bowers in regard to practical examinations in anatomy is one which concerns not only anatomy, but also practical examinations in the fundamental medical sciences, laboratory work, etc. The National Board has discussed this matter very thoroughly. A man is not eligible for examination unless he comes from a Class A medical school. The problem of giving a practical examination to everybody who is eligible for this degree seems not only impossible but to a large extent entirely unnecessary. We shall require evidence that the candidate has successfully passed in these subjects in a Class A medical school.

DR. T. A. MCCANN, Dayton, Ohio: It seems to me that the Federation of State Medical Boards ought to select the men who are to be members of the National Board of Medical Examiners and to define the policies to which we are to be subjected. I myself would not listen to any one who was selected in any other way.

DR. WALTER L. BIERRING, Des Moines, Iowa: I should like to call the attention of the gentleman from Ohio to the fact that most of the forward movements in medicine in the last two years have been accomplished by voluntary bodies. The Federation of State Medical Boards is one of these. The matter of placing it on an incorporated basis has been discussed, but was referred at last evening's meeting for subsequent discussion. Furthermore, the National Board of Medical Examiners has in its constitution a clause which says that there shall always be three representatives from the Federation of State Medical Boards recommended by that organization. At a meeting in 1917 of the Federation of State Medical Boards, the National Board of Medical Examiners was endorsed in principle and given every assurance of support and encouragement.

CONFERENCE ON HOSPITAL SERVICE

Held in Chicago, March 9, 1921

Policy of the American Conference on Hospital Service

DR. FRANK BILLINGS, President of the American Conference on Hospital Service, Chicago: In this congress the subject of hospitals is placed under the jurisdiction of the American Conference on Hospital Service. The American Conference on Hospital Service is an organization which met in the fall of 1919, and its complete organization was not perfected until the early part of 1920. The object of this organization was to secure membership in it of all the national organizations which are working for the betterment of hospitals and of hospital service, its purpose being to bring about coordination of effort of all agencies that are willing to join in this conference in this work.

It is understood also that the policy of this annual so-called midwinter conference in the future will leave the subject of discussion of hospitals under the jurisdiction of the American Conference on Hospital Service, so that at each congress held hereafter the subject of hospitals and of all the related subjects to hospitals will come under a program prepared by the American Conference on Hospital Service.

At present the constituent organizations are the American Association of Hospital Social Workers, the American Hospital Association, American Association of Industrial Physicians and Surgeons, the American Medical Association, the American Nurses Association, the Association of American Medical Colleges, the Catholic Hospital Association of the United States and Canada, the Federation of State Medical Boards of the United States, the Medical Department of the United States Army, the Bureau of Medicine of the United States Navy, the United States Public Health Service, and during the year there have been added the National Organization of Public Health Nursing, the National League of Nursing Education, the American Dietetic Association, and the National Tuberculosis Association, Inc., making fifteen constituent organizations.

I want to state some policies which the conference has adopted. The first policy is the library, which has been in existence about six months. The second policy is hospital standardization, and in regard to hospital standardization the conference has endorsed the minimum standards of the American College of Surgeons as a beginning. As a proof of that, it has expressed its willingness that should the occasion arise it will enter into negotiations with the American College of Surgeons to take over its field of work if it so desires. As a part of the hospital standardization policy it will formulate additional standards, applicable respectively to follow-up, one of the most needed things after a hospital has been inspected; also the application of statistical reports to clinical work of accounting, of nursing, and the like. Its third policy is to cooperate with a committee named by the Rockefeller Foundation in the training of hospital executives. Its fourth policy is to develop higher medical standards and an efficient community medical service through postgraduate teaching. In this effort it will support the further development of intern standards in the work of the American Medical Association. It will promote the fifth or intern year as a prerequisite for independent practice. It will encourage systematic teaching of graduates at hospital centers or at diagnostic centers. It will promote plans for the establishment of closer relations between practitioners and well equipped diagnostic centers.

Adequate Medical Service for the Community: Some Factors of Importance

DR. WINFRED H. SMITH, Director, Johns Hopkins Hospital, Baltimore, read a paper on this subject which will be published in THE JOURNAL.

American Conference on Hospital Service

MR. GEORGE E. VINCENT, President of the Rockefeller Foundation, New York: The hospital is a great social institution, a center radiating into all centers, influencing the community, and regulating it in all sorts of ways. Its relation to medical education, to other hospitals, to the hospital superintendent, to the training of nurses and to the whole range of preventive medicine is interesting and appealing. What are we going to do about it? We have got to have cooperative effort. We have got to raise our standards and ideals, not all at once but slowly. The picture has to be made more public and fascinating. The boards of hospitals have got to be convinced and all kinds of people have to be convinced and the public must be convinced, that the standards we have created are right, but that makes it all the more interesting, that makes it a challenge.

If I understand this hospital conference and the bureau which has been organized and the service to be given, it is just an agency of cooperation. You notice how careful they are at the beginning as to the facts that will be presented to you.

You are not to be given advice but to be given facts, and these facts should be presented in such a way that the inference from them is unescapable, if your minds are working normally. But that is very different from giving advice. It is giving you information on which you as rational beings will base your decision, and then little by little, as you get confidence and enthusiasm, the improvement of hospitals will be demonstrated to you and administered to you, as is sometimes done, in increasing doses, and the advice will take on a more and more convincing character. It will not be mandatory or coercive; it will be convincing, and then the various services will be extended. If a hospital becomes a center of research and comradeship, it is a different place, but it will take some time to bring this about. It will come slowly. If I understand the object of this conference and its bureau of service, it is to help in building up the picture, enlarging it year after year, and changing it as conditions demand, and that can be done only slowly and with some little misunderstanding; and yet our experience goes to show how we can correct these misunderstandings if we have the good will of the people, if we are open minded enough to listen to the other point of view. Work in connection with the upbuilding of hospitals means cooperative effort; it means team play, and the experience of putting into execution such ideas as have been presented.

DR. RAY LYMAN WILBUR, President, Leland Stanford Junior University: We are more or less a self-admiration society in working on these hospital problems, and yet the solution of them will depend on the people. We must have a very definite campaign of education in which the hospital must be the center. Take, for instance, the elements that make education in a community. After school a man gets his education from his business, his occupation, sometimes from his friends, and from the newspapers. We are handicapped in newspaper education in regard, for instance, to public health. It is true that occasionally we find a newspaper with sound ideas and sound men giving health instruction; but for generations the newspaper was more helpful to the quacks than to anybody else, and we still can find newspapers filled with "patent medicine" advertisements and all that sort of thing. The chiropractors have large control over newspaper columns because they advertise freely and spend much money by so doing. We have a definite handicap to meet when it comes to the newspaper. The health problem is a serious one, a vital thing, and we have to make our articles and talks interesting to the public. There are a few educated people who will listen to things going on around them; they have good judgment, but a very large proportion of our people have the same attitude that people had two or three thousand years ago toward medicine. The best center for education of the whole public is the hospital. The hospital can compete with the quack and the "patent medicine" man who advertises in newspapers, but it cannot do so unless the people consider themselves as members of the hospital staff, as instruments of public education. We must use ingenuity to achieve success in the handling of these problems. We must make our talks, our writings, forceful and interesting, so that we can train the younger men to help us in the development of our health problems.

FATHER CHARLES B. MOULINIER, Milwaukee: No hospital can be anything unless it is organized, unless it has records, and the organization will not amount to anything unless there are monthly meetings for discussing the work that has gone on in the hospital for every patient during the last month. The records will not amount to anything unless they are kept effectively, truly and scientifically, up to the last minute. A record means taking everything that has been done for a patient previous to operation and after it and what follows. Medicine will go on increasing from year to year in its fundamental and scientific knowledge and in its application. Organization must be there, laboratories must grow according to the growth of medical knowledge, records must go on, and you must acquire the ethical spirit and soul of the medical profession if you want your men to be right minded and scientific.

DR. ARTHUR DEAN BEVAN, Chicago: I should like to say a word from the standpoint of one of the associations that goes to make up this conference in regard to what I believe are the possibilities for good that may come from the work of the American Medical Association, which is only one, I believe, of a dozen constituent members of this conference. The American Medical Association represents in a certain large way the organized medical profession of this country, and I think it can be of great service in this hospital movement if it will seriously realize its duties and its responsibilities. To put this whole subject in the simplest possible way, I think the bringing of the benefits of medicine to the people requires three things: It requires educated medical men; it requires properly equipped medical plants or hospitals, and it requires a plan of organization that will make an efficient and effective scheme of work, so that these medical men with the articulating plants can bring the benefits of preventive medicine to the people, because I think these hospitals should be health centers in bringing curative medicine to the community.

My experience in the work of the Council on Medical Education and of Hospitals of the American Medical Association makes me believe that we require nothing in the way of laws; that we require no change in our organization, but that we do require as one of the elements back of this movement the active, enthusiastic support of the medical profession. How is that to be obtained? Up to this time I do not believe that the medical profession has realized the importance of its work in each of its county societies and of the state society in taking hold of this matter in an efficient way. If the medical profession in every county realized that it was its most important function to help the people in that particular community secure proper medical care, much good could be accomplished, and one of the essential things it must see to in such a community is a proper medical plant or hospital to take care of the sick, and as a health center. I think we must preach that to this particular constituent element of this hospital conference. We must make every county society realize that its most important function is not to read papers and to meet occasionally, but to bring the particular benefits of medicine to the people and to provide an intelligent plan and see that it is carried out for that purpose. This should be done by every state society.

I think that the American Medical Association at its next meeting in Boston should take up this matter through its House of Delegates. I think that the great instrument by which we educate our profession—THE JOURNAL—should be made to see the importance of bringing this matter before every single medical man in the country. We have pretty nearly 100,000 physicians who read THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and this journal is the effective instrument by which we could bring exactly this sort of thing to the attention of the medical profession. I am presenting this as a business proposition, as a working plan, as a concrete thing we ought to do. There are other agencies that could do an enormous amount of good in connection with this movement, but I do not believe there is any agency that could be of more service than the American Medical Association through its county and state societies. Every medical man should make it his business to emphasize its importance and see that it is carried out in his own community.

DR. F. E. SAMPSON, Creston, Iowa: As a physician I have been impressed with this point, that if our medical organizations would take the same interest in the social side of our medical problems that social organizations today are taking in the medical side of social problems, our health centers would become a matter of course.

DR. GEORGE M. KOBER, Washington, D. C.: I wish to emphasize the importance of prenatal clinics and infant welfare stations in connection with our hospitals, as I believe they will be of inestimable value in convincing the public at large that we are not only interested in the care and treatment of the sick and wounded, but that we are also doing our share in the prevention of sickness. I cannot conceive of a more important function than that of seeing to it that a nation will have a right start, beginning with prenatal care, and also looking after infant welfare. When the principles of personal hygiene are inculcated in the minds of the mothers, they become strongly attached to the institution and will carry out in a religious way the teaching they receive.

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Reciprocity in Arizona.—During the recent session of the legislature an amendment to the medical practice act was passed, which permits the granting of reciprocity certificates. The measure becomes effective, June 10, 1921.

ARKANSAS

Clean-Up Weeks.—In response to the request of the principal of Tuskegee Institute, Dr. Charles W. Garrison, state health officer, is arranging to cooperate in the national negro health week, April 3-9, inclusive.——The governor has proclaimed April 11-18 as clean-up week in the state.

Campaign Against Cancer.—The Hot Springs County Medical Society has appointed a county control committee in response to the request of Dr. Dewell Gann, Jr., chairman, state cancer control committee. Dr. Gann announces that literature will be sent any one making request to the Arkansas State Cancer Control Committee headquarters, Little Rock.

CALIFORNIA

Chiropractic Bill Killed.—It is reported that the bill to establish a separate board of chiropractic examiners was "killed" by a vote of 29 to 42 in the assembly of the California legislature, March 16.

Personal.—Surg. John D. Long, who for the last two years has been supervisor of the U. S. Public Health Service in San Francisco, has been transferred to the office of Surg.-Gen. Hugh S. Cumming, Washington, D. C.

License Certificate Lost.—It is reported that Dr. John M. Tufts, a graduate of Leland Stanford Junior University Medical School, June 21, 1920, has lost the certificate issued to him by the California Board of Medical Examiners. The certificate is No. A0-2893, issued Aug. 19, 1920. Other licensing boards are warned to be on the lookout for this certificate, which may be presented by one not having authority to use it.

Physician Convicted of Murder.—The conviction of Dr. Frank Thomas, San Francisco, of the murder of Miss Rose M. White, Vallejo, in November, 1919, has been affirmed by the district court of appeals. Dr. Thomas was charged with performing an illegal operation, from the effect of which the girl died. He was found guilty of second degree murder, from which judgment and an order denying his motion for new trial, Dr. Thomas appealed. It is reported that this is the fourth time he has been brought into the courts of San Francisco on similar accusations. He was given an indeterminate sentence of not less than ten years.

DISTRICT OF COLUMBIA

Personal.—On March 1, Dr. Edward A. Spitzka, New York, assumed his new duties in the neuropsychiatric section, medical division, War Risk Insurance Bureau, Washington.

Law to Control Venereal Disease.—At a meeting held in Washington, under the auspices of the Social Hygiene Society, Dr. William C. Fowler, health officer, urged the support of a bill designed to control venereal disease to be introduced in Congress during the extra session, and stated that only one state and the District of Columbia have failed to pass a law controlling venereal disease.

FLORIDA

Healthsport Sanatorium.—Four thousand acres of land within 3 miles of Jacksonville, on waterways having sufficient depth and docking facilities to accommodate yachts of all sizes which come to Florida every year, has been secured as a site for the erection of a sanatorium to be known as Healthsport Sanatorium. The plan was conceived by a group of physicians in the North and East.

ILLINOIS

Personal.—Dr. Samuel N. Clark, Chicago, associate, division of neurology and psychiatry, University of Illinois, also clinical psychiatrist, Illinois State Psychopathic Institute, has been appointed psychiatrist to the Norbury Sanatorium, Jacksonville.

Full-Time Medical Health Officers.—Believing that the county is the logical and most practical unit around which local public health administration can be effectively established, the state department of public health has prepared, and will cause to be introduced into the legislature during the present session, a bill providing for the employment of full-time medical health officers by every county in the state. According to reports, a number of counties have already taken the initial steps for a full-time health officer.

Survey of Health Centers.—A recent state-wide survey shows forty-two health centers now operating in Illinois. The personnel in some instances includes part-time services of six physicians and specialists, as well as ten full-time public health nurses. According to available records, more than 6,000 prenatal, preschool and infant cases have received attention through these health centers. A number of communities maintain public health nursing service where the regulation health center has not been established. The work being done, however, appears to be substantially the same.

Tuberculosis Clinics Attract Schoolteachers.—A significant feature of two all-day teaching clinics on tuberculosis that were recently held at Anna and Chester was the attendance of the superintendents and the teachers of the local public schools. Those in charge of the clinics gave special talks on undernourished and tuberculous children, and called attention particularly to the value of early treatment in such cases. The clinics were held under the joint auspices of the local medical and tuberculosis societies, and were under the charge of officers from the Illinois Tuberculosis Association. Similar clinics will be held at Tuscola and Paris during the early part of April.

Typhoid Carrier Isolated.—When six cases of typhoid fever were recently reported from Charleston, an investigation by the state department of public health brought out two definite points of infection. In one case the mother of a patient gave a history of typhoid fever. An examination showed that she is an active carrier although five years have elapsed since she was sick with typhoid. The mother is doubtless the source of infection of her child. Two other cases were traced to a sewer opening from the house where a typhoid fever patient was convalescing. The sewage emptied on the surface of the earth at a point where neighborhood children gathered for play. Two boys who, while playing soldier, dug trenches near the sewer opening, promptly came down with typhoid fever at the expiration of the incubation period. The source of infection for the three other cases appeared to be outside of town.

Chicago

Institute for Nutrition Workers.—An institute for the training of nutrition workers will be conducted under the auspices of the Elizabeth McCormick Memorial Fund in Chicago, June 13-28, inclusive. Dr. William R. P. Emerson, Boston, will give the lectures and class demonstrations, assisted by members of the staff of the Elizabeth McCormick Memorial Fund. The fee for this course will be $50. For information, write to the Elizabeth McCormick Memorial Fund, 6 North Michigan Avenue.

IOWA

Personal.—As the guest of the Jane Lamb Memorial Hospital, Dr. Charles A. Elliott, professor of medicine, Northwestern University Medical School, Chicago, recently delivered an address at Clinton, on "The Basis and Diagnostic Value of Certain Gastro-Intestinal Manifestations."

Health Education.—A measure now before the state legislature provides for the establishment of physical education in the public elementary and secondary schools of the state; after next September, high schools, state colleges, university or normal schools, giving teacher training courses shall provide a course or courses in physical education, and after Sept. 1, 1924, no applicant shall receive a certificate to teach in the public schools of the state who fails to present evidence of having completed an approved course in general physical education in a school or course for teachers of recognized standing satisfactory to the state superintendent of public instruction.

KANSAS

House Increases Senate Recommendations.—For the first time in many years the house ways and means committee introduced appropriation bills for state institutions totaling

a larger amount than that recommended by the senate ways and means committee.

KENTUCKY

Hospital News.—The city of Paducah has appropriated $20,000 for improvements at Riverside Hospital. An additional wing will connect the hospital with the three-story building constructed originally for nurses but never used, but which will now be used for negro patients. Additional equipment will be added to the main building.

LOUISIANA

Lake Charles to Fight Malaria.—The commission council of Lake Charles has voted $2,794 to be used with a like amount—one-half of which is to be provided by the state and the other half by the International Health Board—for the elimination of malaria.

MAINE

Epidemic Encephalitis in Maine.—Ten deaths from epidemic encephalitis have been recorded in Maine with the state department of health. The number of cases which have occurred but have not resulted in death is impossible to estimate, as not all cases of the disease have been reported.

MARYLAND

Training Industrial Physicians.—In a recent lecture before the School of Hygiene and Public Health of Johns Hopkins University, Dr. David L. Edsall, professor of clinical medicine, Harvard Medical School, discussed educating physicians in measures to prevent and remedy unhealthful conditions in manufacturing plants. Dr. Edsall stressed the opportunities in this field, which, he stated, is proving very popular among medical students at Harvard.

Personal.—William H. Welch, director of the School of Hygiene and Public Health, Johns Hopkins University, has been elected to honorary membership in the Société belge de médecine of Belgium.——Dr. Susanne R. Parsons of the Hospital of the Woman's Medical College, Philadelphia, has been selected by Dr. C. Hampson Jones, health commissioner, as director of the welfare center of the Baltimore City Health Department's bureau of child welfare and will assume these duties April 1. Dr. Parsons is a graduate of the Johns Hopkins Medical School.

MASSACHUSETTS

Dean of Tufts Medical School Resigns.—Because of the pressure of his outside practice, Dr. Charles F. Painter has resigned as dean of Tufts Medical School, Boston, but will continue to be a member of the faculty, retaining his title of professor of orthopedic surgery. Dr. Painter has been dean of the school since 1913.

MICHIGAN

Marriage License Bill Defeated.—The measure requiring applicants for marriage licenses to file physicians' certificates stating their mental and physical qualifications was defeated in the state senate by a vote of 16 to 14, after an amendment excluding women from provisions of the bill was adopted.

Antitoxin Bill.—A bill prepared by the state health commissioner and introduced in the state senate carries an appropriation of $25,000 a year for the next two years for the purchase or construction of a suitable plant for the manufacture of diphtheria antitoxin. It also proposes an appropriation of $40,000 for next year and $75,000 for 1923 for manufacture or purchase of antitoxin. It is claimed in support of the measure that private manufacturers' charges are so much above the cost of production as to prohibit the distribution of sufficient antitoxin to stamp out diphtheria.

MINNESOTA

Malpractice Measures Lost.—Two bills on medical malpractice—the first limiting time for filing of malpractice action to two years from cause, and the second providing that local doctors might disclose confidential information where the consulting physician is being sued for malpractice—which were urged for passage by a committee of physicians, were recommended for indefinite postponement by the senate judiciary committee.

NEW JERSEY

Governor Edwards Proclaims May 8-15 Child Welfare Week.—Child welfare in all its varying phases will hold the attention of men, women, and children throughout New Jersey if the plans formulated for Child Welfare Week are carried out. The recently organized council for child welfare, of which Mrs. Harold S. Buttenheim is chairman, has initiated the work, and local and state agencies and departments are cooperating.

New Baby Keep-Well Stations.—Baby Keep-Well Stations, which are part of the child hygiene work of the New Jersey State Department of Health, have recently been opened in Princeton, Netcong, Vaux Hall, New Providence, Edgewater and Flemington, and additional stations to meet the increasing demand for preventive health work have been established in Elizabeth, Harrison, Linden, New Brunswick and South River. Stations now under the direct supervision of the state department of health number seventy-five.

NEW YORK

Medical Center for Soldiers.—According to instructions received by Dr. Clarence F. Graham, United States medical officer, Albany is to be made a hospital center for examination and treatment of disabled soldiers who are entitled to care by the federal government.

New York City

In Memory of Elizabeth Blackwell.—On the one hundredth anniversary of her birth, March 16, the Woman's Medical Association of New York City held a meeting at the Academy of Medicine to honor the memory of Dr. Elizabeth Blackwell, pioneer woman physician of America.

Personal.—Dr. Pang Yuen Tseo, the first Chinese woman physician to practice in Bellevue Hospital, has been appointed physician in charge of the Dan Forth Hospital at Kiukkiang, China, and is returning to her native land after an absence of eleven years. Dr. Tseo came to America in 1909, under the auspices of the Chinese Educational Mission. She graduated from the University of Michigan, Ann Arbor, and Rush Medical College, Chicago.

Drive for Physicians' Home.—A movement which has been under way for some time to establish a home for aged physicians who find themselves in failing health and without funds has been organized and a charter of incorporation obtained at Albany. The officers of the association are: president, Dr. Robert T. Morris; vice president, Dr. Ralph Waldo; secretary, Dr. Silas F. Hallock; treasurer, Dr. Albert G. Weed. Practicing physicians throughout the country will receive an appeal for an annual subscription of $10. Sustaining membership is $100. Every effort is being put forth to raise funds for the purpose.

Campaign to Increase Consumption of Milk.—As the result of a conference of authorities on the feeding of children, held at the New York Academy of Medicine on March 17, it has been decided to begin a city-wide campaign for increasing the consumption of milk among children. The campaign will be carried on through the cooperation of the New York City Department of Health and various diet and health organizations. A start has been made in opening a milk education station, operated by the Borden Farm Products Company, to which Prof. H. C. Sherman is acting as adviser. This station has been open for several months, and many children have been weighed, their diet regulated and the value of increasing the milk diet explained to parents.

Brooklyn's Health Week.—For the first time a "Health Week" will be conducted under the auspices of one of the largest medical societies of the country when the state medical society holds its annual meeting in Brooklyn, for the first time in the 116 years of the society's history, the first week in May. Many of the ministers will cooperate by giving health talks in the churches the preceding Sunday, and there will be a public meeting, May 3, with George E. Vincent, Ph.D., director of the Rockefeller Foundation, as the principal speaker. In connection with the usual medical exhibit there will be a large exhibition, open to the public, of everything having the approval of the profession making for health, good hygiene, and sanitary improvement. Public welfare organizations will have booths and explain the work of their organizations.

Annual Report of Chief Medical Examiner.—Dr. Charles Norris, chief medical examiner, has recently submitted his annual report showing a decrease in the number of violent deaths in this city for 1920 as compared with 1919 and 1918. The total number of violent deaths in the five boroughs in 1918 was 6,200, of which 1,415 were necropsied; in 1919 the total was 4,709, of which 1,462 were necropsied; and in 1920 there were 4,519, with 1,688 necropsies. Automobile and automobile trucks caused 692 deaths, more than 50 per cent. of which were children of 13 years or younger. Wood alcohol

cases decreased from 54 in 1919 to 19 in 1920. Dr. Norris urges the establishment of a homicide court which shall serve as a judicial clearing house in connection with deaths by criminal violence or by casualty or highway accident.

NORTH CAROLINA

Health Activities.—During the recent observance of health week in Winston-Salem, a survey was made to find how many schoolchildren drank milk regularly, and the value of milk as a food was explained by representatives of the state agricultural extension service and the U. S. Department of Agriculture. The Y. W. C. A. carried on a campaign to encourage the wearing of proper shoes, and conducted free physical examinations of girls and young women.

OHIO

Legislative News.—The Tuscarawas County Medical Society has adopted resolutions protesting against the passage of a legislative measure creating new boards of examination for each class of professional men.

Hanna Lecture.—Dr. Charles A. Kofoid, Berkeley, Calif., will deliver the third Hanna Lecture, under the auspices of the School of Medicine of Western Reserve University at Cleveland, March 29, on the subject of "The Clinical and Medical Significance of Parasitic Infections of the Human Intestine with Special Reference to Hookworm, Amebic and Flagellate Infections."

OREGON

Noble Wiley Jones Lectureship.—The lectures are to be delivered this year in Portland by Dr. William Ophüls, professor of pathology, Leland Stanford Junior University, on May 31 and June 1. In 1922 these lectures will be delivered by Dr. Thomas Lewis of London.

PENNSYLVANIA

Establishes Negro Clinic.—A clinic for treatment of tuberculosis among members of the negro race is conducted at the Henry Phipps Institute under the direction of Dr. Henry M. Minton, a colored graduate of the Jefferson Medical College. In addition to the tuberculosis clinic for negroes, the Phipps Institute has prenatal, urologic and gynecologic clinics. Dr. Frank E. Boston, a colored graduate from the Medico-Chirurgical College, has been appointed to take charge of the prenatal clinic.

Nurses' Home Planned at Abington.—Money provided by the late George W. Elkins will be used this spring for erection of a model nurses' home as part of the plant of the Abington Memorial Hospital, founded by Mr. Elkins some years ago as a memorial to his first wife, Mrs. Stella McIntire Elkins. Plans for the proposed building have been sent to builders for estimates. It is understood about $200,000 is available from the fund created by Mr. Elkins for the proposed addition to the hospital and that work will be rushed if the home can be erected for the sum in hand.

Legislative News.—A bill giving the Philadelphia Health Department supervision over the city's meat markets, grocery stores, fruit and produce establishments and all other places engaged in the sale or preparation of food has been introduced in the state legislature. The measure provides a penalty of from $5 to $100 fine for violation of the regulations. ——Another measure directs the health department to issue annual licenses to nonalcoholic bottling establishments for a fee of $2. Penalty for violation of the regulation is a fine of from $5 to $100, or sixty days in jail.——A third measure forbids any person or institution in Philadelphia to receive, board or keep any child under 14 years without legal commitment unless a license has been obtained from the health department.

Physicians Urge Sprowls Bill.—The Sprowls bill, creating a bureau of control of professional licensure in the department of public instruction, was introduced, March 8, by Representative Jadd Sprowls, Washington County, who is a physician. It was first referred to the committee on education, and on March 16 was rereferred to the committee on public health and sanitation of the house. The bill places the bureau of medical education and licensure, the state medical council, the dental council, the board of denal examiners, the Pennsylvania board of pharmacy, the board of optometrical education, examination and licensure, the state board of veterinary medical examiners, the board of osteopathic examiners, for registration of nurses and the state board of undertakers under one central board.

Philadelphia

State Women Urge Medicine Safeguard.—Representatives of the organized club women of Pennsylvania, the W. C. T. U., State Federation of Women, Visiting Nurses' Association and State Departments, appeared before the House Health and Sanitation Committee in support of the Miller Bill forbidding sale of medicines containing opium or its derivatives for children under 12 years of age. A York manufacturer opposed the bill and declared it would ruin certain lines of business. Dr. Thomas S. Blair, Harrisburg, chief of the Bureau of Drug Control, defended the bill and said deaths of infants had been traced to certain preparations and there was danger of making drug addicts of children. Dr. Ellen C. Potter, Harrisburg, of the Department of Health; Mrs. Lyman D. Gilbert and Mrs. James I. Chamberlain of Harrisburg, and Mrs. Frank Miles Day of Philadelphia strongly urged the bill.

TEXAS

Health Survey and War on Mosquitoes.—The U. S. Public Health Service in a health survey of Fort Worth finds that it compares favorably with other cities of its size in the South. The survey will include all cities of 100,000 or over. ——Fort Worth reports the organization of the rural districts under a mosquito expert to oil, drain or fill pools where mosquitoes breed and stock streams that cannot be drained with fish. An exhibit car belonging to the Cotton Belt Railroad will be sent to aid Waco and other local campaigns, and other railroads have signified willingness to cooperate.

Health Department Plans to Enforce New Laws.—New health laws already enacted or awaiting the governor's signature provide for consolidation of the pure food and drug department and the health department, prescribe sanitary regulations for restaurants, hotels, cafés, and dining cars; prohibit employment of persons suffering from contagious diseases in barber shops or beauty parlors and require proprietors to register with the state health departments; require prophylactic solution to be dropped in the eyes of infants to prevent blindness, and the regulation of maternity homes and baby farms.

TENNESSEE

Child Health Week.—Among the features of the child health campaign in Chattanooga and Hamilton County, March 3-19, were tooth brush drills and illustrated lectures in the schools conducted by representatives of the United States dental unit, and city health officials made especial efforts to enforce the milk ordinance which requires all dairymen supplying the Chattanooga market to have their herds tuberculin tested and to ship their milk in regulation containers.

WISCONSIN

Medical Legislation.—The Milwaukee Medical Society, in cooperation with dentists, druggists, and health and accident insurance men, will inaugurate a campaign against hostile medical legislation, including compulsory health insurance with state fund features.

CANADA

Public Health Association Convention.—The tenth annual convention of the Public Health Association will be held, May 16-18, at Toronto.

Medical Society Prize.—The Winnipeg Medical Society offers for competition among the medical men registered in Manitoba, who graduated not earlier than 1914, a prize of $200 to be awarded for the best essay on any subject related to the science or art of medicine; the essay to be in the hands of the secretary of the society not later than Sept. 1, 1921. The society reserves the right to withhold the prize unless, in the opinion of the judges to be appointed by the executive council of the society, the essays are of sufficient merit.

Personal.—Dr. Newton A. Powell, Toronto, having reached the age limit, has retired from the chair of medical jurisprudence in the University of Toronto, and has been succeeded by Dr. Gideon Silverthorne.——Dr. Peter H. Bryce, who is retiring from the public health service of the Dominion of Canada, is at present spending some time at the University of Toronto, studying nervous diseases and the diseases of nutrition, with a view to taking up consultation work in these diseases.——Dr. Ernest L. Armstrong, Baden (Ont.), has been appointed assistant pathologist at the London (Ont.) Institute of Public Health, succeeding Dr. Earl W. Watson, who resigned to accept a position on the staff of the University of Sheffield, England.

Damage Suit Against Dr. Archer Dismissed.—Much interest in the medical profession of Ontario has been taken in the suit for alleged malpractice against Dr. Robert Archer, Port Perry, Ont. In September last, by the light of an oil lamp, Dr. Archer was compelled to perform an emergency operation in indifferent surroundings. Time being an essential factor in order that the woman's life might be saved, the abdomen was closed, but a small sponge remained inside, necessitating a subsequent operation for its removal. The result was a suit for damages for $20,000. Mr. Justice Sutherland, who sat on the case, has dismissed the action, stating that the failure to remove the sponge could not be regarded as actionable negligence or as more than accidental. The plaintiffs are to pay the costs of the suit.

GENERAL

American Pediatric Society.—The thirty-third annual meeting of the society will be held at Swampscott, Mass., June 2-4.

Change in Date of Meeting.—The American Laryngological, Rhinological and Otological Society will hold its annual meeting at the Hotel Chelsea, Atlantic City, N. J., on June 3 and 4, 1921, instead of June 1 and 2 as previously announced.

Antituberculosis Symbol Protected.—The National Tuberculosis Association has registered as a trade mark the double barred Red Cross symbol of the antituberculosis campaign, to prevent its unauthorized use. Local health agencies must obtain permission from the national association before using the symbol in any of their literature.

Dr. Hubert Work Appointed Assistant Postmaster-General.—President Harding has tendered a recess appointment as first assistant postmaster-general to Dr. Hubert Work, Pueblo, Colo. He is expected to assume the duties of the office on his arrival in Washington within the next few days.

New Medical Journal.—The American Society of Tropical Medicine announces a new publication for physicians and research workers, to be known as the *American Journal of Tropical Medicine*. The journal will be published bimonthly. The transactions of the annual meetings of the society will be published in the journal. H. J. Nichols, Medical Corps, U. S. Army, Army Medical School, Washington, D. C., is the editor.

National Tuberculosis Association Votes Budget.—The executive board of the National Tuberculosis Association at a meeting in Indianapolis, Ind., March 12, voted a budget of $262,000 to provide for the year's work. This sum represents 5 per cent. of the proceeds from the sale of Christmas seals, the states each retaining 95 per cent. of the proceeds for local work. The largest single appropriation was $75,000 for an educational health campaign to be carried out through the schools.

Mrs. Hamilton Wright on Opium Committee.—Mrs. Elizabeth Washburn Wright, Washington, D. C., author of "The Color of the East," has been appointed by the Council of the League of Nations to the board of assessors, which will cooperate with the league's advisory committee on traffic in opium. Her co-workers will be Sir John Jordan, Great Britain, and M. Henri Breanier, France. Mrs. Wright is the widow of Dr. Hamilton Wright, internationally known as a foe to the narcotic traffic and a member of the peace commission in Paris, where he was killed in a street accident.

National Hospital Day.—For the purpose of making the public better acquainted with the work of 8,000 hospitals in the United States and Canada, the first National Hospital Day is to be observed, May 12—the one hundred and first anniversary of the birth of Florence Nightingale. Each hospital will arrange its own program and inspection of the hospital and training school by the public will be featured in many localities. However, general direction of the day will be in the hands of the National Hospital Day Committee, 537 South Dearborn Street, Chicago, which is organizing subcommittees in each state and Canadian provinces.

Regulations to Be Issued by Government on Prescribing Beer.—Regulations putting into effect the opinion of former Attorney-General Palmer, authorizing the use of beer on physicians' prescription are expected shortly. Until the regulations are drafted and put into effect, druggists cannot fill prescriptions and physicians cannot issue them. It is reported that a rough draft of the proposed regulations has been prepared but no final action has been taken by Prohibition Commissioner Kramer. After that official approves them they must go to the Commissioner of Internal Revenue for his approval and thereafter to the Secretary of the Treasury for final action. On account of the fact that the incoming Republican administration will name a new commissioner in place of the present incumbent, Commissioner Williams, it is evident that there will be long delay before regulations are finally promulgated.

Bequests and Donations.—The following bequests and donations have recently been announced:

Children's Free and Women's hospitals, Home of Friendless and Protestant Orphan Asylum, each $10,000; Florence Crittenden Home, and St. Luke's and Grace hospitals, each $5,000, by the will of Julia Frances Owen, Detroit.

Madison County (Ill.) Anti-Tuberculosis Association, a donation of $590 to be used to the best advantage for tuberculosis work in the county, by Local Union No. 720, United Mine Workers of America, Livingston, Ill.

Methodist Hospital, Philadelphia, $5,000; Presbyterian Hospital, Philadelphia, $1,000, by the will of Mary Finney.

Babies' Hospital, Haverford, Pa., $100; Germantown (Pa.) Hospital, one-sixth of the income of the residue, after the death of certain annuitants, by the will of Sallie W. Johnson.

Sydenham Hospital, New York, an anonymous gift of $100,000 and $25,000 from Leon Schinasi to be added to the building fund of the new hospital.

LATIN AMERICA

Nineteenth Annual Meeting of the Porto Rico Medical Association.—The *Bulletin* of the Porto Rico Association just received gives the minutes of the meeting of the House of Delegates at Ponce, February 11, with Dr. P. Malaret in the chair and Dr. A. R. Raugier, secretary. The members of the council present included Drs. P. Gutiérrez Igaravídez and R. López Sicardó besides the presiding officer. The president of the association is Dr. I. González Martínez, and the vice president, Dr. G. Zalazar. One of the important matters discussed was the amendment of the law so that only a registered physician could be eligible to the position of health commissioner. Also that cooperation be established between the medical association and the lawyers' organization in respect to medicolegal matters. The publication of the *Bulletin* is in the hands of Dr. Del Valle Atiles y Avilés. The annual meeting included a special conference open to all the physicians of the public health and charities service, to discuss ways and means for improving municipal medical service, remuneration, separation of the public health service from politics, adoption of a professional code of ethics, workmen's compensation, etc. The annual meeting concluded with a banquet at the Hotel Palmer. The association had 102 members enrolled at its last report to the American Medical Association, of which it is a constituent association.

FOREIGN

Publication of Hippocrates' Works.—A Berlin merchant has presented anonymously the Prussian Academy of Sciences with 150,000 marks to be applied for the contemplated publication of the works of Hippocrates.

Dr. Roentgen Honored.—The twenty-fifth anniversary of the discovery, by Prof. W. Roentgen, of the "*x* ray" was recently celebrated in Germany. Dr. Roentgen retired from the chair of experimental physics at the University of Munich last year.

Rockefeller Foundation Gift.—The Rockefeller Foundation has announced the gift of 43,000,000 francs toward a total budget of 100,000,000 francs for new buildings and endowments of the University of Brussels Medical School. Part of the fund will go to the establishment of a nurses' training school in memory of Edith Cavell and of Madame Depage.

Disinfection of Sputum. — The *Deutsche medizinische Wochenschrift* states that the German public health authorities have recently warned the public anew that no reliance can be placed on chemical disinfection of tuberculous sputum unless formaldehyd is used. Even a 5:1,000 solution of mercuric chlorid does not kill the tubercle bacilli in the tenacious clumps of sputum. They impress on the laity the necessity for relying on heat alone for destruction of tubercle bacilli.

Personal.—In recognition of the knighthood conferred upon him by the king, Sir Dawson Williams, editor of the *British Medical Journal*, was entertained by the council of the British Medical Association at a complimentary luncheon, February 16. ——The *Policlinico* reports the arrival at Rome of Dr. C. Fama, commissioned by the public health service of New York to investigate conditions and the causes of certain infectious diseases noted among the immigrants on arrival at New York.

Court Decision on Gauze Sponge in Patient.—The *Wiener klinische Wochenschrift* cites a recent court decision at Flensburg, confirmed by the upper court at Kiel, refusing to allow a claim for damages against a surgeon because a gauze sponge had been left in the abdomen after an operation.

The court decision stated that, judging from the testimony of the experts, no absolutely reliable method for avoiding this mischance is known. It was merely an unfortunate occurrence.

Pediatrics Congress of the Northland.—The Second Nordiske Pediatriske Kongress is to convene at Stockholm, June 20-21. The single theme appointed for discussion is chronic nutritional disturbance in artificially fed infants. The etiology is to be discussed by Johannessen of Christiania and Lövegren of Helsingfors; the clinical picture by Poulsen of Copenhagen, and the treatment by Wernstedt of Malmö. Prof. I. Jundell is to preside, and Dr. A. Collett, 26 Incognitogt, Christiania, will supply further details.

Deaths in Other Countries

Dr. **W. Behrens** of Biel, one of the pioneers in roentgenology in Switzerland and a victim to roentgen-ray injury with metastasis in the lungs.——The cable reports the death of Dr. **A. Leray,** chief of the roentgen-ray work at a Paris hospital, also from roentgen-ray injury acquired in war work. He had received his medical degree in 1895.——Dr. **K. S. Lehm** of Stockholm, aged 59.——Dr. **E. P. Porst** and Dr. **V. B. Thomsen,** both of Copenhagen.

Death of Dr. Killian.—The death is reported of Dr. Gustav Killian, professor of laryngology and rhinology at the University of Berlin since 1911, noted for his numerous works on subjects connected with his specialty and improvements in technic, aged 61. He was the guest of the Section on Laryngology at the Atlantic City meeting of the American Medical Association in 1907, and delivered an address, June 4. At that time he was professor and director of the nose, ear and throat clinic at the University of Freiburg.

Government Services

Director for Speedway Hospital

Surg. Mark J. White, Public Health Service, has been ordered to Chicago to take charge of the Speedway Hospital.

Prominent Physicians to Address General Staff College

Surgeon-General Ireland has completed plans to have prominent physicians of the country deliver addresses before the General Staff College at Washington, D. C. Dr. Joel E. Goldthwait, Boston, and Dr. Thomas W. Salmon, New York, recently went to Washington to speak at the college.

Circulars Describing the Medical Corps of the United States Navy

There is at present a large number of vacancies in the Medical Corps of the Navy, and examinations are being held at frequent intervals in several of the coast cities (both East and West) and also at Chicago. Circulars of information for persons desiring to enter the Medical Corps of the Navy may be obtained by addressing the Surgeon-General, U. S. Navy, Navy Department, Washington, D. C.

Army Medical Reservists

The Surgeon-General is building up a reserve list of officers of the Army Medical Department. Regulations soon to be announced will permit an officer in the Public Health Service to hold a commission in the Officers' Reserve Corps of the Army, subject to the approval of the Surgeon-General of the Public Health Service as an indication that the head of this branch has no objection to the officer in question being ordered to active duty with the Army for training in peace time and assignment during war.

Hospital Advisory Committee Active

The committee charged with selecting sites for soldiers' hospitals has established headquarters in the Butler Building, Washington, D. C. On March 30-31, it heard representatives from many parts of the country who wished to offer locations for hospitals. The chairman of the committee, Dr. W. C. White, Pittsburgh, announces that the committee will consider only government-owned sites or locations which the communities are willing to donate to the government. The committee will have charge not only of the selection of sites, but of the type and character of buildings to be erected.

Awarded Distinguished Service Medal

Lieut.-Col. John L. Shepard, Medical Corps, Washington, D. C., has been awarded the distinguished service medal for "high administrative, technical and constructive ability in preventive measures adopted against epidemics and in the conservation of physical defectives by their segregation and development. Later he performed conspicuous services in connection with hospital demobilization in France and the return to the United States of the sick and wounded."—— Lieut.-Col. Raymond F. Metcalfe, Medical Corps, Fort Sam Houston, Texas, has been awarded the distinguished service medal for exceptionally meritorious service as division surgeon, thirty-sixth division, during serious epidemics of influenza in 1918.

Gorgas Memorial to Broaden Scope

According to an announcement by Rear Admiral William C. Braisted, plans are being developed to broaden the scope of the Gorgas Memorial Institute at Panama into a research and teaching institution of international extent. Three American physicians will be sent to Panama to put the plan into effect as soon as preliminary organization work is completed. They will begin research work in tropical medicine under the superintendent of the hospital. Later the institute will have its own building adjoining the hospital, in front of which will be erected a statue of General Gorgas. Other institutions teaching tropical medicine that have indicated their willingness to cooperate in furthering the aims of the Gorgas memorial include Harvard and Johns Hopkins universities, the Rockefeller Foundation, the University of California, the London School of Tropical Medicine, and the Liverpool School of Tropical Medicine.

Medical Laboratory in the Field

For the first time in the history of the U. S. Army a medical laboratory with an organization of enlisted men and officers has been established and henceforth will be a regular unit in the service. The object of this laboratory is the prevention and control of cummunicable diseases and the maintenance of the health among military personnel and animals. There will be one of these units with each regiment. Laboratory examinations will be conducted in typhoid-paratyphoid fevers, bacillary dysenteries, malta fever, cholera, infections of the respiratory tract, including diphtheria, pneumonia and meningitis, protozoal infections, including malaria and filariasis, pathogenic organisms causing venereal diseases, and helminths. A specially designed equipment containing small chests that are readily packed and unpacked in the field has been perfected by the Medical Department to carry out the routine clinical procedures required.

Survey of Public Health

A conference was held, March 25, of physicians summoned by Brig.-Gen. Charles E. Sawyer, President Harding's personal physician, to discuss with the President proposed plans for reorganization. Those attending the meeting were Surgeon-General Cumming, U. S. P. H. S.; Surgeon-General M. W. Ireland of the Army; Surgeon-General E. R. Stitt of the Navy; Dr. Charles H. Mayo, Rochester, Minn.; Dr. Edward Martin, Pennsylvania, commissioner of health, and Dr. William F. Snow, New York, American Social Hygiene Association. General Sawyer said the discussion was a preliminary one to action for uniting government health units. An advisory council was formed, consisting of the Surgeon-Generals of the Army, Navy and Public Health Service and Dr. Mayo. Two other members will be added to the council. One will be an educator and the other a woman engaged in public welfare work.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 7, 1921.

The Spahlinger Serum for Tuberculosis

"Cures" for cancer and "cures" for tuberculosis are brought forward with great assurance from time to time, but never stand the test of time. For the lay press they seem to be good copy, and "successes" are freely accepted and lead to the greatest optimism. When physicians stand aloof this is declared to be due to narrow professional jealousy, which will not admit that anything good can come from men outside their ranks. The latest example is a serum for tuberculosis said to have been discovered by a Swiss "scientist" named Spahlinger. In the lay press it is described as one of the greatest discoveries of the age. It is said to have been used in London before the war, and the lay press has hunted up some patients who are declared to have been cured by it. Questions have been asked in Parliament about the treatment. Dr. Addison, the Minister of Health, replied that he had made inquiries but that much further investigation was necessary. So far only one physician of any prominence has pronounced in favor of the treatment. He declares that he reexamined in 1920 patients treated in 1914-1915 for advanced phthisis and surgical tuberculosis, and that they are permanently cured.

Expedition to Investigate the Cause of Elephantiasis

An expedition from the London School of Tropical Medicine, led by the helminthologist Dr. Leiper, is about to start for the West Indies to investigate the filaria which causes elephantiasis, at the request of the colonial office. The expedition will consist of six members, of whom one is a Chinese. Its headquarters will be Georgetown, British Guiana. It is being organized under the supervision of Sir Patrick Manson. It is proposed to place a patient suffering from elephantiasis in a room in which a number of mosquitoes are let loose. After they have bitten the patient they will be sorted out and an attempt made to discover which species transmits the disease.

State Control of Vaccines and Antitoxins and Certain Drugs

The supervision and control of therapeutic substances which cannot be treated adequately by chemical means is recommended by a committee appointed by the ministry of health. The substances include vaccines, serums, toxins, antitoxins and analogous products, arsphenamin and its analogues, and various drugs. It is proposed that the controlling authority shall be a committee whose main functions will be to decide from time to time what substances are to be brought under control, and to prescribe the methods of standardization and testing. It is further proposed that there shall be a central laboratory, under government control, where standards shall be prepared and maintained, research carried out, and tests made to ascertain that the products issued by manufacturers conform to standards laid down. The Medical Research Council, which already has the requisite organization, should be responsible for the laboratory. The method of control should include the licensing of manufacturers, inspection of their plant, premises and processes, and the testing of the finished articles. Products made abroad should be subject to similar restrictions.

The System of Panel Records and Medical Secrecy

In a previous letter to THE JOURNAL the storm of criticism aroused by the new record cards, introduced by the ministry of health, has been described. Most of the opposition was manifested by physicians who declared that time which should be devoted to the treatment of patients would be occupied in making comparatively useless records. The objection that the cards were open to inspection by others than the physician concerned, and that therefore professional secrecy was violated, mostly came from the press and from organs which in other ways did not seem to concern themselves much about the interests of the working classes. The ministry of health is now in possession of facts as to the reception of the cards by insured persons. Out of 10,000 approved societies and branches, only five have made protests, and from 150 panel committees (which consist of physicians) the same number of representations have emanated. These protests and representations relate in the main to points of detail. Insurance committees which administer medical benefit have made no complaint whatever. In the House of Commons the government was asked whether subpenas may be granted compelling the production of the cards in legal proceedings and whether panel physicians concerned in their preparation may be called on to support the statements in them. The government replied that though a person may be compelled by a summons to bring any document, private or otherwise, into court, the document does not itself become admissible in evidence. A record card is not evidence of the facts stated in it. If it is desired to prove them, this must be done in the ordinary way by the oral evidence of the physician himself. The government was also asked whether physicians would be guilty of violation of secrecy and liable to actions for libel if confidential entries on medical cards are entrusted to private secretaries. The reply was that it was in the highest degree unlikely that there would be any cause for action against the physician unless he was shown to have been actuated by malice. The general question as to the position in law of medical secrecy has been submitted to the lord chancellor and is being considered.

The Epidemic of Encephalitis

The number of cases of epidemic encephalitis is decreasing, as the number of cases notified shows: week ending February 5, 116; February 13, 66; February 19, 57. The numbers in London for these weeks were 22, 16 and 9. These figures bear out the anticipation, based on the experience of the last three years, that there would be a rapid fall in the number of cases by the end of February. The disease is expected to disappear in March.

PARIS

(From Our Regular Correspondent)

March 11, 1921.

National Propaganda Against the Great Social Evils; the Aid of the United States

The Union des grandes associations françaises pour l'essor national (federation of French associations for national advancement), after finishing the active campaign carried on throughout France for the benefit of the devastated regions, is now organizing in all departments, under the direction of Monsieur Leredu, minister of social hygiene, with the aid of the Rockefeller Foundation, an energetic propaganda against the social evils: depopulation, alcoholism, infant mortality, tuberculosis and poor housing facilities. To call attention to the peril that threatens France from these evils, the federation organized recently a demonstration, which took place at the Sorbonne, under the chairmanship of the ministry of social hygiene. At this demonstration Monsieur Leredu, minister of hygiene; Monsieur Léon Bérard, minister of public instruction and fine arts; Professors Pinard and Bernard, members of the Academy of Medicine; Mr. Linsly R. Williams, director of the Commission Américaine de préservation contre la tuberculose en France, and Monsieur

. Riemain, general secretary of the national league against 'coholism, were among the speakers of the occasion. In his ddress the minister of public instruction thanked in warm rms the United States for the "immense and valuable" aid at its citizens had given France in the campaign against ie social evils. As evidence of the importance of this aid e cited these figures: Forty-nine departments of France have een organized in collaboration with the Rockefeller Founda- on since it first entered the field in 1917, and have adopted complete program. In these forty-nine departments, 221 ocal committees on defense against tuberculosis have been rganized and fifty-two committees are in process of forma- on. Two hundred and seventy-one antituberculosis dispen- aries have been established in France, whereas in December, 917, there were only twenty-two. Of this number 186 were ounded through the initiative, collaboration or subvention of ie Rockefeller Commission. Eighty-eight dispensaries are n process of organization, and ninety-nine are being planned or the near future. In 1920, thirty departments were organ- ed and subventioned by the Rockefeller Commission. The fforts put forth by the French in organizing the campaign re shown by these figures: In twenty-six departments, in 920, the Rockefeller Commission expended 1,600,000 francs or subventions. In the same departments there has been ppropriated and contributed more than 7,000,000 francs by ie general councils, municipal councils and private interests, s well as by the ministry of public hygiene and the national ommittee on defense against tuberculosis.

For and Against Prohibition of Alcohol

In a previous letter (THE JOURNAL, July 24, 1920, p. 255) I eferred to the peculiar campaign that the public press is arrying on against American prohibition. I pointed out that n this campaign there was a lack of judgment and open- minded sincerity. These inconsistencies shock our sensibili- ies in the daily press, but in medical journals they ought not o be tolerated. However, in a recent number of the *Vie médicale* I find three news items, all more or less fanstastic n tone, which poke fun at American prohibition. Herewith ne entitled "A Terrestrial Paradise":

> We all know that the virtuous Americans, having suppressed the consumption of alcohol in their country, have been filling our heads with the wonderful results that this radical measure has accomplished. No more crime, no more insanity—prisons and asylums closing their doors—it was enough to make us wish that, following their example, the whole world might be made "dry." However, recent statistics are of such a character as to dampen our ardor, or at least to modify it. If the reported extraordinary results have actually been secured by our good friends the Yankees, it is certainly not to temperance that the honor must be ascribed. The statistics in question inform us that during the year 1920 the people of the United States consumed, in spite of all interdictions, approximately 200 million liters of alcoholic beverages. We are informed that about 14,000 secret distilleries are in operation in the country and that the traffic in various forms of spirituous beverages—whisky at the head—is increasing day by day. We are also able to gather from these statistics that our country has not the monopoly of laws hastily passed without sufficient preliminary investigation—laws that are inapplicable and remain inapplicable. There is some consolation in the fact that we do not stand alone in the matter of hasty legislation.

What a pity that the *Vie médicale* neglected to state the ource of its statistical information. It is doubtless from the ame source as the sensational news item sent over last sum- ner to the effect that 2 miles off the coast of Cuba a floating sland had been built up where thirsty Americans cou'd ecome inebriated in all privacy. In place of giving credence o mendacious pseudostatistics circulated by international yndicates of liquor merchants, it would be more worthy of a nedical journal to rely on the statistics communicated ecently to the Société médico-psychologique by Dr. de Clérambault, chief physician of the Infirmerie spéciale pour 'admission des aliénés. These statistics show the results rought about in our own country by the prohibitive measures dopted during and since the war. These measures, while hey are far from being as comprehensive as American prohibition, comprise: the suppression of the sale of absinth (law of March 16, 1915), the limitation of the number of places devoted to the retailing of intoxicating liquors (law of Nov. 9, 1915), and the law of Oct. 1, 1917, with reference to drunkenness. Owing to the influence of these three laws the number of alcoholics admitted annually to the Infirmerie spéciale has diminished more than one half, whereas the number of the other patients has changed but little. The gravity of the cases of alcoholic delirium taken by themselves and also considered with reference to their social consequences has decreased. The total number of alcoholics of both sexes, during the first eight months of 1911, was 407, and for the same period in 1913, 452. In 1920 the number was reduced to 211. The number of alcoholics without distinction of sex has been diminished in the proportion of 8:3. The decrease as concerning men is as 14 to 5; for women the decrease is not so marked, being as 8 to 5.

Dr. Legrain, who has made a special study of questions pertaining to alcoholism, has confirmed the results pointed out by Clérambault. He cites figures taken from the statistics of foreign countries, which agree with those of Paris. During the war the number of cases of insanity of alcoholic origin has decreased 75 per cent. in Germany. In Belgium, according to Professor Ley, they were unknown during the last year of the German occupation, since Germany exerted, for reasons entirely foreign to the interests of the Belgian population, a very strict control over the consumption of alcohol. In Bavaria, in 1906, 23 per cent. of the insane were alcoholics. In 1917 there were only 3 per cent. of the insane who owed their mental trouble to alcohol. But during the last few months the restrictions on the consumption of beer have been removed and alcoholism is beginning to reappear.

BUENOS AIRES

(From Our Regular Correspondent)

Feb. 19, 1921.

Modification of the Intern System

Student centers have been much worked up over the plan submitted by the present director of public health, modifying the internship served by medical students at hospitals during the last two years of their student career. The intern system represents a tradition and is undoubtedly what has permitted our physicians to acquire the necessary clinical experience to practice their profession. After a competitive examination in which marks, diplomas and, unfortunately, political influence are taken into consideration, the students become minor interns and later major interns. These interns, or practicantes, accompany the physician on his daily rounds and are entrusted with the supervision and treatment of patients. Each hospital has always on duty an intern physician who can be consulted in difficult cases, and who is to operate in emergency cases and others when the surgeon does not reach the hospital in time.

The present director of public assistance is the third one who has tried to change the old intern system. The chief reasons advanced are: 1. Students do not always behave properly, and they occupy the pavilion needed for other purposes. On this account they should report in the morning and sleep outside. 2. It is asserted that they do not visit the wards regularly and very seldom outside of morning hours. 3. It is said that their duties could be discharged more efficiently by nurses. This plan is opposed strongly by the students and the majority of the hospital medical staff, professors, etc., who assert that the intern system is essential for medical teaching and that the medical school cannot furnish a comparable clinical training; that all physicians have so far acquired in this way their professional attainments; that through the intern system, physicians have learned for several generations to practice medicine. It would not be possible

to make licensed physicians do this after completing their studies, which gives them the full right to practice their profession. Neither could the public assistance authorities afford a very large number of intern physicians. It is not considered that the services of nurses as they graduate from the new nursing school would be precisely equal to those now rendered by intern students. On the other hand, the lack of attendance or misconduct might be easily corrected by disciplinary measures. Judging from the looks of things, it is not likely that any substantial changes will be made in our present intern system.

Postgraduate Courses

For the first time there has been organized in our medical schools postgraduate courses. The first trials have met great success and promise well for the future.

Municipal Hospitals

The municipal authorities, on the one hand, and the campaign conducted by socialist councilmen, on the other, have centered public attention on the hospital work performed by the public assistants. There are 5,000 beds at the disposal of the municipal authorities, without including a like number available in national and private hospitals. The demand exceeds the supply of available beds, especially in tuberculosis sanatoriums. On this account the public assistance authorities are enlarging some hospitals and building a maternity for tuberculous mothers, and have under consideration the construction of a tuberculosis sanatorium at Rodríguez, near the capital. The proposed changes are somewhat extensive. One hundred and fifty thousand dollars have been assigned to the purchase of ambulances and other transportation facilities.

VIENNA

(From Our Regular Correspondent)

Feb. 28, 1921.

Contract Practice Among State Officials

An understanding has been arrived at between the medical profession and the government on behalf of its officials and their dependents. The chief difference between this contract and the other "sick club" or panel practice contracts is to be found in the rate of payment and calculation of fees for physicians. Any general practitioner desiring to work under this contract may have his name placed on the list of physicians from whom the patient may select his medical adviser. The patient, however, is bound to choose a physician living in his district, if he wants the state to pay the fees. If he selects one living farther off, the patient himself must pay the difference between the fee stipulated in the contract and the physician's demand. As a rule the physician gets for the first examination of the patient at his own office a fee of 39 kronen, and for the subsequent consultations, half that fee. For a call at the patient's home in daytime, double fees are paid; at night time the fees increase 100 per cent. Special services, like catheterization, subcutaneous injection, application of a splint, or of extensive bandages, are rated extra as one or more points (up to four points), each point being valued at 25 per cent. of the fee unit. Specialists can be consulted only on special desire of the general practitioner. Their fees are 100 kronen for the first examination, and 50 kronen for the subsequent calls. Otherwise their work is valued on the same principle as that of the general practitioner—100 per cent. for night calls and from one to four points for extra work not involved in the routine examination. Operations will be paid at the rate of from 25 to 30 per cent. of the normal better-class practice. As a rule, patients and physicians are expected to restrict their respective calls to the members residing within their district. A "distance charge" is admissible, but must be borne by the patient himself. The physician may demand payment from the patient at once, but the latter gets his justified expenses refunded by the institute. The funds of this institute are formed by regular contributions by the insured persons and by the state. The first named pay 7.5 per cent. of their salary toward this fund, while the state pays an equal sum. In the calculations, each part is expected to pay 30,000,000 kronen a year, assuming 150,000 officials with an expenditure of 400 kronen a year, as figured out from the experiences of other sickness insurance clubs. The government has laid stress on the fact that the 25,000 state pensionists be permitted to become members of this institute as well as the household members of the regular state officials, bringing the total of insured persons to 400,000. The scheme is now already in full operation, and so far as medical opinion can be ascertained, is satisfactory to both sides. The question is only whether the calculations on which the government has based the institute will prove valid at the end of the first year, or, in other words, whether the expenditure will not be higher than the income.

Fighting Insobriety

One of the worst effects of the war was the demoralization of many weak intellectual elements, and it is only too clear that alcohol is not the best means to improve morals and social downfall. Therefore, the fight against the scourge must be continued with utmost zeal, apart even from the direct medical detriments it causes to the organism. The practical fight against drinking—or insobriety—is at present in this country only at its initial stage, and it will require much elucidating and illustrative work to call the attention of the large masses to evil effects of drunkenness. Only then will alcohol legislation find the necessary response in public feeling and sentiment. Now it is the work of private societies to promote, with the help of the state, the ideas of sobriety or abstinence among the population. Propaganda by the written and spoken word, by migrating exhibitors and lectures, and by instructive leaflets is earnestly encouraged by the board of health. There is one serious drawback to this kind of work in that the drunkard rarely, if ever, applies voluntarily for help in one of the few homes intended for such treatment, while also his friends and relatives shrink away from these homes, out of a sense of false shame. We have had only six homes of this kind in our country. Of these, five are cared for by religious societies, and only one is a public asylum. But within the last few weeks, an energetic effort has been made by the state in this line. While in 1919-1920 the sum allotted by the budget for this purpose amounted to no more than 63,000 kronen, it has been trebled for this year, and special care has been made to eliminate from the jails and prisons such cases as offer prospects of improvement and moral rejuvenation and to shelter them in such homes. Lately the Academic Antialcohol League has made remarkable progress among our students—formerly very fond of beer—and whole districts have joined the general antialcohol movement propagated by numerous medical societies.

Physical and Mental Examination of Schoolchildren

An interesting report on the examination of 661 schoolchildren just entering the first grade in one district was issued recently. All children were examined by the physician in the presence of their parents, the children having their body uncovered in the upper part. The urine was examined in every case, and the eyes tested with Snellen's Table 17. A large number of the children—all 6 years old—showed glands in the region of the mandibular space, which have been referred to bad teeth or to changes in the nasopharyngeal space or to vermin. But these glands are of no importance, because they generally are absent in older children. More

stress is attached to the clavicular glands, which are believed to be associated with a predisposition toward tuberculous disease or with its presence. The average height of the boys was 112 cm.; the weight, 19.3 kg.; the circumference of the thorax at the nipple, from 54.6 to 58 cm.; of the girls, 110.5 cm., 18.66 kg. and from 52 to 56 cm. Twenty-seven children had marked adenoids, and 208, marked glands; 48 suffered from rachitic changes; 7 had organic heart disease, 35 goiter, 23 myopia of mild degree, and 8 hernia (6 boys and 2 girls). In 66 cases there was apicitis with negative Pirquet test; in 5 the Pirquet test was positive. Fifty-three had enlarged tonsils; 11 suffered from neurasthenia, 20 from deafness, and 39 (12 boys and 27 girls) from scoliotic changes. Seven girls had speech defects; 7 children were found with hydrocephalus, while 29, all girls, had vermin, apart from 11 cases of scabies. It was found that special care should be given to defects of position, as already of these youngsters, real school "recruits," no less than 81, or 12 per cent., suffered from faults of this kind (hanging shoulder, flat breast, beginning scoliosis) which become more pronounced through faulty sitting in school. Dental cavities are very frequent, and the necessity of a school dental clinic is obvious. All the defects were reported to the parents, who were ordered to have the house physician called to the child in order to correct whatever was required. An interesting investigation was also made by Professor Brezina as to the weekly fitness of the schoolchildren. The teachers of a number of schools in Vienna were asked to classify the entire number of their pupils as to their psychic fitness each day; 1 equaling good, 2 middling, 3 bad. It was found that each day was marked by a certain figure in boys, Monday being worst, with improvement every subsequent day until the optimun was reached Saturday. With girls the difference between Monday and the week end was not so marked. Here the middle of the week seems to be the optimum. Sunday seems to be really a day of distraction, causing a relaxation of the apperception and the sense of duty even in children. Similar investigations conducted with tram and bus conductors and drivers and with policemen seem to show that these men too are prone to undesirable distraction on Sunday—alcohol—but less so if their day off is a week day, when generally there is less occasion for such distraction than on Sunday.

BERLIN

(From Our Regular Correspondent)

March 2, 1921.

Personal

Professor Killian, director of the Berlin Laryngologic Clinic, died, February 24, from stomach cancer, at the age of 61. Killian was the most eminent German laryngologist of the present day. In 1888 he became a member of the Faculty of Medicine of Freiburg, and the following year was appointed director of the Freiburg Laryngologic Clinic. After the death of Bernhard Fraenkel, in 1911, he was called to Berlin. His most important contribution to science is doubtless his method for the direct examination of the trachea and the bronchi (bronchoscopy). This procedure has proved particularly valuable for the removal of foreign bodies from the lower air passages. Also suspension laryngoscopy (Schwebelaryngoscopie) owes its origin to him. Further valuable investigations are concerned with roentgen-ray examinations of the larynx and the accessory nasal sinuses.

Professor Thiemich, director of the University Children's Hospital in Leipzig, died, the middle of February, at the age of 51. He was a pupil of the Berlin pediatrician Professor Czerny. His most important investigations were in the field of diseases due to changes in metabolism. He devoted himself especially to a study of the exudative diathesis, to which subject he made valuable contributions.

In accordance with the new law in regard to the age limit of university professors, Professor Flügge retires from the Berlin Medical Faculty, April 1. For the chair of hygiene thus left vacant, Professor Uhlenhuth has been proposed. Until the close of the war, Uhlenhuth was director of the Hygienic Institute in Strasbourg, and under his direction a model new institute was built, which has now been turned over to the service of the French, along with the University of Strasbourg.

As the successor of Professor von Schleich, who is retiring, Professor Stock of Jena has been called to Tübingen as director of the University Eye Clinic.

Federation of Krankenkassen and Physicians

A union or federation has been formed between the health insurance societies and the medical societies of Baden. These are the tasks that the federation sets for itself: 1. The federation will undertake, by means of mutual endeavor in the field of social legislation and social hygiene, to promote a good understanding between the health insurance societies (Krankenkassen) and the physicians and, by working in harmony, to solve the problems of the health insurance societies in the interest of the common welfare. 2. In furtherance of these purposes the federation will appoint joint committees, to which special problems will be assigned to work out; for example, a systematic distribution of physicians throughout the state, and health insurance problems of all kinds. Joint committees will also be appointed to deal with matters pertaining to public welfare in general, such as the campaign against venereal disease, tuberculosis and instruction in hygiene for the insured. Three joint committees will be appointed to take up the question of the economical management of the health insurance societies, and will deal especially with the technic of control in connection with disability and the mode of prescribing drugs and remedies. These joint committees will also establish joint controlling bodies (bureaus of revision) and will work out general rules and regulations for the control of the Krankenkassen. 4. Joint assemblies will be held whenever it seems desirable. 5. The federation will hold a session whenever either one of the parties composing it makes such a request and states the questions to be considered.

A Psychotechnical Laboratory

At the polytechnic school in Charlottenburg a psychotechnical laboratory has recently been established where psychotechnical testing procedures can be developed and qualification tests performed, and where, furthermore, the various movements involved in industrial performance can be studied from a rational scientific and psychotechnical standpoint. Owing to the great importance that such procedures, as theoretically established by the late Prof. Hugo Münsterberg of Harvard University, have for the determination of an individual's adaptation for a given calling or profession, it may be of interest to American physicians to know something of the methods introduced and the results secured in the Charlottenburg laboratory.

The laboratory has collected a large amount of experience in the field of the metal industries, having tested a considerable number of apprentices as regards their qualifications. On the basis of a thorough knowledge of the industries concerned, such experimental procedures were carefully worked out as would test applicants for apprenticeships in regard to the qualifications especially required for given industries. The indicative or symptomatic value of the various testing procedures is determined on the basis of detailed comparisons between the laboratory findings and the judgment of the industrial school and the workshop. By means of frequency curves the average values for the testing of the various quali-

fications required in a given industry are determined and a classification of the examinees reached. The main purpose of the adaptation test is to obtain a qualification curve of the examinee in order to establish his fundamental capacity, and thus be in a position to direct him to the trade or profession for which he is best qualified. While the finer characterization of the various qualifications by means of instrumental examination is left to the psychologist, as this involves thorough knowledge of workshop conditions, all border-line and pathologic cases are referred to the physician in order that his opinion may be first secured.

The adaptation tests are carried out by means of instruments of precision, by simple testing apparatus and other experimental technical paraphernalia. The senses (if these play an important part in the given industry) are tested as to their acuteness; also the power of attention and concentration, the intellectual functions, talent for technical construction, and the character of the reactions from the standpoint of time, strength and skill, according to their relative importance in various industries. In a certificate the results of the various functional tests are recorded; alongside the character or type of the function is placed a figure respecting the degree of its development in the candidate.

Comparisons between laboratory certificates and workshop practice have shown a satisfactory degree of agreement, and furnish sufficient confirmation of the value of the testing procedures employed. Consequently, numerous industrial works have successfully introduced the same testing procedures. The railway and the postal administrations and various schools are subjecting candidates to similar tests. Not only apprentices are being tested in this manner but also skilled technicians. At present the postal administration is working out testing procedures for telephone operators.

Efficiency experts are also employing laboratory psychotechnical methods in the "expertization" of given industries. The first step is to study the machine and its construction from a psychologic standpoint, as the goal of the psychotechnical examination is to so adapt the technical construction of the machine to the psychophysical organism of the operator as to secure the greatest efficiency from the standpoint of the acquisition of a thorough knowledge of the machine, skill in its operation, and economy of energy by the avoidance of unnecessary fatigue. For example, the typewriter and its appurtenances are studied from these standpoints.

Special attention is given to the study of the question of fatigue. In addition to the physiologic testing of fatigue, the laboratory makes investigations of fatigue on a psychotechnical basis under the actual conditions found in the workshop and factory. By means of an inquiry into the results of fatigue and into the actual variations in performance when rest periods of varying length are inserted in various ways during the work day, and by means of certain other modifications in working conditions, efficiency experts are able to introduce changes that benefit the work and increase the output. The psychotechnical studies on fatigue have for their purpose the exact determination of the particular mode of functioning that enters into a given industrial process, in order that a practical opinion may be secured in regard to the amount of energy required for the performance of various forms of labor.

Marriages

John Lestrange Rock, Eveleth, Minn., to Miss Doris Palmer of Wilmette, Ill., February 7.

Gordon Joel Saxon, Philadelphia, to Miss Lillian E. Dano of Clayton, N. Y., March 12.

Deaths

Joseph Taber Johnson ⊕ Washington, D. C., and Cherrydale, Va.; Georgetown University School of Medicine, Washington, D. C., 1865; Bellevue Hospital Medical College, 1867; aged 75; emeritus professor of gynecology and abdominal surgery, and president of faculty of his alma mater; at one time professor of obstetrics and diseases of women and children in Howard University, Washington; president of the Medical Society of the District of Columbia in 1887; the American Gynecological Society, and Southern Surgical and Gynecological Association in 1898; died, March 12.

Luther M. Halsey ⊕ Williamstown, N. J.; Jefferson Medical College, 1880; aged 62; at one time president of the Medical Society of New Jersey, and Gloucester County Medical Society; frequently a delegate from the Medical Society of New Jersey in the House of Delegates of the American Medical Association; a member of the board of governors of the New Jersey State Hospital for the Insane, Trenton; died, March 20, from uremia.

William David Booker, Baltimore; University of Virginia, Charlottesville, 1867; aged 76; a member of the Medical and Chirurgical Faculty of Maryland; a Confederate veteran; emeritus clinical professor of pediatrics in Johns Hopkins University Medical School; one of the founders of the American Pediatric Society; died, March 15, from pneumonia.

Robert Howland Chase, Wyncote, Pa.; University of Pennsylvania, Philadelphia, 1869; aged 75; vice president of the section of psychological medicine of the International Medical Congress; superintendent of the State Hospital for the Insane, Norristown, from 1880 to 1893; died, March 13.

John J. Ligget ⊕ Ladiesburg, Md.; University of Maryland, 1869; aged 74; assistant surgeon in the Navy during the Civil War; was found dead, February 17, from a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health.

Henry D. Rentschler, Ringtown, Pa.; University of Pennsylvania, Philadelphia, 1864; aged 79; coroner of Schuylkill County for one term; one of the organizers and for twelve years director of the Merchants' National Bank, Ringtown; died, March 4, from senile debility.

Charles Alfred Anderson ⊕ Stromsburg, Neb.; State University of Iowa, Iowa City, 1897; aged 51; health officer of Stromsburg and Polk County; vice president of the Nebraska State Medical Association in 1911; died, March 5, from tuberculous meningitis.

Mathew Watson Thornburg ⊕ Pasadena, Calif.; Bellevue Hospital Medical College, 1891; aged 61; a practitioner of Redfield, Iowa, for thirty-one years; died in the Methodist Hospital, Des Moines, Iowa, March 14, following an operation for gallstones.

Nathan Joseph Jessup, Detroit; Detroit College of Medicine and Surgery, 1913; aged 33; lieutenant, M. C., U. S. Army, and discharged, June 20, 1919; was found lying in a lot with his skull fractured, March 12, and died a few hours later.

Samuel Prichard Fetter, Ashland, Ky.; Miami Medical College, Cincinnati, 1904; aged 38; at one time president of the board of health of Portsmouth, Ohio, and local surgeon for the Chesapeake and Ohio Railroad; died, March 18.

Bernard Henry Zwart ⊕ Kansas City, Mo.; St. Louis Medical College, 1881; aged 61; at one time professor of principles and practice of medicine in the University Medical College, Kansas City; died, February 23.

Bruce Ffoulkes, San Francisco; Cooper Medical College, San Francisco, 1894; aged 47; a member of the Medical Society of the State of California; died, March 5, following an operation for appendicitis.

Wallace H. Dale, Houtzdale, Pa.; College of Physicians and Surgeons, Baltimore, 1895; aged 59; a member of the Medical Society of the State of Pennsylvania; died, March 11, from cerebral embolism.

William Kohlmann ⊕ New Orleans; University of Bonn, Germany, 1890; aged 57; house surgeon at Touro Infirmary, and gynecologist to Charity Hospital; died, suddenly, March 21, from heart disease.

Albert C. Crawford, San Francisco; College of Physicians and Surgeons, Baltimore, 1893; aged 51; professor of phar-

⊕ Indicates "Fellow" of the American Medical Association.

cology in Leland Stanford Junior University; died, March from pneumonia.

ames Milton Steade ⊕ San Diego, Calif.; Cincinnati Col- e of Medicine and Surgery, 1894; aged 59; at one time a mber of the board of health of San Diego; died, March 4, m heart disease.

George Walter Hochrein ⊕ Chicago; Northwestern Univer- y Medical School, Chicago, 1906; aged 41; a member of the ff of Mercy Hospital; died in that institution, March 21, m heart disease.

Alfred Hakanson ⊕ Chicago; Nebraska School of Medicine, aha, 1890; aged 54; laryngologist and rhinologist to gustana Hospital, Chicago; died in Mobile, Ala., March 23, m pneumonia.

Daniel Vincent Fahey, Brooklyn; Long Island College Hos- al, Brooklyn, 1919; aged 29; an intern in St. Catherine's spital, Brooklyn; died, February 18, from epidemic cephalitis.

Walter Scott Link ⊕ Parkersburg, W. Va.; Baltimore Med- l College, 1897; aged 50; lieutenant, M. C., U. S. Army, d discharged, Jan. 20, 1919; died, March 6, from cerebral norrhage.

Silas Pierson Leveridge, New York; Bellevue Hospital edical College, 1879; aged 65; a member of the Medical ciety of the State of New York; died, March 16, from eumonia.

Henry Franklin Sproles ⊕ Vicksburg, Miss.; Louisville y.) Medical College, 1904; aged 42; captain, M. C., U. S. my, and discharged, June 24, 1919; died, March 17, from cinoma.

Lewis C. Carrico, Bryantown, Md.; University of Mary- d, Baltimore, 1885; aged 60; a member of the Medical and irurgical Faculty of Maryland; died, March 14, from heart ease.

Julius Columbus Egeberg, San Francisco; Cooper Medical llege, San Francisco, 1905; a member of the Medical ciety of the State of California; died, March 9, from peri- itis.

Bartlett L. Paine, Lincoln, Neb.; Medical College of Ohio, ncinnati, 1875; Hahnemann Medical College of Philadel- ia, 1877; aged 69; died, March 13, from cerebral hemor- ge.

John McCrimmon, Kincardine, Ont.; McGill University, ntreal, 1878; L.R.C.P., L.R.C.S. (Edin.), L.R.F.P. and S. las.), 1878; aged 65; died, February 13, from pneumonia.

Charles Robert McCrory, Chicago; University of Illinois llege of Physicians and Surgeons, Chicago, 1919; aged 32; d, January 21, while undergoing operation on the hand.

Daniel P. Whitley, Albemarle, N. C.; University of Mary- d, Baltimore, 1889; aged 54; a member of the Medical ciety of the State of North Carolina; died, March 7.

Norman Mackintosh, Gunnison, Colo.; Bellevue Hospital edical College, 1879; aged 62; at one time president of the ssaic County (N. J.) Medical Society; died, March 9.

Henry Lee Sweeny ⊕ Kingston, N. H.; Harvard University edical School, 1882; aged 62; at one time a member of the al school board; died, March 11, from pneumonia.

Joseph Conn ⊕ New Orleans; Tulane University, New leans, 1897; aged 50; physician at Touro Infirmary, New leans; died suddenly, March 4, from heart disease.

Edward P. McDevitt ⊕ Baltimore; University of Maryland, ltimore, 1875; aged 66; a practitioner of Baltimore for ty-six years; died, March 8, from heart disease.

August F. Meisch ⊕ Manchester, Mo. (license, Missouri, 3); aged 70; a practitioner of Manchester for nearly half century; died, March 2, from arteriosclerosis.

Horace Plummer Wilson ⊕ Whittier, Calif.; Chicago Med- l College, 1896; aged 49; captain, M. C., U. S. Army, and charged, June 20, 1919; died, March 4.

Carl H. Lowell Andersen, Chicago; John A. Creighton edical College, Omaha, 1896; aged 53; died at Tucson, Ariz., arch 16, from pulmonary tuberculosis.

Peter P. Van Vleet, Stamford, Conn.; Bellevue Hospital edical College, 1869; aged 73; a member of the Connecticut ate Medical Society; died, March 12.

Haydon Rochester, San Francisco; University and Bellevue spital Medical College, 1902; aged 41; died, March 12, m an accidental crushing injury.

Alfred Bennison Atherton, San Diego, Calif.; Harvard iversity Medical School, 1866; L.R.C.P., L.R.C.S. (Edin.), 7; aged 77; died, March 7.

Rudolph Menger, San Antonio, Texas; University of Leipzig, Germany, 1874; aged 69; formerly city physician of San Antonio; died March 15.

Andrew Thomas Rice, Selkirk, Manit.; Victoria University, Cobourg, Ont., 1884; aged 64; died in the General Hospital, Winnipeg, February 13.

Daniel F. Callinan, Veterans Home, Calif.; Columbus (Ohio) Medical College, 1891; aged 53; died, March 8, from pulmonary tuberculosis.

George Hastings Close ⊕ New York; University and Bellevue Hospital Medical College, 1899; aged 48; died, March 11, from pneumonia.

Wayland Dewees Roberts, Brazils, Ark. (license, Arkansas, 1903); aged 63; died in St. Vincent's infirmary, Little Rock, Ark., February 17.

John George McCarthy, Montreal, Que.; McGill University, Montreal, 1888; aged 58; died in New York, March 13, from angina pectoris.

Howard M. Kemp ⊕ Bloomington, Md.; University of Maryland, Baltimore, 1881; aged 64; died, March 14, from heart disease.

Charles H. Parsons, Rushville, Ind.; Bellevue Hospital Medical College, 1878; aged 66; died, March 5, from cerebral hemorrhage.

Henry Warren Hawley, Cincinnati; Pulte Medical College, Cincinnati, 1880; aged 67; died, March 8, from cerebral hemorrhage.

George T. Row ⊕ Circleville, Ohio; University of Maryland, Baltimore, 1877; aged 74; died, March 7, from bronchopneumonia.

Henry M. Farr, Mount Pleasant, Iowa; Castleton (Vt.) Medical College, 1855; aged 92; died, March 3, from senile debility.

Jost Durst Kramer ⊕ Dayton, Ohio; University of Pennsylvania, Philadelphia, 1902; aged 41; died, March 16, from diabetes.

Alpheus B. Fitch ⊕ Factoryville, Pa.; University of Michigan, Ann Arbor, 1881; aged 69; died, February 24, from pneumonia.

James D. DeWitt, Easton, Pa.; University of the City of New York, 1849; aged 94; died, March 4, from senile debility.

Peter Martin Van Den Berg, Grand Haven, Mich.; University of Michigan, Ann Arbor, 1894; aged 50; died, March 2

James M. Page, Chicago (license, Illinois, years of practice, 1887); aged 91; a veteran of the Civil War; died, March 8.

Charles Curtis Lambert, Clinton, Iowa; Baltimore University School of Medicine, 1901; aged 45; died, March 3.

Marion G. McBride, Ravenna, Ohio; Homeopathic Hospital College, Cleveland, 1883; aged 62; died, February 20.

John Donald Langham, Minitonas, Manit.; University of Manitoba, Winnipeg, 1916; aged 27; died, February 4.

Augustus Walter Turner, Boston; College of Physicians and Surgeons, Boston, 1887; aged 65; died, March 10.

Frank E. Stevens ⊕ Bristol, Wis.; Chicago Medical College, 1879; aged 69; died, March 5, from heart disease.

George E. Squier, Brookville, Ind.; Eclectic Medical Institute, Cincinnati, 1882; aged 76; died, February 28.

Reginald Stonestreet ⊕ Nashville, Tenn.; University of Nashville, Tenn., 1891; aged 56; died, March 14.

Charles T. Waage, Pennsburg, Pa.; Jefferson Medical College, Philadelphia, 1849; aged 93; died, March 7.

Charles Arthur Ellis ⊕ Denver; University of Buffalo, 1891; aged 52; died, March 7, from pneumonia.

Joseph H. Webb, Waterloo, Ont.; Victoria University, Cobourg, Ont., 1869; aged 74; died, January 26.

Harry I. Sherwood, Elnora, Ind.; Missouri Medical College, St. Louis, 1890; died in Florida, February 20.

Mildred Lusk Oliver, Money, Miss.; Tulane University, New Orleans, 1914; aged 34; died, March 7.

Samuel D. Webb, McComb, Miss. (license, Mississippi, years of practice); aged 86; died, March 8.

Joseph T. Bills, Raton, N. M.; American Medical College, St. Louis, 1884; aged 65; died, March 9.

Lawrence Kenny, Troy, N. Y.; Albany (N. Y.) Medical College, 1881; aged 62; died, March 6.

Arthur G. Hobbs, Atlanta, Ga.; University of Louisville, Ky., 1877; aged 67; died, March 9.

Erwin W. Witt ⊕ Brownville, N. Y.; University of Buffalo, 1897; died, January 7.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

DIGIFOLIN-CIBA NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized the publication of the following report, declaring Digifolin-Ciba inadmissible to New and Nonofficial Remedies. W. A. Puckner, Secretary.

Digifolin-Ciba is a product of the Society of Chemical Industry of Basle, Switzerland. It is marketed in the United States by the Ciba Company, 91 Barclay Street, New York City. It is claimed that Digifolin-Ciba is "a preparation of digitalis leaves that has been freed from their useless and harmful principles such as Digitonin (saponin), coloring and inert matter, etc., but does contain all the really valuable, therapeutically active constituents of the leaves, namely; digitoxin and digitalein in their natural proportions." There is no evidence that digifolin contains all of the glucosides of digitalis as they exist in the leaf, and it is extremely improbable that this is the case because one cannot remove saponin without altering the other active principles of digitalis.

The Ciba Company sends out the following pamphlets relating to Digifolin:

"'Concerning Digifolin-Ciba, A New Preparation of Digitalis,' by C. Hartung, M.D., Ph.D. Extracts from the work 'Ueber Digifolin, Ein Neues Digitalis-Praeparat' in the *Munich Medical Weekly*, No. 36, page 1944, 1912."

"'Digitoxin Contents of Digifolin-Ciba,' by C. Hartung, M.D., Ph.D., Basle, Switzerland. Reprints from the *Pharmaceutical Post*, 1913. No. 34, page 357. No. 40, page 431."

"'Pharmacological Tests of Digitalis,' by M. J. Chevalier Chef Des Travaux Pratiques de Pharmacologie et Matiere Medicale, Faculte De Medecine De Paris. Report Presented to the Societe de Therapeutique at their Meeting, May 28, 1913."

In the reprint "Concerning Digifolin, 'Ciba,'" Hartung lays stress on the presence of harmful and inert substances present in the leaf and galenical preparations with the direct or implied statement that digifolin has an advantage in that these are absent from it. This is misleading. It is true that Boehm, whom Hartung cites, found saponin to be irritating, but Boehm states that it required 100 mg. per kilogram of body weight to induce vomiting after its oral administration. Furthermore, saponin is present in traces only in infusion of digitalis, so that the therapeutic dose contains a wholly negligible amount of it.

The following occurs in "Pharmacological Tests of Digitalis," by M. J. Chevalier:

"Hartung's Digifolin merits our attention, especially because it seems to possess all the pharmacodynamic properties of galenic preparations of digitalis without showing any of their disadvantages."

This claim scarcely needs comment, since it is well established that the chief "disadvantages" of digitalis are inherent in the principles which produce the desired effects of digitalis and may be avoided to a large extent by a carefully regulated dosage of any digitalis preparation. In short, the advertising for Digifolin asserts that this digitalis preparation has all the advantages of digitalis itself, but none of its disadvantages. This claim has been refuted so frequently that manufacturers must be aware that it is untenable. Further the claims now made for Digifolin are essentially those made nearly four years ago at which time the attention of the American agent was called to their unwarranted character.

The Council declared Digifolin-Ciba inadmissible to New and Nonofficial Remedies because the therapeutic claims advanced for it are misleading and unwarranted.

Public Health Motto.—The health departments of New York City and of New York state have taken as their motto "Public health is purchasable. Within natural limitations, a community can determine its own death rate."

Correspondence

"THE MEDICAL TREATMENT OF GASTRIC ULCER"

To the Editor:—The editorial on this subject (The Journal, March 12, 1921, p. 726) proved extremely interesting. I observed with some surprise the comments on Coleman's "new" method of treatment. I enclose a reprint of a paper presented by me before the American Gastro-Enterological Association at its Washington meeting, May 8, 1916. Practically all of Coleman's "discovery" has been fully covered in my previous paper (*Am. J. M. Sc.* **153**:547 [April] 1917).

I am glad to note that your editorial hints that the modern treatment of gastric ulcer is not merely the treatment of the local gastric defect, or a treatment which can be applied blanket-wise to a great group of patients. The best opinion is that the nonsurgical treatment of gastric ulcer is an intensely individual regimen. Unless the ulcer is treated from the standpoint of its etiology as the local manifestation consequent on a wide variety of infectious traumatic, circulatory or constitutional upsets, permanent healing of ulcers cannot be expected. These facts were emphasized in my address as chairman before the Section on Gastro-Enterology and Proctology at the New Orleans Session of the American Medical Association last year (The Journal, June 5, 1920, p. 1555).

Frank Smithies, M.D., Chicago.

To the Editor:—May I venture to take issue with one of the statements made in the editorial, "The Medical Treatment of Gastric Ulcer"? I read the editorials in The Journal with a great deal of profit and pleasure, but I feel that the statement that the object of medical treatment of gastric ulcer is to counteract "the irritating or corrosive action of acid gastric contents on ulcers that would tend to heal spontaneously" is rather misleading.

It is, of course, true that the normal physiologic condition of the gastric juice is distinctly acid, and that tissues heal best, other things being equal, in their normal physiologic environment. A stomach wound, if sutured properly, heals perfectly. Certainly, no one would think of changing the normal acid reaction of the urine in the presence of a lesion in the bladder with the idea of promoting healing by lessening the corrosive action of the acid urine on the lesion. On the contrary, we know that bladder wounds heal best when the urine is normally acid; likewise, lesions in the mouth heal better when the saliva is normally alkaline. It seems to me that the beneficial effect of such a treatment as the Sippy treatment is, not that it directly benefits the ulcer by rendering the gastric contents continuously alkaline or even neutral (which with normal secretion would be difficult, if not impossible), but that by reducing the acidity of the gastric juice it lessens peristalsis. As a rule, excessive acidity of the gastric juice increases peristalsis, and the increased motion of peristalsis prevents healing. It is the same old principle that Hilton laid down many years ago, but which is too often neglected; that is, the principle of securing physiologic rest. If physiologic rest of the stomach could be attained without changing the reaction of the gastric contents, the same beneficent result should occur. In the bladder or in the mouth, the reaction of the normal secretion in these regions has nothing to do with the physiologic rest, so that a change from the normal reaction is usually detrimental to healing. In the stomach, however, the lowering of the acidity means more rest for the stomach walls, and this rest does more good than the unphysiologic reaction of the gastric juice with its lowered acidity does harm.

J. Shelton Horsley, M.D., Richmond, Va.

"THE NECESSITY OF CLEAR THINKING IN MILK MODIFICATION"

To the Editor:—A recent paper in THE JOURNAL (March 5, 1921, p. 633) is predicated on two undeniable postulates: (1) "A considerable portion of the work of the general practitioner consists in infant feeding." (2) "A large proportion of the babies in this country are fed under the advice of general practitioners." Ergo: "It is vital for every general practitioner to have a good working knowledge of infant feeding."

The author then outlines what he considers the irreducible minimum required of any one who would treat babies intelligently. Whether this irreducible minimum (which is a restatement, in very able form, of the percentage feeding technic, with its arithmetic and its tables) will hearten any of the burdened men who, as he says, "become discouraged with the subject, lose interest in it, and give it little attention," is a debatable question.

I have long realized the truth of these two postulates, and of their conclusion. As one who has realized keenly, as well, the discouragement attendant on the attempt to apply these principles in general practice, I take the liberty of setting forth an alternative set of general principles which I believe constitutes a better equipment for any man who treats infants, be he pediatrician, orthopedist or (best beloved of the Lord, since He has created so many of them) general practitioner.

1. A general working knowledge of how to keep a nursing child on the breast until he is old enough to be weaned—from choice, and not from necessity. With the cooperation on the part of his mothers that any man can command (for mothers will meet him more than half way in such an attempt), this result can be obtained in well over 90 per cent. of cases. The necessary technic may be learned from a study of recent contributions to the literature by:

Huenekens, E. J.: Care of the New-Born, *Northwest Med.* **18**: 149 (Aug.) 1919.
Pearce, N. O.: Review of Recent Literature on the New-Born, *Am. J. Dis. Child.* **18**: 51 (July) 1919.
Griffith, J. P. C.: Establishment and Maintenance of Breast Feeding, *Arch. Pediat.* **35**: 597 (Oct.) 1918.
Sedgwick, J. P.: Establishment, Maintenance and Reinstitution of Breast Feeding, THE JOURNAL, Aug. 11, 1917, p. 417.
Richardson, F. H.: Simplified Infant Feeding and the Breast: A Rational Feeding Program for the First Year of Life, *New York M. J.* **112**: 977, 1920.
Abt., I. A.: Facts and Fallacies About Breast Feeding, *St. Paul M. J.*, April, 1915.
Ramsay, W. R.: Care and Feeding of Infants and Children, Lippincott's Nursing Manuals, Ed. 2, 1920.

2. An ability to carry on complemental, as opposed to supplemental feeding, as long as may be necessary.

3. A realization that, in spite of all that has been said on the subject, it is virtually impossible to overfeed a baby on breast milk or a reasonably appropriate milk mixture, provided an interval of not less than three hours is maintained. If any one doubts this, let him sit down by the side of the mother of any baby he chooses, and see how much he can get that baby to take, from either bottle or breast, when the baby has decided that he is through. It cannot be done—ask any mother.

4. A reasonable familiarity with *one* method of feeding. Let that for choice be boiled simple milk dilutions, with dextrimaltose gradually added, in a few days, up to the maximum of four level tablespoonfuls for the child under 10 pounds, and six for the child over 10 pounds. Such a familiarity may be obtained from Dennett's work (Simplified Infant Feeding, New York, 1920).

5. A knowledge of the fact that milk never disappears from the human breast overnight—that the disappearance of milk from the lactating breast is a matter rather of weeks than of hours. Further, that it can readily be brought back after a month of weaning; and often, though with much striving against popular psychology, which is all against one in such an attempt, after two or three times that length of time (Moore, C. U.: Reestablishment and Developing of Breast Milk, *Arch. Pediat.* **36**:609 [Dec.] 1919).

6. A willingness to reduce directions to the simplest terms, written down for the mother and read over and discussed with her, so that the physician may be sure she understands them perfectly. The average mother is no fool, especially when the good of her own baby is concerned. If some reasonably simple method is explained with reasonable clearness, no anxiety need be experienced on this score.

7. An open-minded attitude toward dry milk, as something to fall back on as an auxiliary in carrying out the foregoing program (Dennett, Hess and others).

8. Afterthought: Not necessary, perhaps, but highly desirable, and hardly too much to ask of one interested in his babies, is a certain "teachableness" of a sort that makes a man willing to sit down occasionally by the side of a nursing mother—the keenest observer in the world, where her own baby is concerned—and learn of her as he helps her in her daily task of adjusting breast to baby and baby to breast. He will thus accomplish three things that are greatly to be desired. (*a*) He will help two of his patients who are most deserving of any help he may be so fortunate as to be able to extend to them; (*b*) he will learn, in the best way that one can learn anything, namely, by close personal observation under the best teacher procurable, and (*c*) last but by no means least, he will be able to add something to our present-day inadequate knowledge of the physiology of the nursing child and the lactating mother, and so aid, if only in a small degree, in the advancement of the science as well as the art of infant feeding (Richardson, F. H.: The Nursing Mother: A Study in Lactation, to be read before the New York State Medical Society, May. 1921; The Breast and the Nursing Child, to be read before the Section on Diseases of Children at the Boston session in June).

I submit the eight requirements just set down as constituting not only a minimum, but an easily attainable optimum, for any man dealing with babies. I will further confidently advance the opinion that the possessor of the foregoing set of requirements will not frequently find it necessary to call for help from the pediatrician in the feeding of his babies. The patient that fails to thrive with him will be a genuine problem for the specialist in the diseases of children.

F. H. RICHARDSON, M.D., Brooklyn.

"SUGGESTIONS FOR IDENTIFICATION OF BLOOD GROUPS"

To the Editor:—Since the publication of my article on this subject in THE JOURNAL (March 12, 1921, p. 724), I have received letters from Dr. Karsner and Dr. W. C. Williams of the Army Medical School calling my attention to the fact that in my article the Jansky grouping was presented as a complete reversal of the Moss, while the report of the committee appearing in THE JOURNAL, January 8, specified that only Groups I and IV were to be transposed, while Groups II and III remained the same. My article, which copied Dr. Karsner's table of group incidence (THE JOURNAL, Jan. 8, 1921, p. 88) also followed his presentation of the Jansky grouping as a complete reversal. Dr. Karsner's error was called to his attention by Dr. Williams, and Dr. Karsner corrected his article by a communication to THE JOURNAL, Jan. 22. It is much to be regretted that I did not see Dr. Karsner's correction and that my article perpetuated his error, thus adding to the confusion.

This correction will, of course, make some difference in the use of Chart 3 of my article in that the next step after trying Serum I will be the use of Serum II instead of Serum III,

and that the result being "no agglutination" will indicate Group II, while the result being "agglutination" will indicate the trial of Serum III.

Robert W. Belknap, M.D., Cambridge, Mass.

"BLACK SPIDER POISONING"

To the Editor:—I have read with interest, the article by Dr. D. J. Louis on black spider poisoning (The Journal, Jan. 8, 1921, p. 99) because of my own experience. The spider that I have known as a poisonous one is found in many places in southwest Texas and northern Mexico. It is small and black, with a white cross on the back. The bite is distinctly painful and produces swelling. The spot bitten is generally so small that it is hardly noticeable the next day. After the first hour there is no noticeable local symptom, but within a short time after the bite there is intense pain in the chest, palpitation of the heart, and difficulty in breathing. I was the victim of such a bite, and I have seldom had more severe pain. I have never thought myself in more danger of death than I did during the two days when I was ill, during which I felt it necessary to take nearly a grain of morphin with atropin. None of my other cases seemed as severe as was my own but several patients were quite sick for two days.

T. J. Turpin, M.D., Esmeralda, Coahuila, Mexico.
Surgeon, Sierra Mojada Mines.

PRIORITY IN THE USE OF SPINAL DRAINAGE

To the Editor:—In our article on "Relative Effectiveness of Various Forms of Treatment in Neurosyphilis" (The Journal, March 12, 1921), we credited Gilpin and Earley with priority in the use of spinal drainage. The application of spinal drainage to the treatment of cerebrospinal syphilis was described by Dr. G. C. Fisher of Chicago in the *Illinois Medical Journal*, May, 1915.

John H. Stokes, M.D.,
Earl D. Osborne, M.D.,
Rochester, Minn.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

MICROCHEMICAL METHOD FOR ANALYSIS OF GLUCOSE IN BLOOD

To the Editor:—Please tell me where I can get an article describing Bang's micromethod of blood analysis. Please omit my name.

J. C. B., Iowa

Answer.—The microchemical method for the analysis of glucose in the blood was first described by Bang in his publication "Der Blutzucker," Wiesbaden, 1913. Later he described the method with some modifications in the *Bio-Chemische Zeitschrift* (**49**:1; **57**:301, 1913). A criticism of the method appeared in the *Journal of Biological Chemistry* **22**:525, 1915. A working description of the method may be found in "Physiological Chemistry" by A. P. Mathews, Edition 3, Philadelphia, William Wood & Co., 1920, pp. 1112,

Clinical Training.—The physician who would undertake the investigation of the early stages of disease must not only be a man of very wide experience, but must have trained himself to observe on lines that have hitherto received little attention. The training, among other things, must have included the watching of patients for long periods to see the outcome of the complaint.—J. MacKenzie, *Brit. M. J.* **1**:109 (Jan. 24) 1920.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arizona: Phoenix, April 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

Arkansas: Little Rock, May 10. Sec., Reg. Bd., Dr. T. J. Stout, Brinkley. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

Colorado: Denver, April 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

District of Columbia: Washington, April 12. Sec., Dr. Edgar P. Copeland, 1315 Rhode Island Ave., Washington.

Hawaii: Honolulu, April 11. Sec., Dr. Guy C. Milnor, 401 S. Beretania St., Honolulu.

Idaho: Boise, April 5. Director, Mr. Paul Davis, Boise.

Iowa: Des Moines, April 12-14. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

Kentucky: Louisville, May 10. Sec., Dr. A. T. McCormack, Sixth and Main Sts., Louisville.

Louisiana: New Orleans, May 3. Sec., Dr. F. H. Hardenstein, 702 Macheca Bldg., New Orleans.

Minnesota: Minneapolis, April 5-7. Sec., Dr. Thomas S. McDavitt, Lowry Bldg., St. Paul.

Montana: Helena, April 12. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

Nevada: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.

New Mexico: Santa Fe, April 11-12. Sec., Dr. R. E. McBride, Las Cruces.

Oklahoma: Oklahoma City, April 12-13. Sec., Dr. J. M. Byrum, Shawnee.

Porto Rico: San Juan, April 5. Sec., Dr. Manuel Quevedo Baez, San Juan.

Rhode Island: Providence, April 7-8. Sec., Dr. Byron U. Richards, State House, Providence.

Utah: Salt Lake City, April 4-5. Sec., Dr. C. L. Olsen, 932 South 5th East St., Salt Lake City.

Michigan October Examination

Dr. Beverly D. Harison, secretary, Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 12-14, 1920. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 14 candidates examined, 12 passed and 2 failed. One hundred and sixteen candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University		(1920)	85, 85.6
Chicago College of Medicine and Surgery		(1917)	74.8, 75.9, 79.1, 82.1, 82.3
Loyola University		(1918)	75.7, 78.6
Albany Medical College		(1919)	82.8
New York Medical College and Hospital for Women		(1917)	82
University of Toronto		(1905)	81

College	FAILED	Year Grad.	Per Cent.
Chicago Coll. of Medicine and Surgery		(1916)	73.6, (1917) 73.1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Birmingham Medical College		(1915)	Tennessee
University of Arkansas		(1915)	Arkansas
Columbian University		(1904)	Dist. Colum.
Howard University		(1907) Illinois, (1912)	W. Virginia
Atlanta Medical College		(1915)	Georgia
Bennett College of Eclectic Medicine and Surgery		(1898)	Ohio
Chicago College of Medicine and Surgery		(1913)	Minnesota
American Medical Missionary College, Chicago		(1901)	Ohio
Northwestern University		(1920, 4)	Illinois
Rush Medical College	(1898) Illinois, (1908) (1914) California, (1917, 2), (1919) Illinois	(1914)	Wisconsin
University of Illinois		(1915), (1916), (1919)	Illinois
Indiana University School of Medicine		(1918), (1919)	Indiana
College of Physicians and Surgeons, Keokuk		(1882)	Iowa
State University of Iowa College of Medicine,	(1913), (1919) Iowa	(1902)	Wisconsin
Hospital College of Medicine, Louisville		(1892)	Indiana
Kentucky School of Medicine of Louisville	(1892) Indiana, (1892) Pennsylvania, (1894) Ohio	(1891)	Illinois
Louisville Medical College		(1890) Kentucky, (1893)	Missouri
University of Louisville	(1913) West Virginia	(1909) Kentucky, (1911, 2)	Indiana
College of Physicians and Surgeons, Baltimore	(1914) Maryland	(1910)	W. Virginia
Johns Hopkins Univ.	(1914) Wisconsin, (1918) Ohio, (1919, 2) Maryland	(1900)* Philippine Islands, (1910)	Ohio
Maryland Medical College		(1903)	Maryland
Harvard University		(1898)	Mass.
Tufts College Medical School	(1919) Massachusetts	(1906) Tennessee, (1911)	Maine
Detroit College of Medicine		(1889)	Illinois
University of Michigan Medical School	(1897) Illinois	(1871)	Nebraska
University of Minnesota Medical School		(1919)	Minnesota
Barnes Medical College		(1893)	Indiana
St. Louis University School of Medicine	(1917) Missouri	(1906)	Illinois
Washington University Medical School		(1919)	Missouri
Albany Medical College		(1913)	New York
Bellevue Hospital Medical College		(1894)	Ohio

Columbia University	(1907), (1909), (1918)	New York
Long Island College Hospital	(1902)	New York
New York Homeo. Med. Coll. and Flower Hospital	(1912) (1919)	Penna. Delaware
University and Bellevue Hospital Medical College	(1917)	New York
University of Buffalo	(1913), (1914), (1917), (1919)	New York
Syracuse University College of Medicine	(1914)	New York
Leonard Medical School	(1901)	Alabama
Cleveland College of Physicians and Surgeons	(1897)	Ohio
Medical College of Ohio	(1902), (1909)	Ohio
Ohio State University College of Med.	(1917), (1918, 2)	Ohio
Starling Medical College	(1902), (1906)	Ohio
University of Cincinnati	(1917)	Ohio
Western Reserve University	(1916), (1917), (1918, 2)	Ohio
Jefferson Medical College	(1906)	Mass.
Medico-Chirurgical College of Philadelphia	(1916)	New Jersey
University of Pennsylvania	(1905), (1912) (1916)	Penna. North Carolina, (1918) California
Meharry Medical College	(1899) Georgia, (1914), (1918) (1919) Kentucky, (1920, 3)	Tennessee Tennessee
University of Tennessee	(1894)	Kentucky
Vanderbilt University	(1912) Tennessee, (1914) (1915), (1916), (1918) Tennessee	Kentucky
Medical College of Virginia	(1914), (1915)	Virginia
University of Heidelberg	(1892)	Illinois
National University, Athens	(1899)† Ohio, (1905)†	Minnesota
Manitoba Medical College	(1906)	New York
Queen's University Faculty of Medicine	(1914)	Illinois
University of Toronto	(1904)	New York

* Previous license not verified.
† Graduation not verified.

Florida December Examination

Dr. William M. Rowlett, secretary, Florida State Board of Medical Examiners, reports the written examination held at Gainesville, Dec. 6-7, 1920. The examination covered 7 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 35 candidates examined, 33 passed and 2 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Alabama		(1911)	86
Howard University		(1919)	84.8
Atlanta College of Physicians and Surgeons		(1911)	87.8
Atlanta Medical College	(1916) 86.2,	(1917)	85
Emory University		(1919)	84
American Medical Missionary College		(1902)	85.2
Rush Medical College	(1910) 86.1,	(1911)	93.5
Northwestern University		(1892)	75
Medical College of Indiana		(1888)	76.5
Louisville Medical College		(1906)	89.2
College of Physicians and Surgeons, Baltimore		(1885)	82.5
Harvard University	(1888) 87.5,	(1903)	85.1
Marion-Sims College of Medicine, St. Louis		(1892)	75
Albany Medical College		(1916)	81.2
Bellevue Hospital Medical College	(1890) 84.8,	(1894)	86.2
Columbia Univ.	(1904) 80.1, (1907) 84.1, (1909) 82.4,	(1918)	91.1
Medical College of Ohio		(1889)	76
Medico-Chirurgical College of Philadelphia		(1905)	79.5
University of Pennsylvania	(1888) 81.2, (1894) 75,	(1905)	85.7
Medical College of the State of South Carolina		(1912)	84.5
Memphis Hospital Medical College		(1903)	86.2
University of Vermont	(1895) 85,	(1899)	85.7
University College of Medicine, Richmond		(1908)	86
	FAILED		
University of Arkansas		(1907)	70.4
Memphis Hospital Medical College		(1913)	73.7

Indiana Reciprocity Report

Dr. W. T. Gott, secretary, Indiana State Board of Medical Registration and Examination, reports that 51 candidates, including 3 osteopaths, were licensed by reciprocity from July 1 to Dec. 31, 1920. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University	(1902)		Dist. Columbia
Bennett Medical College		(1913)	Illinois
Chicago Coll. of Medicine and Surgery	(1916, 2), (1917, 2)		Illinois
College of Physicians and Surgeons, Chicago		(1906)	Illinois
Hahnemann Medical Coll. and Hospital of Chicago		(1903)	Illinois
Illinois Medical College		(1908)	Iowa
Loyola University		(1918), (1919)	Illinois
Northwestern University		(1906)	Wisconsin
Rush Medical College	(1907), (1912), (1914), (1917) Illinois (1890) Illinois, (1899) (1902), (1916, 2), (1920, 2) Illinois		Iowa
University of Illinois		(1913, 2), (1916)	Illinois
Indiana University		(1919)	Illinois
Kentucky School of Medicine, Louisville		(1898)	Kentucky
Louisville Medical College		(1906)	W. Virginia
University of Louisville	(1888) Kentucky, (1899) (1905) Illinois, (1911) Kentucky		Kentucky
Johns Hopkins University		(1916)	Maryland
University of Michigan Medical School		(1903)	N. Dakota
University of Minnesota		(1913)	Minnesota
Barnes Medical College		(1898), (1905)	Missouri
Marion-Sims College of Medicine, St. Louis		(1899)	Illinois
Albany Medical College	(1908) New York,	(1915)	New Jersey
University and Bellevue Hospital Medical College		(1910)	New York
Leonard Medical School		(1908)	Mississippi
Starling Medical College		(1894)	Illinois
University of Pennsylvania	(1909) Pennsylvania,	(1915)	Michigan
Meharry Medical College		(1917)	Tennessee
National University, Athens		(1909)	Illinois

Miscellany

DEATHS DUE TO ACCIDENTS AMONG CHILDREN

According to the Census Bureau, accidents cause a larger portion of deaths under 14 than in any other period of life. According to the report, at least 20,000 children are killed in the United States by accidents each year. Out of every 1,000 children's deaths at the ages 5 to 9, 167 are due to accidents, and from 10 to 14, 177 out of each 1,000 deaths are due to accidental causes. This is a greater mortality than the combined mortality of measles, scarlet fever, whooping cough or diphtheria. In 1917, accidents caused 17.7 per cent. of all the deaths among children under 14, while epidemics were responsible for only 17 per cent. of the deaths among children of the same age. Although tuberculosis is generally regarded as one of the leading causes of death in childhood, it caused only 8.5 per cent. of the deaths between the ages of 5 and 9, while accidents caused 16.7 per cent. In the age period from 10 to 14, tuberculosis caused 14.2 per cent. of the deaths, and accidents 17.7 per cent. The principal forms of accidents were burns, falls, automobile and other vehicular accidents, accidental drowning and poisoning. More than 4,500 children under 15 were killed by vehicular accidents in 1917. These figures, compiled from the 1917 Census Bureau Report, are published by the First Aid Bureau of the American Red Cross as justification for its campaign for the prevention of accidents. This campaign is being carried on, both by the education of the public in the use of safety appliances and methods for the prevention of accidents, and by instruction in first aid to the injured. The first aid courses have been introduced into many of the public schools, and there is a constantly increasing demand for them. Certainly all methods by which this heavy and largely avoidable toll of child life can be reduced should be encouraged.

RECOMMENDATIONS ON HEALTH PROVISIONS FOR CHILDREN

The advisory committee of the National Child Health Council on health provisions for laws relating to children, in its report to the children's code commissions, emphasizes the need for legislation by all the states adequately to provide for the care of the health of mothers and children. In general, its recommendations are along the line of the provisions for the public protection of maternity and infancy contained in the Sheppard-Towner bill.

The committee advocates a bureau of child hygiene in each state, in which should be invested the administration of all laws affecting the health of children except those properly belonging to other state agencies.

It recommends that all public and private institutions, agencies, courts, and boarding homes caring for dependent, defective or delinquent children be required by law to have adequate health supervision over their work and wards, subject to the regulations of the health authorities, and, finally, that "all measures dealing with appropriation and expenditure of funds for material relief in connection with child or maternity care should specifically make provision for adequate care of the health."

Attention is directed to specific needs for legislative enactment. When existing legislative restrictions in some states make it impossible to enact laws providing adequate appropriation for the care of the health of mothers and children, these restrictions should be removed. The law should make definite provision for prenatal health centers and clinics, and for the education, protection and health supervision of mothers in industry.

CARE AT BIRTH

In order that only qualified persons should practice midwifery, state laws should require all midwives to be licensed by the state health department, which should have supervisory power to enforce regulations and revoke licenses. Educational training for midwives and obstetric attendants should

be permitted only under proper educational and health supervision.

State health departments should be given authority to require immediate reporting of all inflammatory conditions of the eyes of the new-born and their treatment at birth, and to furnish prophylactic for this purpose, to prevent blindness.

Births should be reported by the professional attendant, not later than three days, to the local registrar of vital statistics, who should be under the health department. Reporting of stillbirths is important.

Institutions giving care to mothers during or near confinement should be licensed, subject to periodic inspection of health authorities.

INFANT AND PRENATAL CARE

Restrictions should be removed and definite laws enacted for adequate protection and promotion of the health of infants from birth to the beginning of school age for the purpose of developing health habits through supervised physical activities and practical instruction in hygiene, nutrition and sanitation. Provision should be made for cooperation between state and local communities in the promotion of health education, and for the instruction and training of all teachers in the fundamental principles of health education.

State laws should make it possible for counties, municipalities and townships to provide for the periodic physical examination of schoolchildren, and the proper state authorities should be empowered to promote the development of such facilities. Health supervision of schoolchildren should be closely correlated with that of babies and preschool children. When special groups are unable to receive adequate education and health supervision, special instruction should be provided.

Schoolhouses and their environment should be regularly inspected and supervised as to sanitary conditions, subject to regulation of the health authorities.

CHILDREN IN INDUSTRY

Every child should have health education and supervision as long as he is of school age. "Physical examination should be given when he leaves school to go to work, at each change of occupation, and periodically thereafter while he is of school age."

PENAL REFORM

A report recently issued by the prison authorities of Great Britain contains much of medical interest. On the subject of penal reform it is remarked that the opinion has been growing for some years that mental and physical disabilities may largely contribute to the commission of crime and that it is the duty of the community to investigate thoroughly such causes and, when they exist, to determine whether they are beyond the ability of the individual to control, whether they do not limit, wholly or in part, responsibility for the commission of the offense, to what extent they should be taken into account in determining the question of punishment, and whether some form of treatment rather than punishment by imprisonment cannot be devised which shall be more scientific, efficacious and humane. Two factors have contributed to the recent accentuation of this feeling: the operation of the mental deficiency act and the release from naval and military prisons of numbers of men suffering from mental and physical disabilities arising out of the war. The justices of the city of Birmingham early in 1919 took action and approached the prison commissioners in the matter. They asked that a whole-time medical officer be appointed and that portions of the hospital be entirely partitioned off from the rest of the prison and adapted for the reception of persons whose mental condition appeared such as to demand careful investigation. This request was granted. In the course of his report, the medical officer who was appointed said: "The large use now made of 'shell shock' as an excuse for criminal acts may be mentioned. Doubtless this is in some cases quite genuine. But in other cases it is simply used as a catchword, and has taken the place of the 'drink' excuse of my earlier years in the service. The differentiation of the genuine cases and the estimation of the precise value of this excuse is a matter of great difficulty." The medical officers of the Borstal institutions have been making a careful investigation into the mentality of all the inmates. It is hoped that in due course a very complete analysis of each boy's mentality will be arrived at and recorded, which will result in the prompt certification of those coming within the scope of the mental deficiency act, and of useful grading for purposes of special education and occupational teaching of those below the average of their class and age but not certifiable.

Book Notices

L'Iris, Étude physiologique sur la pupille et ses centres moteurs. Par le Dr. A. Magitot, Ophthalmologiste des Hôpitaux de Paris. Paper. Price, 16 francs. Pp. 264, with 27 illustrations. Paris: Gaston Doin, 1921.

This work is the first of a new series of publications, "Bibliothèque d'ophthalmologie." Since the publication of the "Encyclopédie d'opthalmologie de LaGrange et Valude," new methods of examination have been studied, original operations have been invented, and new therapeutics have been applied. It is true that we have periodicals on ophthalmology to keep the specialists up to the progress that has been made in this particular line, but there is much new and original thought set forth in this small, concise volume; in fact, the "Bibliothèque d'ophthalmologie" has been founded to complete and bring up to date the "Encyclopédie d'ophthalmologie." Aside from the physics of ophthalmology, which has specially drawn the attention of the savant, the physiology of the eye as a whole has assumed prime importance. The first part of the volume is devoted to the physiologic study of the normal pupil and its motor centers. After considering the action of the repletion of the blood vessels and that of the vasomotor system on the iris, the author studies the dilatation of the pupil and arrives at the conclusion that the dilating force is greater than the constricting. The membrane of dilatation of Henle being very weak, we can question whether there does not exist in the iris another force at work in dilatation. We have looked for it in the different elements of the stroma, such as the "faisseaux rayonnés" of Kolliker, the "cellules étoilées pigmentées," and the "cellules amas," but as yet it has not been found. This detailed study of physiology and comparative anatomy of the iris, supported by a great number of experiments on the eye, both living and dead, human or animal, will be interesting, not only to the ophthalmologist, but also to the general practitioner and clinician, who appreciate the helpful value of a thorough examination of the eye and action of the pupil in health and disease. The second part of the book treats of the functions of the pupil, such as pupillary reactions and reflexes. In the first chapter the author treats comprehensively pupillary reactions that go with visual functions, and in the second chapter he compares pupillary reflexes independent of visual functions. These two chapters are interesting from a practical point of view, both to the ophthalmologist and to the neurologist, who will find in them much information of value for the purpose of diagnosis.

Enfermedades del Estomago. By Luis Urrutia. Paper. Pp. 671, with illustrations. Madrid: Calpe, 1920.

In the medical profession of Spanish-speaking countries, Dr. Urrutia has long occupied a prominent position. His name appears as the honorary editor on the front page of virtually every Spanish journal. His book on stomach diseases is one of the best of its kind in Spanish. It is divided into eighteen chapters, each of which deals with a form of gastric disorder, except the last, which is devoted to gastric symptoms in other diseases. Of the 665 pages of the book, 184 are devoted to a discussion of ulcers. After quoting the results of others, Dr. Urrutia reports his own experiences with the measure under discussion. While primarily a surgeon, he recognizes the value of the different therapeutic measures which he discusses extensively. In favorable contrast with the omissions in recent editions of Boas' textbook, frequent references will be found to the latest work of American

uthors, especially as regards gastric analysis and surgical rocedure. The illustrations are almost all taken from per-onal cases, but their reproduction in most cases hardly mea-ures up to the text. Dr. Urrutia differs with Hoynihan as o the hunger pain's being characteristic of duodenal ulcer, nd states, against Moynihan's assertions, that the appear-nce of pain is synchronous in gastric and duodenal ulcers. While admitting the greater frequency of acute ulcer in young women, he explains it as due to such causes as hyperacidity, which prevents healing of the initial lesion. So far as ulcer s concerned, he insists on the importance of the history. Gastroscopy, he considers, has not reached by far the degree f excellence of other endoscopic methods. He admits a hange in his opinion about the value of the "hyper" triad — hypertonus, hypermotility, hyperperistalsis — in duodenal lcers, a fact which he found, in his last visit to England, greed with Hoynihan's views. He is skeptical as to the alue of Einhorn's thread test. In the diagnosis of cancer, he onsiders that the enormous frequency of cancerous degenera-ion of ulcers found by Americans is due to their deeming enign growths as carcinomatous. He is very doubtful as to he value of gastro-enterostomy except in bleeding duodenal lcer, and then only when associated with pyloric exclusion. n bleeding stomach ulcers, he employs gastrectomy as the nly reliable method to prevent recurrences. In duodenal lcers he applies Balfour's thermodestruction with gastro-nterostomy and sphincterectomy.

A Naturalist on Lake Victoria, with an Account of Sleeping Sickness and the Tse-Tse Fly. By G. D. Hale Carpenter, D.M., B.Ch., Uganda Medical Service. Cloth. Price, $10. Pp. 333, with 89 illustrations. New York: E. P. Dutton, 1920.

In 1910, at the request of the Tropical Disease Committee f the Royal Society of London, Dr. Carpenter went to Africa o investigate the bionomics of the tsetse fly—*Glossina palpalis.* His work was done on the islands and shores of Lake Victoria yanza, where trypanosomiasis, or sleeping sickness, was en causing great havoc among the natives. With the excep-on of some months' leave of absence, the work was carried n until August, 1914, when the author was called away for ar duties. After the armistice he returned and completed e work.

The first three chapters will appeal to physicians. Chapter ne is devoted to a description of sleeping sickness, its history, ymptoms and its ravages. Of special interest in this chapter a question from a book entitled "Physical Observations on e Coast of Guiney," published in 1742 by a naval surgeon, ohn Atkins:

> Sleepy Distemper gives no other previous notice than a want of appe-te two or three days before: their sleeps are sound, and sense of eling very little; for pulling, drubbing or whipping will scarce stir p sense and power enough to move; and the moment you cease beating e smart is forgot and down they fall again into a state of insensibility.

Here, of course, the later stages of the disease are referred ; the early stages—before the lethargic symptoms set in—emingly were not recognized. Surgeon Atkins ascribes the use of the disease "to catching cold," "to diet and way of ving," "to weakness of the brain; some or all of these causes operating to it." As to the treatment: "The cure is tempted by whatever rouses the spirits; bleeding in the gular, quick purges, sternutories, vesicatories, acupuncture, ton, fontanels, and sudden plunges into the seat." Pretty dical treatment even for savages! In the second chapter, the natural history of the disease, the author discusses the rious forms of protozoa, especially the trypanosome and e tsetse fly. In the third chapter he considers the natural story of *Glossina palpalis,* its habits, etc., and the methods lopted in its study.

As we have said, these three chapters are the part of the ok of interest to physicians; they cover the essential facts ncerning sleeping sickness, its cause and prevention, as arned by forty months of investigation and observation on e islands of Lake Victoria. The other chapters will appeal to l who are interested in any degree in natural history, and pecially in the natural history of tropical Africa. They deal ith the climate and the scenery, with mammals, birds, rep-es and monkeys. A most interesting chapter is that on the loration of insects, and many illustrations are given of otective warning and mimetic colors.

Physiology and Pathology of the Cerebrospinal Fluid. By William Boyd, Professor of Pathology, University of Manitoba. Cloth. Price, $5. Pp. 176, with illustrations. New York: Macmillan Company, 1920.

It speaks well for the interest American physicians are taking in the cerebrospinal fluid that two books on the subject have appeared in this country within the last two years, the first by Levinson and now this book by Boyd. In the first section, Dr. Boyd discusses the anatomy of the subarachnoid space, the origin, circulation, pressure and function of the fluid, the physical and chemical properties and the cytology of the fluid, and the Wassermann and Lange reactions. In the second section he discusses the cerebrospinal fluid findings in various diseases, and also includes a short chapter on therapeutics or, as it should be termed, intraspinal therapeutics. The volume, though presenting much material of recent date, suffers from many important omissions. For instance, in discussing the origin of cerebrospinal fluid the author quotes Dandy as having proved that the fluid is secreted by the choroid plexus. He makes no mention, however, of the investigations of Becht, Mestrezat, McClendon and others, who assert that they can find no positive proof that cerebrospinal fluid has a secretory origin. In discussing the chemistry of normal cerebrospinal fluid, Boyd includes protein, permanganate index, sugar and urea, but ignores other constituents of equal importance, such as chlorids, nitrates and carbon dioxid, which have been found to be present in cerebrospinal fluid in considerable amounts. The chapter on cytology is well written. The illustration on normal cells incorporated in the chapter is, however, of little value. It shows two isolated cells in a vacant circle, and throws no further light on the text.

Medicolegal

Knowledge Not Intended to Be Confidential

(In re Swartz's Will (Okla.), 192 Pac. R. 203)

The Supreme Court of Oklahoma says that the application of the statute of that state to the testimony of a physician in a will contest seems never to have been considered by this court, nor does the court deem it necessary to pass on the question in this case, further than to say that the court appreciates the objects the lawmakers must have had in view in enacting the statute. A patient should be encouraged to give the attending physician full and complete information as to his physical infirmities in order that the physician may have a better knowledge of the physical condition of his patient, and thereby be placed in a better position to give a more intelligent treatment. A patient is encouraged to speak freely to his physician, realizing that everything is said in strict confidence, and, the statute safeguarding him against the possibility of his feelings being shocked or his reputation ruined, he may be absolutely frank with his physician. But the court does not understand that the privilege obtains when all the circumstances show that the communications made or information obtained were made or obtained in the presence of third persons.

In this case, the physician, under whose care had been the patient, suffering from an attack of jaundice, was called in early in the morning of the day when she made her will, which was the day before her death. He found that the disease had reached an acute stage, and informed her of her serious condition, impressing on her the fact that there was no hope for her recovery. The court does not consider that it was error to permit him to testify, in contested proceedings for the probate of the will, when all that he testified to was as to the patient's condition that she was suffering with jaundice. The court says that the matters testified to by him were not obtained by reason of his knowledge as a physician, but rather by a knowledge equally possessed by the laity. The other parties in the room knew just as well as the physician that the testatrix was suffering with that disease. The average man or woman can as easily tell when one is suffering with jaundice as he or she can when the party is suffering

from an ordinary cold. It is true, however, that the lay mind would probably not know the far-reaching effects of jaundice, nor would it know the far-reaching effects of the ordinary cold.

Conceding, but not deciding, that if the physician and the patient had been alone, and it appeared that what was said by the patient was intended to be confidential, or if the physician found it necessary to examine the person of the patient, then there would be some reason for claiming that the veil of secrecy should be thrown over these communications and discoveries. But when the circumstances surrounding the visit were such as to show that what was said on the occasion was not intended to be in confidence, and especially when third persons were present and heard all that was said between the patient and the physician, the statutory provision is inapplicable.

In other words, the court holds, as it states in its syllabus, that the provision of the Oklahoma statute that a physician or surgeon shall be incompetent to testify concerning any communication made to him by his patient with reference to any physical or supposed physical disease, or any knowledge obtained by a personal examination of such patient, does not apply when the circumstances surrounding the communication, or knowledge obtained by personal examination, were such as to show that what was said or discovered on the occasion was not intended to be confidential, and especially when third persons were present and heard all that was said between the patient and the physician, and the knowledge obtained by a personal examination was as patent to the third persons as it was to the physician.

Liability of Physician for Negligence of Assistant—As to Substitutes

(Mullins v. Du Vall (Ga.), 104 S. E. R. 513)

The Court of Appeals of Georgia, Division No. 2, holds that it was error to dismiss, on a general demurrer, the plaintiff's petition in which the defendant was charged with malpractice in treating the plaintiff for pellagra, and a recovery of damages was asked for the breaking off in her arm of a hypodermic needle used on her by a colored assistant to the defendant. The court says that it appeared from the petition with reasonable clearness that when the patient called at the office of the physician to receive the usual hypodermic injection it was at the proper time and in accordance with the regular adopted routine of treatment, as prescribed and employed by the defendant physician; that the relation of physician and patient had not terminated, since the adopted course of treatment, the nature of which was unknown to the plaintiff, was still in process of regular administration, and no provision had been made for its discontinuance, but, on the contrary, general directions had been given to the plaintiff, whereby the treatment was to be given by his attendant or servant in charge whenever the defendant might be absent from his office. The plaintiff's petition excluded the idea that the plaintiff exceeded the authority, since the dealings had with the agent pertained only to the one particular act specifically authorized. It is a general proposition of law that where one holds another out as his special agent, the principal is bound by the agent's apparent authority to do the particular thing thus authorized, and to employ all usual and necessary means that may be reasonably required, in the due, proper and ordinary performance of the particular purpose of the appointment. A physician is liable for the negligent acts of one while acting as his agent or assistant.

It is not this court's opinion, however, that a physician or surgeon can engage in the practice of his profession by proxy. This is not the purport of the holding. Where one physician or surgeon sends another as his substitute, to treat, or perform an operation on, a patient, and the services of the substitute are accepted, the patient will be presumed to have reposed confidence in the professional capacity of the substitute, not as an agent, but as the principal, and will be taken to have relied on him as a physician to exercise his own knowledge, skill and discretion. Thus, when a physician, on leaving town or in other case of need, recommends or even employs another physician or surgeon to treat a patient for him, he would not, in the absence of what would amount to negligence in the selection, be liable for the negligence or lack of skill of the substitute practitioner. In the instant case, however, the physician did not delegate his functions and duties as a physician.

In authorizing or directing the patient to allow his own employee to perform for him and in his stead this particular service in his absence, the defendant did not renounce any part of his functions as the sole physician in the case. Nothing whatever was left to the discretion of the attendant, since what the treatment was to be and when it was to be administered were determined by the line of treatment adopted by the physician himself, and the authority given to the attendant related solely to the one definite and specific act, authorizing the mere physical administration of the prescribed treatment. So far as the question of the amount of skill required by the act was concerned, the direction given amounted to his assurance as an expert that the act was not of such character as to require in his absence the services of another physician, but that in such contingency she might safely receive the treatment as rendered for him and on his behalf by his office attendant or servant. It was on such implied assurance, rather than on any confidence in the professional skill and discretion of the defendant's servant, that the patient had a right to rely.

Amputation by Forbes Operation Deemed at Ankle

(Jones v. Continental Casualty Co. (Iowa), 179 N. W. R. 203)

The Supreme Court of Iowa says the plaintiff had an accident policy in the defendant company, which promised to pay him an indemnity for the loss of either foot, by loss meaning complete severance at or above the ankle. His foot was accidentally crushed under a car wheel. Amputation was necessary, and was made by what was termed the Forbes operation, the line of separation being between the cuneiform and scaphoid, and through the cuboid. The court reaches the conclusion that, under the evidence, the plaintiff lost his foot, and the use of it, by severance at the ankle; at least it was a question for the jury. The court holds that the words used as indicating the point of severance were, at the most, ambiguous; and that to carry out the purposes intended—that is, to pay indemnity for the loss of the plaintiff's foot—it could be properly found that the severance was at the ankle. It followed that the trial court erred in directing a verdict for the defendant, and its judgment on such verdict is reversed and the cause remanded.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Montgomery, April 19-21.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2-3.
American Association of Physicians, Atlantic City, May 10-11.
American Society for Clinical Investigation, Atlantic City, May 9.
Arizona Medical Association, Tucson, April 15-16.
Arkansas Medical Society, Hot Springs, May 3-5.
California, Medical Society of the State of, San Diego, May 10-12.
Connecticut State Medical Society, Hartford, May 18-19.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Illinois State Medical Society, Springfield, May 17-19.
Iowa State Medical Society, Des Moines, May 11-13.
Kansas Medical Society, Wichita, April 26-28.
Louisiana State Medical Society, New Orleans, April 19-21.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-28.
Michigan State Medical Society, Bay City, May 24-26.
Mississippi State Medical Association, Laurel, May 10-11.
Missouri State Medical Association, St. Joseph, May 17-19.
Nebraska State Medical Association, Lincoln, May 9-12.
New Hampshire Medical Society, Concord, May 25-26.
New Mexico Medical Society, Albuquerque, April 28-30.
New York, Medical Society of the State of, Brooklyn, May 3.
North Carolina, Medical Society of the State of, Pinehurst, April 26-28.
North Dakota State Medical Association, Fargo, May 26-27.
Ohio State Medical Association, Columbus, May 3-5.
Oklahoma State Medical Association, McAlester, May 17-19.
South Carolina Medical Association, Columbia, April 19-20.
South Dakota State Medical Association, Aberdeen, May 24-26.
Tennessee State Medical Association, Nashville, April 12-14.
Texas, State Medical Association of, Dallas, May 10-12.
Western Electro-Therapeutic Association, Kansas City, Mo., April 21-23.
West Virginia State Medical Association, Pence Springs, May 24-26.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

March, 1921, **21**, No. 3

Nature of Reducing Substance in Urine of Infants with Nutritional Disorders. O. M. Schloss, New York.—p. 211.
A Peculiar Fever of Infancy, Probably Due to Depletion of the Water Reserve of the Body. C. G. Grulee and B. E. Bonar, Chicago.—p. 220.
Feeblemindedness in Hereditary Neurosyphilis. O. J. Raeder, Boston.—p. 240.
Electrocardiogram in Normal Children. M. Seham, Minneapolis.—p. 247.
Physical Defects in Children. Report of Six Hundred and Two Cases. W. R. P. Emerson, Boston.—p. 282.
Infants of Low Birth Weight; Its Growth and Development. H. Schwarz and J. L. Kohn, New York.—p. 296.
Effect of a Ration Low in Fat Soluble "A" on Tissues of Rats. M. Davis and J. Outhouse, Madison, Wis.—p. 307.
Gangrene of Toes in an Infant, Due to Scald. G. D. Cutler, Boston.—p. 312.

Reducing Substance in Urine.—Eighty-two patients were observed by Schloss from whom 196 specimens of urine were examined. All of the patients were affected with severe nutritional disturbances characterized by diarrhea, refusal of food, vomiting or loss of weight. The greater number of patients showed the presence of toxic symptoms. The urine of sixty-three infants reduced Benedict's qualitative reagent, Bertrand's method or the micromethod of Benedict and Osterberg. The amount of reducing substance calculated as glucose varied from 0.12 to 2.1 per cent. The glycosuria in these cases is of relatively short duration, so that repeated examinations of the reducing substances in the urine of the same patient is often impossible. As a rule, glycosuria occurs only during the period of acute illness, and the patient either succumbs or improves within a few days. With improvement, the glycosuria diminishes markedly and subsides. The duration of glycosuria varies greatly, but in most cases covers a period of from one to four days. The short duration of the sugar elimination in this variety of case is in marked contrast to the continuous glycosuria associated with the regular ingestion of large amounts of sugar. The fact that the main portion of the reducing substance is fermentable indicates that it is glucose or galactose.

Fever in Infants Due to Depletion of Water Reserve.—There occurs in infants who have been depleted by vomiting or rumination following the use of a thickened paste feeding, a temperature curve which can most easily be explained on the basis of dehydration, though it is not possible absolutely to rule out absorption of bacteria as a cause, either total or partial, of this temperature. This temperature is unaccompanied by toxic or gastro-intestinal symptoms and there is evidence of a reduction in the water content of the blood during the febrile period.

Feeblemindedness in Hereditary Neurosyphilis.—Blood and spinal fluid examinations were made by Raeder on twenty-two children, born of syphilitic parentage. It was found that various degrees of syphilitic infection are present in a definite order in a family of several children, the oldest, born soonest after the parental infection, showing the greatest injury and the succeeding children showing milder degrees in order. Psychometric examinations done on these children show corresponding psychic terracing going pari passu with the grades of physical defect. The youngest children of a family though seronegative, have been found to be feebleminded to a slight degree. The syphilitic injury to the nervous system either projects beyond the physical defect or by reason of the peculiar reactions of the brain compared with other organs we have a finer indicator in it than in ordinary tissues. Or, again, while the central nervous system may recover more rapidly in succeeding births as registered by the Wassermann, colloidal gold and other tests, the recovery may not be as complete. Raeder concludes that mental deficiency in congenitally syphilitic children of not feebleminded parents is in the majority of cases due to syphilis. The virulence of the congenital syphilis toxin in a given fraternity as evidenced by psychometric analysis and biochemical test varies inversely with the order of birth.

American Journal of Insanity, Baltimore

Janury, 1921, **128**, No. 3

State Psychopathic Hospital. A. M. Barrett, Ann Arbor, Mich.—p. 309.
Field of State Society for Mental Hygiene. E. S. Abbott.—p. 321.
What an Adequate Mental Hygiene Program Involves for State Hospital System. G. M. Kline, Boston.—p. 329.
Group Mental Hygiene. W. B. Cornell, Albany, N. Y.—p. 335.
Ten Years' Work of the Illinois Society for Mental Hygiene. R. P. Truitt, Chicago.—p. 343.
Extension Course in Psychiatric Social Work. H. I. Gosline, Howard, R. I.—p. 355.
Medical and Social Aspects of Childhood Delinquency. S. Brown, II, Chicago.—p. 365.
A Review of the Five-Year Period Following Admission in One Hundred and Eleven Mental Patients. E. D. Bond, Philadelphia.—p. 385.
Present Status of Pathology of Mental Disorders. A. C. Buckley, Philadelphia.—p. 395.
Recurrent Dream, Precursor of Senile Dementia. C. W. Burr, Philadelphia.—p. 409.
A Theory of Personality Based Mainly on Psychiatric Experience. A. J. Rosanoff.—p. 417.
A Study of the Diagnoses in Cases Seen at the Psychopathic Department and Hospital Department of the Boston State Hospital. L. G. Lowrey.—p. 438.
Medical and Administrative Management of Ohio's Institutions. E. A. North, Cincinnati.—p. 451.
The Absorption of Phenolsulphonephthalein from the Subarachnoid Space in Dementia Praecox and Paresis. P. G. Weston, Warren, Pa.—p. 465.

American Journal of Roentgenology, New York

February, 1921, **8**, No. 2

*Roentgenographic Studies of Bronchietasis and Lung Abscess After Direct Injection of Bismuth Mixture Through Bronchoscope. H. L. Lynah and W. H. Stewart, New York.—p. 49.
Bucky Diaphragm Principle Applied to Radiography of Spine. H. E. Potter, Chicago.—p. 61.
Pneumoperitoneum as Aid in Differential Diagnosis of Diseases of Left Half of Abdomen. A. F. Tyler, Omaha, Neb.—p. 65.
Use of Carbon Dioxid in Pneumoperitoneum. W. C. Alvarez, San Francisco.—p. 71.
Traumatic Pneumocranium. A. S. Doyle, Philadelphia.—p. 73.
Retinometer. A. H. Pirie, Montreal, Can.—p. 75.
Intracranial Calcification. J. T. Murphy, Toledo.—p. 77.
New Roentgenographic Technic for Study of Thyroid. G. E. Pfahler, Philadelphia.—p. 81.

Roentgenographic Study of Bronchiectasis and Lung Abscess.—Five cases are reported by Lynah and Stewart to show that bismuth mixtures can be injected into the bronchi and lungs of a living patient without danger, and that this procedure will open an enormous field of usefulness in the study of cough, the expulsion of substances from the lungs, and lung drainage. It will also aid in localizing bronchial strictures in the same manner as in the esophagus. Furthermore, it will be of the greatest aid to the thoracic surgeon by mapping out the abscess cavity in the respective lobe of the lung. The bismuth mixture injected in these patients was 8 c.c. of bismuth subcarbonate in pure olive oil (1:2). The mixture is rendered sterile by boiling before injection. The injection should be made slowly and not with a "squirt," or else the roentgenographic observations may be spoiled by bismuth soaking the lung structure surrounding the diseased area. While bismuth mixtures were originally injected for the purpose of lung mapping in cases of lung abscess cavities, they seem to have been of therapeutic benefit to the five patients on whom they were tried. So far the procedure has done no harm. Experience has shown that the roentgen examination should be made almost immediately after the removal of the bronchoscope, otherwise the patient, in a fit of coughing, will remove much of the bismuth from the involved lung.

Annals of Medical History, New York

1921, **3**, No. 1

Collection of Boston Phrenological Society; A Retrospect. J. C. Warren, Boston.—p. 1.
An Ancient Egyptian Medical Prescription for Hysteria. I. H. Coriat, Boston.—p. 12.
Elizabeth Frey, Pastor Fliedner and Florence Nightingale. H. B. Jacobs, Baltimore.—p. 17.
Leonardo Da Vinci as a Scientist. J. C. Hemmeter, Baltimore.—p. 26.
Sir William Osler. D. A. Webb, New York.—p. 45.
Shakespear and Practice of Medicine. L. M. Griffiths, Bristol, England.—p. 50.
An Assyro-Babylonian Treatise on Diseases of Male Urinary and Genital Organs. E. Podolsky, Brooklyn.—p. 62.

On Giving of Medical Degrees During Middle Ages by Other than Academic Authority. H. Friedenwald, Baltimore.—p. 64.
Scientific Life of Thomas Bartholin. J. H. Skavlem, Cincinnati.—p. 67.

Boston Medical and Surgical Journal

March 3, 1921, **184**, No. 9

Energy Requirements of Girls from 12 to 17 Years of Age. F. G. Benedict and M. F. Hendry, Boston.—p. 217.
Clinical Observation with Benedict's New Portable Respiration Apparatus. P. Roth, Battle Creek, Mich.—p. 222.
Sidepaths in Medicine. J. Perkins, Providence, R. I.—p. 230.
Cases in Which Basal Metabolism Measurement is Useful. O. H. Stansfield, Worcester, Mass.—p. 235.

March 10, 1921, **184**, No. 10

Rôle of Immunity in Tuberculosis. H. F. R. Watts, Boston.—p. 241.
*Schick Test and Immunization with Diphtheria Toxin-Antitoxin. B. White, Boston.—p. 246.
Internal Drainage of Acute Ears, and Abortion of Acute Mastoiditis by Use of Wright's Solution. G. A. Leland, Boston.—p. 251.
Treatment of Hypertrophied Tonsils and Adenoids by Radium. F. H. Williams, Boston.—p. 256.
Energy Requirements of Girls from 12 to 17 Years of Age. F. G. Benedict and M. F. Hendry, Boston.—p. 257.

Schick Test.—White urges that all persons over 18 months of age should have their susceptibility to diphtheria determined by means of the Schick test, and the reaction which they show should be noted either in institutional records or in the records of the family physician. In infants below 18 months of age, the Schick test is not necessary because a negative reaction may give rise to a false sense of security. Very young infants may exhibit a negative Schick test owing to the immunity passively acquired from the mother, but, inasmuch as this type of immunity is transient, it is safer to assume that no child under 18 months possesses permanent immunity. All infants below 18 months of age, accordingly, should be actively immunized with three doses of 1.0 c.c. of diphtheria toxin-antitoxin mixture, irrespective of the reaction to the Schick test which the infants might show at the time of immunization. The doses should be 0.5 c.c. for babies under 6 months of age and 1 c.c. for all others. All persons over 18 months of age who give a positive Schick test should be immunized by receiving three subcutaneous injections of 1 c.c. each of toxin-antitoxin at intervals of seven days. All persons immunized by this method should be retested three months after the last injection, and reimmunized if they should by any chance still give a positive Schick reaction.

Canadian Medical Association Journal, Montreal

January, 1921, **9**, No. 1

Interpretation of Some Gastro-Intestinal Symptoms. W. Goldie, Toronto.—p. 5.
Diagnosis of Gastric Ulcer. R. H. M. Hardisty, Montreal.—p. 10.
Duodenal Ulcer. N. J. MacLean, Winnipeg.—p. 12.
Diagnosis of Gastric Ulcer. G. E. Richards, Toronto.—p. 18.
Differential Diagnosis of Appendicitis. A. Primrose, Toronto.—p. 23.
Some Unusual Abdominal Emergencies. H. A. Bruce, Toronto.—p. 27.
Drainage in Surgery. J. Halfpenny, Winnipeg.—p. 30.
Practical Value of Metabolism Clinic. C. F. Martin and E. H. Mason, Montreal.—p. 32.
Present-Day Conception of Hay-Fever. H. K. Detweiler, Toronto.—p. 37.
Two Cases of Pellagra in Canada. M. Mackay, Sherbrooke, Que.—p. 41.
Focal Infection with Special Reference to Medical Inspection of Schools. F. H. Wetmore, Hampton, N. B.—p. 43.
Suture of Circumflex Nerve. F. J. Tees, Montreal.—p. 46.
Relation of Physical Exhaustion to Chronic Ill-Health. D. H. Bernstein, Montreal.—p. 48.

Florida Medical Association Journal, St. Augustine and Jacksonville

February, 1921, **7**, No. 8

Eligibility of Applicants for Railroad Service from a Medical and Surgical Standpoint. M. W. Seagears, St. Augustine.—p. 118.
Demand for a Broader Field of Greater Number of Nurses. R. R. Kime, Orlando.—p. 121.
Laboratory Reports. B. L. Arms, Jacksonville.—p. 123.

Illinois Medical Journal, Oak Park

February, 1921, **39**, No. 2

Efficient Public Health Administration Best Safeguard Against Radical Medical-Social Legislation. C. St. Clair Drake, Springfield.—p. 109.
Politically Ill Profession. C. E. Price, Robinson.—p. 114.
Chronic Focal Infection, as Affecting Nervous System. W. G. Stearns, Evanston.—p. 117.
Focal Infections and Their Clinical Relations to Metastases in Female Genitalia. A. B. Keyes, Chicago.—p. 119.
Chronic Focal Infections as Affecting Skin. E. L. McEwen, Chicago.—p. 122.
Foci in Chest Cavity. S. V. Balderston, Evanston.—p. 124.
Abdominal Foci as Causes of General Diseases (Medical Aspect). W. G. Alexander, Evanston.—p. 126.
Focal Infections Originating in Genito-Urinary Tract. R. H. Herbst and A. Thompson, Chicago.—p. 128.
Goiter Operation Technic. E. P. Sloan, Bloomington.—p. 130.
Special Field of Neurological Surgery After Another Interval. H. Cushing, Boston.—p. 133.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

March, 1921, **17**, No. 2

*Magnesium Sulphate in Arsenic Poisoning. O. A. Hansen, Minneapolis.—p. 105.
*Behavior of a Fixed Oil (Peanut Oil) Injected Intraperitoneally. E. W. Schwartze, Washington, D. C.—p. 115.
Influence of Colloids on Action of Noncolloidal Drugs. II. W. S. Van Leeuwen and J. Zeijdner, Leiden, Holland.—p. 121.
Comparison of Action of Certain Drugs on Muscular Work in Frogs. E. M. Scarborough, London.—p. 129.
Action of Histamin and Peptone on Isolated Small Intestine. H. Olivecrona, Baltimore.—p. 141.

Value of Magnesium Sulphate in Arsenic Poisoning.—Hansen endeavored to establish the positive action of magnesium sulphate against the toxicity of arsenic. It prolonged the average life of a series of fifty rabbits poisoned by arsenic from 219 hours to 415 hours on the average, but cannot be said to have saved life in rabbits. Magnesium sulphate is toxic in large doses and to some extent in medium sized doses.

Result of Intraperitoneal Injection of Peanut Oil.—In the experiments made by Schwartze from 1 to 10 c.c. of cold pressed peanut oil was injected into the peritoneal cavity of rats, mice, guinea-pigs, rabbits and cats. As far as was observed no untoward physiologic effect was produced in any of the animals by the oil. Two and three months after the injection, a considerable amount of the oil which has been injected usually was found free within the peritoneal cavity. Cystlike spheres containing oil were also present. Minor histologic study of these cystlike bodies was made and the presence of a connective tissue capsule, capillaries and granular contents ascertained. The nature of their lining, however, was not determined. The usefulness as a pharmacologic method of the intraperitoneal injection of fixed oil as a solvent for fat soluble substances would seem to be limited, if the entrance of the dissolved material into the circulation is dependent on the relatively rapid absorption of the solvent oil. This, however, does not imply that its use for administering volatile, serum soluble and even suspended material might not be advantageous.

Laryngoscope, St. Louis

February, 1921, **31**, No. 2

War Surgery: Plastic Operations of Face by Means of Fat Grafts. J. N. Roy, Montreal, Canada.—p. 65.
Tests of Auditory and Static Labyrinths and Related Intracranial Pathways. Report of Cases. J. McCoy and M. J. Gottlieb, New York.—p. 78.
Brain Abscess Following Streptococcus Sore Throat. L. R. Effler, Toledo, Ohio.—p. 95.
Borderline Diseases. S. Yankauer, New York.—p. 101.
Internal Drainage of Acute Ears, and Abortion of Acute Mastoiditis by Use of Wright's Solution. G. A. Leland, Boston.—p. 106.
Simple Noise Apparatus for Testing Ears Separately. I. F. Shapiro, New York.—p. 114.
New Instruments for Use in Laryngeal Surgery. H. L. Lynah, New York.—p. 116.

Maine Medical Association Journal, Portland

February, 1921, **11**, No. 7

Modern Examination of Stomach. F. W. White, Boston.—p. 217.

Medical Record, New York

March 12, 1921, **99**, No. 11

Responsibility of General Practitioner in Regard to Cancer. L. D. Bulkley, New York.—p. 421.
Early and Important Symptoms of Mental Diseases. M. H. Bochroch, Philadelphia.—p. 425.
The Criminal. P. M. Lichtenstein, New York.—p. 428.
Congenital Hypertrophic Pyloric Stenosis in Infants. P. I. Nixon, San Antonio, Texas.—p. 433.
*Relation of Ectopic Pregnancy to Chronic Endocervicitis. M. O Magid, New York.—p. 435.

Relation of Persistent Thymus Gland to Criminology. S. J. Morris, Morgantown, W. Va.—p. 438.
Congenital Elevation of Scapula: Report of Case. J. Grossman, New York.—p. 439.

Relation of Ectopic Pregnancy to Endocervicitis.—Magdid states that chronic endocervicitis is the fundamental causative factor in the majority of ectopic pregnancies. He cites four cases.

Michigan State Medical Society Journal, Grand Rapids

March, 1921, **20**, No. 3

*Case of Drug Addict. I. H. Neff, Detroit.—p. 79.
Ultraviolet Ray Therapy with Case Histories. L. C. Donnelly, Detroit.—p. 83.
Case of Alcukemic Leukemia Clinically Resembling Von Jaksch's Anemia. R. M. Greenthal, Ann Arbor.—p. 86.
Modern Case of Obstetric Patient. H. H. Cummings, Ann Arbor.—p. 88.
Pernicious Anemia of Pregnancy. H. B. Schmidt, Detroit.—p. 92.
Status of Cripples in Detroit. C. L. Storey, Detroit.—p. 94.
Sequels of Lethargic Encephalitis in Four Cases. R. C. Moehlig, Detroit.—p. 98.

The Drug Addict.—Neff suggests that while the present federal narcotic law is in force, it is recommended that the dispensing of all narcotics as described by the Harrison law, be controlled and authorized by a central bureau, preferably the state board of health, and that such administrative agency cooperate in every particular with the medical profession and the federal government. The problem is a public health question of great importance and pending the enactment of an international law regulating the production and disposition of opium and its derivities, the question of individual application of any narcotic law should be relegated to the physician who must necessarily conform to any existing law regulating the dispensing of narcotics. The medical profession, when assuming such responsibilities must recognize the importance of the task and try to secure legislation which will not handicap the physician in performing his duty to his patient and to the public in general.

Military Surgeon, Washington, D. C.

February, 1921, **48**, No. 2

Government Rehabilitation of ex-Service Personnel of World War. J. G. Townsend.—p. 127.
General Health Conditions and Medical Relief Work in Armenia. W. P. Davenport.—p. 139.
Some Misleading Beliefs Regarding Pulmonary Tuberculosis. E. O. Otis, Boston.—p. 159.
Keeping Fit in Tropics. E. Colby.—p. 168.
Public Health Consideration Relating to Influenza, Pneumonia and Allied Epidemics; Epidemiologic Point of View. F. G. Crookshank.—p. 172.
Blood Changes in Aviator. W. L. Culpepper.—p. 180.
Effort Syndrome; Significance of Certain Murmurs. A. E. Cohn.—p. 186.
Instruction and Training of Officers of Medical Department. A. D. Tuttle.—p. 199.
Food Conservation and Medical Officer. W. H. Eddy.—p. 206.
Success of Campaign for Combating Venereal Disease in A. E. F. H. H. Young.—p. 213.
Water Soluble B Vitamin Content of Certain Vegetables. G. C. Dunham.—p. 223.

Missouri State Medical Association Journal, St. Louis

March, 1921, **18**, No. 3

Health and Disease. G. Dock, St. Louis.—p. 77.
Diagnosis of Acute Septic Osteomyelitis. J. G. Sheldon, Kansas City, Mo.—p. 84.
*Varicella in Adult. J. A. Rossen and M. C. Woodruff, St. Louis.—p. 86.
Common Obstetric Mistakes. W. C. Gayler, St. Louis.—p. 87.
Gonorrhea in Female. R. E. Wobus, St. Louis.—p. 88.
Reducing Dangers in Tonsil Operations to Minimum. W. D. Black, St. Louis.—p. 90.

Varicella in Adult.—In the distribution of lesions a marked difference is observed in the adult. While it is unusual to find many lesions on the face of the active child, quite the reverse is true in the adult; often the face, as in variola, carried quite as many lesions as other portions of the body. Even the palmar and plantar surfaces may have their quota. A markedly different appearance will be observed between the lesions occurring on the face and extremities and those found on the trunk. The cases observed by the St. Louis Health Department have shown this atypical varicellous lesions. In fact, so marked has this condition been that strict orders are issued forbidding the final diagnosis unless the patient is stripped. The varicellous patient will show entirely different types of lesions on the trunk, thus easily establishing the diagnosis between varicella and variola. It must always be borne in mind, however, that the lesions of varicella are at all times multiform, while those of variola are uniform.

Nebraska State Medical Journal, Norfolk

February, 1921, **6**, No. 2

Early Symptoms and Treatment of Neural Syphilis. J. L. Greene, Hot Springs, Ark.—p. 33.
Diverticula of Duodenum. Report of Cases. A. F. Tyler, Omaha.—p. 41.
Treatment of Chronic Arthritis with Special Reference to End Results. W. L. Bierring, Des Moines, Iowa.—p. 46.
Diagnosis and Treatment of Weak and Flat Feet. W. E. Wolcott, Omaha.—p. 49.

March, 1921, **6**, No. 3

*Intra-Abdominal Injuries Due to External Violence. A. F. Jonas, Omaha.—p. 65.
Clinical Classification of Hyperthyroidism-Exophthalmic Goiter. C. C. Johnson, Lincoln.—p. 70.
Epidemiology of Communicable Diseases. H. Farrell, Kearney.—p. 72.
Clinical Diagnosis of Tumors of Breast. M. Emmert, Omaha.—p. 75.
Treatment of Injuries of Spine, H. W. Orr, Lincoln.—p. 77.
Syphilis as Seen at Night Venereal Clinic, University of Nebraska Dispensary. C. R. Kennedy, Omaha.—p. 80.
Reorganized State Medical Society. C. A. Roeder, Omaha.—p. 83.
Anatomic and Dynamic Principles Involved in Prolapsus Uteri. O. D. Johnson, Kearney.—p. 86.

Intra-Abdominal Injuries.—With an increasing experience with acute intra-abdominal lesions resulting from injury, Jonas says he is no nearer to determining the exact nature of the lesion prior to opening the abdominal cavity than he was twenty years ago. It is true, he has learned more fully to appreciate the danger signals and is fully aware of their gravity, but he is not able to differentiate between contusions and lacerations of the hollow and solid viscera nor can he estimate the extent of the damages. But he has learned that when in doubt an open exploration is the safer plan.

Neurological Bulletin, New York

February, 1921, **3**, No. 2

Speech, Its Development and Integration with Intelligence. M. Osnato, New York.—p. 47.
Cortical Word Blindness. H. S. Howe, New York.—p. 64.
General Paralysis: Presentation of Necropsy Material and Discussion of Nature of Disease. I. J. Sands, New York.—p. 72.
Bulbar Amyotrophic Lateral Sclerosis. I. S. Wechsler, New York.—p. 82.

New Jersey Medical Society Journal, Orange

February, 1921, **18**, No. 2

Study of Acute Infections of Ear as Observed by General Physician. J. C. Keeler, Philadelphia.—p. 37.
Cerebrospinal Fluid, Its Changes in Various Diseases and Their Significance. E. G. Hummel, Camden, N. J.—p. 42.
Hospital, Doctor and Dentist. F. F. Carman, Newark.—p. 49.
Etiology and Treatment of Acne Vulgaris. W. O. Roop, Atlantic City.—p. 52.
Some Kidney Complications During Pregnancy and Their Treatment. W. P. Glendon, Bridgeton.—p. 56.
Roentgen Ray and Roentgen-Ray Treatment. R. W. Davison, Trenton.—p. 59.

New York Medical Journal

March 16, 1921, **113**, No. 10

*Telangiectases of Face and Mucous Membranes of Nose and Throat Associated with Severe Epistaxis. W. Freudenthal, New York.—p. 425.
Stenosis of Esophagus. Report of Three Cases. T. E. Carmody, Denver.—p. 427.
Double Mastoid Operation; Acute Thyroadrenal Exhaustion. J. C. Callison, New York.—p. 431.
Malignant Diseases of Nose and Throat with Special Reference to Cancer of Nasal Fossae, Nasopharynx and Tonsil. W. J. M. Wurtz, Buffalo.—p. 434.
Fluoroscopic Bronchoscopy, Esophagoscopy and Gastroscopy. R. C. Lynch, New Orleans.—p. 437.
Six Cases of Foreign Bodies in Esophagus and Bronchi. C. J. Imperatori, New York.—p. 438.
Suppurative Submaxillary Adenitis. B. Lipshutz, Philadelphia.—p. 440.
Source of Focal Infection Iritis. C. G. Crane, Brooklyn.—p. 442.
General Versus Local Anesthesia in Operations on Nose and Throat. W. R. Watson, Philadelphia.—p. 444.
Aid to Diagnosis of Suspected Foreign Body in Esophagus. E. J. Patterson, Pittsburgh.—p. 447.
Gillies New Method in Giving Support to the Depressed Nasal Bridge and Columella. J. E. Sheehan, New York.—p. 448.
Qualifications a Peroral Endoscopist Should Possess. J. W. Murphy, Cincinnati.—p. 451.

An Unusual Cataract Operation. H. Tuttle, Ithaca.—p. 452.
Gunshot Wound of Lateral Sinus. R. H. Fowler, New York.—p. 453.
Resection of Tarsus and Conjunctiva (Combined Excision) with New Instruments. A Review of Three Hundred Cases. A. S. Tenner, New York.—p. 454.
Intranasal Operations with Special Reference to Postoperative Packing. J. W. Miller, New York.—p. 456.
Tumor of Hypopharynx in Child of Eleven Weeks. D. J. G. Wishart, Toronto, Canada.—p. 458.
Practical Points in Diagnosis of Sinus Diseases from Point of View of General Practitioner. R. F. Ridpath, Philadelphia.—p. 460.
Broncholith and Pneumoconiotic Material Removed from a Bronchiectatic Cavity by Peroral Bronchoscopy. C. Jackson and W. H. Spencer, Philadelphia.—p. 461.
Traction Pulsion Diverticulum of Esophagus. H. Arrowsmith, Brooklyn.—p. 463.
Case of Laryngocele. S. Iglauer, Cincinnati.—p. 464.
Diseased Tonsils as Factor in Focal Infection. H. Rodman, New York.—p. 466.
Endocrine Gland Extracts; Their Manufacture and Use. S. G. Strauss, New York.—p. 468.

Heredity of Telangiectases.—The hereditary element in this disease is well shown in Freudenthal's case. The patient's mother and, as far as is known, one brother and one sister, suffered from recurring epistaxis. This was a case of multiple telangiectases all over the body, affecting the skin and mucous membranes of nose and throat, causing epistaxis of a dangerous character, together with syphilis, chronic nephritis and myocarditis. Every means to check epistaxis was tried but failed. The only thing that gives some relief to the patient now is thromboplastin, which he himself applies to the nose on a pledget of cotton. Intravenous injection of sodium citrate, 20 c.c. of 30 per cent. solution failed to check bleeding only for a short time, but the change in the coagulation time of the blood was remarkable, and it was noticed each time an injection was made. Thus, for example, at the very first trial the coagulation time before the injection was sixteen minutes. Three hours later it had gradually come down to only 1.5 minute. The effect was similar in the following attempts.

New York State Journal of Medicine, New York

February, 1921, **21**, No. 2

*Rôle of Colon Bacillus in Infections of Kidney. H. Cabot, Ann Arbor, Mich.—p. 35.
*Diagnosis of Right Iliac Fossa Pains and End-Results in 200 Chronic Appendicitis Operations. H. Barclay and C. A. McWilliams, New York.—p. 38.
Ward Treatment of Gonorrhea in Female. E. D. Barringer, New York. p. 42.
*Incidence of Cancer of Cervix Occurring in Retained Stump After Supracervical Amputation for Fibroids. J. O. Polak, Brooklyn.—p. 45.
Lethargic Encephalitis. H. L. Winter, Cornwall.—p. 48.
Results of Presence of Adenoids in Infancy. R. G. Freeman, New York.—p. 50.
Spontaneous Rupture of Heart; Spontaneous Rupture of Aneurysm of Heart; Primary Adenocarcinoma of Transverse Colon. K. S. Kennard, New York.—p. 52.
Compulsory Health Insurance. A. L. Benedict, Buffalo.—p. 54.

Colon Bacillus Infection of Kidney.—Observations have suggested to Cabot that colon bacilli are excreted by the kidney during pregnancy in a proportion of cases possibly large. In a series altogether too small to warrant conclusions they were found constantly in about 25 per cent. It is at least arguable, he says, that intestinal conditions commonly existing during pregnancy are likely to result in bacillemia and consequent bacilluria, which may still further facilitate the occurrence of infection. Cabot has also noted the frequency with which the so-called spontaneous pyelonephritis of men not associated with urinary obstruction has been associated with disease of the large intestine, often with so-called recurrent colitis, sometimes with mucous colitis. In adult life, and particularly in women, constipation and varying degrees of visceral ptosis are common and may result in throwing colon bacilli into the circulation more commonly than is believed. Cabot is positive in his assertion that the mere introduction of colon bacilli into the bladders of children will not produce infection. All the experimental and clinical evidence is against it. Even though it be quite arguable that infections in adults depend on some abnormal condition of the large intestine these conditions can hardly be assumed to exist in children and if they did it would be difficult to account in this way for the notorious immunity of boys as compared with their little sisters. True colon bacillus pyelonephritis is as rare in boys as it is common in girls.

Removal of Appendix.—Barclay and McWilliams claim that the appendix is taken out too indiscriminately for a multiplicity of diverse conditions, any or all of which may give rise to indigestion and right-sider pain. They plead for a little more thoroughness and conservatism in working out the preliminary diagnosis, and, at the time of operation, for a more careful exploration of the whole abdomen through an adequate right rectus incision, or a transverse one.

Cancer in Cervix Stump.—Polak states that cancer occurring in the retained cervix after the supracervical operation for fibroids occurs in approximately 2 per cent. of all fibroid tumors of the uterus. The great majority of these cases occur at the cancer age, namely, between 40 and 50, and in cervices that have been traumatized by childbirth, operation or have been the seat of chronic cervical inflammation. The great majority occur in the portio or just within the external os and are squamous cell cancer. Hence their point of origin is not removed by coning out the cervix. The interval of occurrence, excluding those cases in which the cancer has probably coexisted at the time of the operation, has varied from five to twenty-one years after the original operation. Therefore, the routine employment of supracervical hysterectomy in those fibroids which need operation should be abandoned. Partial removal of the uterus should only be employed when the cervix is free from injury or disease in the nulliparous women.

Ohio State Medical Journal, Columbus

March 1, 1921, **17**, No. 3

Juvenile Psychosis. H. H. Drysdale, Cleveland.—p. 157.
*External Malleolar Reflex: Chaddock's Sign. R. Ingram, Cincinnati.—p. 161.
Colds and Coughs. G. H. Boehmer, Sandusky.—p. 165.
Differential Diagnosis of Traumatisms and Diseased Conditions of Esophagus. T. Hubbard and E. G. Galbraith, Toledo.—p. 167.
Surgical Fads and Fancies. O. S. Steiner, Lima.—p. 170.
*Use of Iodized Table Salt in Prevention of Goiter. H. G. Sloan, Cleveland.—p. 172.
*Proctitis Sphingos. J. M. Frick, Toledo.—p. 174.
Intra-Ocular Infection with Organism of B. Subtilis Type. P. J. Stueber, Lima.—p. 175.
Placenta Praevia: Report of Five Cases. W. F. Dager, Lorain.—p. 177.

Chaddock's Sign.—Ingram has come to the conclusion that while the malleolar reflex does not in any way displace the Babinski, it would appear to be a more delicate sign and test. The Chaddock is a contralateral sign and is very useful in determining the degree of slight pyramidal trouble and it has the two advantages of appearing earlier and being seen later than the Babinski sign.

Iodized Sodium Chlorid to Prevent Goiter.—In an effort to provide an inexpensive routine and popular prophylactic, Sloan suggests the use of iodized table salt especially in those regions which are considered goitrous. To be efficient the concentration of the iodin does not need to be more than 1 in 5,000. If salt containing this minute quantity of sodium iodid could be used for all individual household purposes throughout the goiter belts, it is Sloan's opinion that the development of endemic goiter in the second generation would be prevented and that other goiterous conditions would not be exaggerated.

Proctitis Sphingos.—This condition is an acute inflammation of the rectal mucosa, extending from the white line of Hilton to the upper margin of the internal sphincter muscle. The pain associated with the disease is peculiar in that it usually occurs before the patient arises in the morning and gradually subsides after a movement of the bowels. The condition yields rapidly to local and general therapy.

Public Health Journal, Toronto

February, 1921, **12**, No. 2

Activated Sludge Process of Sewage Disposal. G. G. Nasmith.—p. 49.
Education Possibilities. Sex Education. L. A. Hamilton.—p. 59.
*Prevalence of Malnutrition in Public School Children of Ontario.—A. Brown and G. A. Davis.—p. 66.

Malnutrition in Schoolchildren.—Of 2,843 children examined by Brown and Davis in 1,256, or 44 per cent., were 7 per cent., or more underweight, and 751, or 26 per cent., were from 10 to 12 per cent., or more underweight. Estimating the total school population as 79,000, 26 per cent., are undernourished and in a serious state of health.

Virginia Medical Monthly, Richmond

February, 1921, **47**, No. 11

Conservative Application of Radium in Benign Conditions of Uterus. R. L. Payne, Norfolk.—p. 525.
Importance of Early Diagnosis and Early Removal of Ovarian Cystoma. W. L. Peple, Richmond.—p. 527.
Cardiospasm: Report of Cases. R. C. Fravel, Richmond.—p. 529.
Examination of Eye in Neurosurgical Patients. J. H. Baird, Richmond.—p. 532.
Diagnosis and Treatment of Diphtheria. W. L. Harris, Norfolk.—p. 536.
Clinical Manifestations of Chronic Appendicitis in Children: Diagnosis by Roentgen Rays. A. L. Gray, Richmond.—p. 538.
Importance of Early Recognition and Treatment of Bone and Joint Infections. W. T. Graham, Richmond.—p. 541.
Treatment of Neurosyphilis. R. F. Gayle, Jr., Richmond.—p. 543.
Pediatric Review While Doing Postgraduate Work in 1920. S. D. Hatfield, Iaeger, West Va.—p. 549.
Early, Intermediate, and Late Treatment of One Thousand Cases of Infantile Paralysis from Orthopedic Surgeon's Viewpoint. A. Myers, Charlotte, N. C.—p. 553.
Experience of Director in Field Hospital in A. E. F. I. Brown, Norfolk.—p. 555.
Peptic Ulcer. T. C. Harris, Kenbridge.—p. 558.
Use of Pneumococcus Antigen. G. A. Ezekiel, Richmond.—p. 561.

West Virginia Medical Journal, Huntington

February, 1921, **15**, No. 8

Rat Bite Fever; Case Report. A. Arkin, Morgantown.—p. 281.
Infant Foods and Infant Feeding. A. A. Shawkey, Charleston.—p. 284.
Influenza—Past and Present. H. E. Gaynor, Parkersburg.—p. 287.
Subcutaneous Use of Lobella Inflata. E. F. Moore, Davis.—p. 291.
Rupture of Rectum During Labor. A. J. Noome, Wheeling.—p. 301.

Wisconsin Medical Journal, Milwaukee

February, 1921, **19**, No. 9

Outline of Twelve Year's Study of Hodgkin's Disease and Allied Affections. J. L. Yates, Milwaukee.—p. 447.
Why Traveling Tuberculosis Clinic? O. Lotz and A. A. Pleyte, Milwaukee.—p. 451.
Results in Open Treatment of Fractures. J. F. Smith and M. L. Jones, Wausau.—p. 454.
Chronic Cystitis. J. C. Sargent, Milwaukee.—p. 456.
Pneumococcus Peritonitis. V. F. Marshall, Appleton.—p. 459.
Chronic Suppurative Otitis Media. G. E. Shambaugh, Chicago.—p. 462.
St. Andrew's Institute for Clinical Research. N. Andrews, Oshkosh.—p. 467.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

Feb. 8, 1921, **14**, No. 3

Human Intestinal Protozoa in North Queensland. P. A. Maplestone.—p. 283.
Occurrence of Certain Cestodes in New Hosts. T. Southwell.—p. 295.
Two New Cylicostomum Species from Horse. A. Kotlan.—p. 299.
Ceratopogonine Midges of Gold Coast with Descriptions of New Species. H. F. Carter, A. Ingram and J. W. S. Macfie.—p. 309.
Musca Inferior, Stein, Type of New Genus of Philaematomyine Flies (Diptera). M. Bezzi.—p. 333.
Some Statistics of Filariasis. J. W. W. Stephens.—p. 341.
New Species of Cestode (Anoplocephala Vulgaris) from an African Rhinoceros. T. Southwell.—p. 355.
Treatment of Malaria. XXXI. Time of Onset of Paroxysms in Simple Tertian Malaria. J. W. W. Stephens, W. Yorke, B. Blacklock and J. W. S. Macfie.—p. 365.
*Have Differential Leukocyte Counts Any Value? J. W. W. Stephens, W. Yorke, B. Blacklock, J. W. S. Macfie, C. F. Cooper and H. F. Carter.—p. 371.
Development of Larvae of Dirofilariaimmitis in Dog Fleas Ctenocephalus Felis and Canis. A. Breinl.—p. 389.

Value of Differential Leukocyte Counts.—The authors direct attention to the fact that a differential leukocyte count can only be of value if the portion of the film counted is of the same composition as the rest of the film, or of the same composition as corresponding portions of the film; that the blood which issues from the puncture is of the same composition as that in the vessels, i. e., that various drops from various punctures of a single individual made at the same time are of identical composition, and that the "normal values" of the textbooks are correct, otherwise there is no standard with which any leukocyte count can be compared. The authors state that they have not been able to discover how these "normal values" have been ascertained. These points are elaborated and the results of different investigations are presented.

British Medical Journal, London

Feb. 26, 1921, **1**, No. 3139

*Function of Kidneys in Enlargement of Prostate. J. F. Dobson.—p. 289.
Diseases of Infants Due to Prolonged Feeding with Excess of Carbohydrates. C. E. Bloch.—p. 293.
*Sapremic Glycosuria. C. G. Higginson.—p. 296.
Self-Inflicted Injuries in Civilian Practice. A. R. Short and C. H. Walker.—p. 298.
One Thousand Cases of Bilharziasis Treated by Antimony Tartrate. F. O. Lasbrey and R. B. Coleman.—p. 299.
Stenosis at Internal Meatus After Suprapubic Prostatectomy. A. Fullerton.—p. 301.
Herpes and Varicella. E. L. Elliott.—p. 302.
Concurrent Herpes Zoster and Varicella. R. Hill.—p. 302.
Treatment of Local Leishmaniasis. C. Donovan.—p. 302.
Bullet in Cauda Equina. D. H. Vickery.—p. 302.

Kidney Function in Enlarged Prostate.—Dobson urges that blood urea estimation should be carried out in every case of enlarged prostate before operation. Blood urea figures over 25 points to the desirability of a period of preliminary treatment, with drainage of the bladder either by catheter or through a cystotomy wound. If the tied-in catheter is used, further blood area estimations will show whether improvement is taking place. If not, a cystotomy should be done and further estimations carried out. When the blood urea and figures fall to under 30 prostatectomy may be done, the general condition of the patient being in other respects satisfactory. Preliminary cystotomy and regular antiseptic instillation is a method which deals with cases of impaired renal function, whether due to back pressure and renal infection.

Sapremic Glycosuria.—Higginson had a large carbuncle on the back of his neck and then discovered that he also had glycosuria. Contrary to the usual belief, the carbuncle was the cause of the glycosuria and not vice versa, in other words, it was a case of sapremic glycosuria. In sapremic glycosuria the sugar is relatively small in quantity. The largest quantity recorded by Higginson as having been passed in twenty-four hours is 1,400 grains (or 3 ounces). In diabetes the patient commonly passes from one-half to three-quarters pound, say, from 4,000 to 6,000 grains daily. Consequently, in sapremic glycosuria there is an absence of the great diabetic symptoms—namely, no hunger, no thirst, no emaciation, no polyuria.

Edinburgh Medical Journal

February, 1921, **26**, No. 2

Intestinal Tuberculosis. Analysis of Forty-Three Cases. F. M. Caird.—p. 73.
*Carcinoma of Stomach in a Boy Aged Fifteen. D. A. Laird.—p. 98.
Two Cases of Renal Decapsulation in Subacute Diffuse Nephritis. F. D. Boyd.—p. 104.
*Decapsulation of Kidney for Chronic Nephritis. J. S. Fowler.—p. 111.
*Chronic Nephritis in Children Treated by Decapsulation. J. W. Simpson.—p. 115.
*Decapsulation for Subacute Nephritis. J. Fraser.—p. 117.

Carcinoma of Stomach in Youth.—Laird cites the case of a boy, 15 years of age, without suggestive heredity or personal medical history, whose complaint was pain of a fortnight's duration, with occasional vomiting, the nature of whilh, and whose relation to the taking of food, had not been specified. There was a palpable epigastric tumor. The liver was enlarged. There was leukocytosis. Both test meal and vomit showed absence of free hydrochloric acid. There was no roentgen-ray evidence of value. There was no record of testing the stools for blood. Progressive and rapid loss of weight occurred. Laparotomy was performed and an inoperable growth was found. This was followed by a temporary improvement, but the disease terminated in death. Microscopic examination showed a columnar cell carcinoma of the lesser curvature of the stomach, with extensive metastases to lymph glands—gastric, pyloric, aortic, mediastinal—to the liver, the pancreas, and the diaphragm.

Decapsulation of Kidney for Nephritis.—In the three cases cited by Fowler markedly beneficial results from the operation of decapsulation of the kidney were noted in relieving the urgent symptoms of chronic parenchymatous nephritis.

Four cases are reported by Simpson illustrating the beneficial results in the chronic nephritis of childhood. One patient was aged 4 years; three were aged 9 years.

Fraser is convinced that the benefit derived from this operation is so great as to justify decapsulation of the kidneys

in cases of chronic nephritis which do not improve under medical treatment. It is advisable in all cases to operate on both kidneys, because while stripping one kidney often relieves all the symptoms for the time, the albuminuria continues, whereas the double operation offers a prospect of a cure. There is no advantage, but rather the reverse, in decapsulating both kidneys at the same time. The second operation should be postponed until the first has been recovered from.

Journal of State Medicine, London

February, 1921, **29**, No. 2

Theory, Conditions and Consequent Practice in Ship Disinfection. W. M. Willoughby.—p. 36.
Cancer as Public Health Problem. A. Charles and J. C. McWalter.—p. 46.
*Vaccination Against Bacillary Dysentery with Ether Vaccine. H. Vincent.—p. 54.
Prevention and Specific Treatment of Pneumonia. R. Cole.—p. 58.

Vaccination Against Bacillary Dysentery.—The vaccine used by Vincent is prepared by sterilizing young cultures by ether. It is an antidysenteric vaccine (polyvalent) and contains five strains of Shiga type, one of the Strong type, two of the Flexner type and four of type Y. Employed in experiments on rabbits this ether vaccine conferred a complete immunity against a positively virulent infection as proved by controls. The reaction to the injections was very slight. Of 2,175 men who received from 500 to 750 million of bacilli, fifteen suffered from either headaches or giddiness, six had temperatures of 38 C., one had a temperature of 40 C. with herpes labialis. Local pain was slight or completely absent. Neither edema nor redness were present, nor were the glands affected. On the day following the injection, fifteen men, who had failed to report sick, although in the initial stages of dysentery at the time they were injected, presented themselves suffering from very mild attacks of dysentery. During the five days following the vaccination, the number of cases continued to increase. After this there followed a rapid decline, and the epidemic ceased in a few days. The protection afforded may be indicated by the fraction $\frac{1}{11.75}$, that is to say the vaccinated are twelve times less attacked than the nonvaccinated. Vincent suggests that the injection of a more intense antigen would lead to an even more favorable result.

Lancet London

Feb. 26, 1921, **1**, No. 5087

International Organization and Public Health. G. S. Buchanan.—p. 415.
*Cerebrospinal Fluid in Disseminated Sclerosis. D. K. Adams.—p. 420.
Analysis of Gastric Contents, Obtained by Fractional Method. S. W. Cole and W. J. Adie.—p. 423.
Skin and Its Reactions. A. J. Hall.—p. 426.
*Two Cases of Congenital Hypertrophic Pyloric Stenosis Saved by Early Operations. W. G. MacDonald.—p. 428.
Standardization of Tuberculin. A. J. Eagleton.—p. 429.
Probable Case of Cerebral Ventricular Hemorrhage, Associated with Marked and Persistent Convulsions. E. J. Parry and O. K. Williamson.—p. 431.
Case of Diaphragmatic Hernia. A. E. Keown.—p. 431.
Two Cases of Relapsing Fever. R. Nixon.—p. 432.

Cerebrospinal Fluid in Disseminated Sclerosis.—It is held by Adams that the cerebrospinal fluid picture in disseminated sclerosis is as follows: a normal cell count, a negative Wassermann reaction, a syphilitic or paretic reaction to colloidal gold, and in most cases (83 per cent.) a normal protein content. The absence of a positive Wassermann reaction in the great majority of cases and the absence of pleocytosis are in accordance with the view that this disease is not of syphilitic origin. On the supposition that the origin might be spirochetal treatment was carried out by spirocheticidal drugs. In practically every case under treatment modifications toward a negative result of the colloidal gold reaction were noted. As regards clinical effects of such treatment, no improvement resulted in advanced cases of the disease, but prolonged treatment produced amelioration of early cases, and in one or two instances the results were marked. With reference to early diagnosis, emphasis is laid on the evidence of the cerebrospinal fluid picture and the absence of the abdominal reflex.

Hypertrophic Pyloric Stenosis.—MacDonald insists that early surgical treatment is indicated in all cases when hypertrophic pyloric stenosis has been diagnosed. Ramstedt's operation appears to be the only procedure which restores the pylorus to a condition approaching the normal. The general practitioner accustomed to surgical technic can successfully perform Ramstedt's operation even in the most severe cases of pyloric stenosis.

Medical Journal of South Africa, Johannesburg

November, 1920, **16**, No. 4

Some Public Health Problems as Viewed from South African Standpoint. L. G. Haydon.—p. 63.
Invertebrate (Molluscan) Hosts of "Schistosoma mansoni" and "Fasciola hepatica" in South Africa. A. Porter.—p. 75.
*Silicosis and Suicide. W. Watkins-Pitchford.—p. 76.

Silicosis and Suicide.—Watkins-Pitchford says that the view appears to be gaining ground among people generally that suicide is of unduly frequent occurrence among sufferers from silicosis. The conclusion which the available evidence appears to warrant is that silicosis does not specifically predispose to suicide, either directly by any particular mental effect of the disease, or indirectly by the production of insanity culminating in an act of self-destruction.

Tohoku Journal of Experimental Medicine, Sendai, Japan

December, 1920, **1**, Nos. 5 and 6

Variations in Biologic and Other Properties of Long Lived Red Blood Cells. J. Sogen.—p. 367.
Action of Cocain on Blood Vessels of Frog. K. Abe.—p. 382.
Exodic Excitation and Inhibition. K. Tashiro.—p. 387.
Effects of Restriction of Pulmonary Artery on Blood Pressure and on Volume of Some Organs, and Cause of Fall of Arterial Blood Pressure, Due to So-Called "Paradoxical Vasodilatatory Substances." K. Abe.—p. 398.
Cholesterol and Lecithin in Chylous Urine. M. Sano.—p. 448.
Simplification of Colorimetric Method by Utilizing Coloring Substances. M. Takata.—p. 460.
Agglutination of Typhoid Bacillus in Course of Immunization of Guinea-Pigs with Paratyphoid B. Bacilli. K. Aoki and T. Konno.—p. 475.
Subspecies of Proteus Bacilli; Crossed Agglutination as Aid in Differentiation of Bacterial Subspecies. K. Aoki and N. Iizuka.—p. 493.
Ester-Splitting Properties of Peripheral Nerves. S. Ukai.—p. 519.

Tropical Medicine and Hygiene, London

Feb. 15, 1921, **24**, No. 4

*Treatment of Smallpox by External Application of Potassium Permanganate. A. Balfour.—p. 37.
*Improvement of Oiling Fluids for Antimosquito Work. W. N. Leak.—p. 37.
Organism Resembling Bacillus Pestis. W. A. Young.—p. 40.

Potassium Permanganate Applications in Smallpox.—Treating smallpox by the external application of a solution of potassium permanganate was introduced by Dreyer in 1910. Bender of Breslau regards it as superior to every other therapeutic measure in smallpox. His technic is as follows: When the patient is admitted to hospital his whole body is painted over with a freshly prepared saturated 5 per cent. solution of potassium permanganate. On each successive day the same solution is applied unless the skin is found too sensitive, in which case a weaker solution is employed, one of 1.5 per cent. being often suitable. This treatment, especially if employed early, is of signal service in lessening the suppurative process and adding to the patient's comfort. It is also said to prevent complications, the formation of bed sores and the occurrence of general sepsis. Septic fever is thus avoided and the recovery rate improved. As the suppuration is mitigated the pitting of the skin is reduced. Further, it possesses hygienic advantages by lessening the risks of infection.

Effect of Castor Oil on Spreading Power of Paraffin in Antimosquito Work.—The observation recorded by Leak consisted in noting the extraordinary effect which small additions of castor oil have on the spreading power of paraffin. Castor oil is ordinarily said to be insoluble in mineral oils, but in a warm climate a mixture up to 2 per cent. can be made which will not separate out appreciably in a week, while in cool climates only about 0.5 per cent. will remain suspended for any length of time. However, the addition of very small amounts of castor oil makes a very decided difference on the behavior of the film. As little as 0.1 per cent. produces a very much more active film in every way, and the effect is more marked the higher the concentration.

Archives Médicales Belges, Liége

December, 1920, **73**, No. 12

Present Status of Psychotherapy. R. G. M. Laell.—p. 979.
*Serotherapy of Purpura. C. Cohen.—p. 988.
*Radioscopy of the Heart. H. Houdmont and L. Dautrebande.—p. 993.

Serotherapy of Purpura.—Cohen points out the resemblance between purpura and the phenomena of idiosyncrasy. As the symptoms are much alike, the same treatment may prove effectual in both, and Cohen realized this in the six cases described. The six children had been having recurring purpura with rheumatoid pains, fleeting edema, bad general condition and albumin, tube casts and erythrocytes in the urine at times. These waves of symptoms returned every week or two in the first case described, rebellious to all treatment, including calcium chlorid. After three months of ineffectual measures, the boy was injected with 4 c.c. of his own serum at three day intervals, a series of four injections, with another series a few weeks later. There has been no return of the purpura since, his health being excellent. In another child the purpura developed after a severe fright, and he was given four subcutaneous injections of serum from his mother's blood, with a second series two weeks later, and complete cure. In all these cases the number of leukocytes was high and complete recovery followed this serotherapy in every case except that one child died from intercurrent pneumonia after the injections. This child had been treated with diphtheria antitoxin as the most convenient form of serotherapy. In all the cases the improvement became manifest toward the third or fourth injection of the serum, that is, about the tenth day, which is the usual period for production of antibodies.

Radioscopy of the Heart.—Houdmont and Dautrebande give charts showing the most convenient method for radioscopy of the heart, which, they urge, should be applied as a routine measure. It is not instructive unless the orthodiagraphic method is used.

Archives de Médecine et de Pharm. Militaires, Paris

January, 1921, **74**, No. 1

Apparatus for Fracture of Long Bones. Maisonnet.—p. 3.
Recent Progress of Medicine. V. de Lavergne.—p. 119.

Bulletin de l'Académie de Médecine, Paris

Feb. 15, 1921, **85**, No. 7

Graduated Percussion. G. Hayem.—p. 197.
*Radium Treatment of Leukemia. L. Rénon and Degrais.—p. 207.
*Organotherapy in Uremia. Rémond and Menvielle.—p. 210.

Radium Treatment of Leukemia.—Rénon and Degrais report the outcome for ten years in eight cases of myeloid leukemia treated by radium exposures of the spleen. The immediate results were remarkable; the patients seemed cured. But in from two to eighteen months the signs of leukemia returned, and the curietherapy seemed to lose its influence. The myelocytes seemed to have developed a progressive resisting power to the radium rays. The conclusions from these and other experiences in this line are that to postpone recurrences and attenuate them, the irradiation should be as intense as possible, with longer intervals. The bone marrow also might be exposed, if there is reason to assume fibrous transformation of the spleen. They regard the destructive action of the radium and roentgen rays as closely analogous. They are confident that by this means survivals of five or six years, with every aspect of health, can be obtained.

Organotherapy in Uremia.—Rémond and Menvielle report that the Ambard constant showed a decided modification for the better in seven cases of uremia under the influence of parathyroid extract treatment. From the average of 0.44 before treatment it changed to an average of 0.085. Thyroid extract had the opposite effect, the coefficient from about 0.074 before, becoming 0.12 or 0.289 afterward. Under parathyroid treatment the urea in the blood dropped from 1.9 to 0.94 gm. (ten injections of the extract on alternate days with two cachets daily). In six cases the residual nitrogen in the blood that had averaged 0.20 before the parathyroid treatment, averaged only 0.074 afterward. The conclusion from the twelve cases of azotemia studied are that parathyroid treatment is harmless, and combats uremic intoxication.

Bulletin Médical, Paris

Feb. 2-5, 1921, **35**, No. 6

*Radiography in Gastro-Enterology. A. Sorel.—p. 103.
*Fasting and Antibodies in the Tuberculous. G. Ichok.—p. 106.

Feb. 19, 1921, **35**, No. 8

Auscultation in Mitral Stenosis. C. Lian.—p. 147.

Radiography in Gastro-Enterology.—Sorel insists that research on normal subjects will perfect radiology. The radiologist should complete his study by palpation when necessary. The contrast meal should have alimentary value, that is, it should contain carbohydrates, protein and fat and it should have a palatable taste. He emphasizes further that the different stages of the digestive canal must be examined as a whole, on account of the complicated reflex interplay.

Influence of Fasting on Antibodies in the Tuberculous.—Ichok reports research on three rabbits.

Bulletins de la Société Médicale des Hôpitaux, Paris

Jan. 28, 1921, **45**, No. 3

Present Status of Cerium Salts in Treatment of Tuberculosis. A. Frouin.—p. 49. Id. H. Grenet and H. Drouin.—p. 56.
*Cold as Factor in Sclerodermia. H. Dufour and Debray.—p. 58.
*Prophylaxis of Anaphylaxis. J.-A. Sicard and J. Paraf.—p. 60.
*Herpes Zoster in Anus Region. L. Rénon and P. Blamoutier.—p. 65.
Weak Pulse with Mitral Stenosis. G. Étienne and G. Richard.—p. 68.
Portable Sphygmomanometer. P. Menard.—p. 71.
*Syphilis Simulating Epidemic Encephalitis. G. Guillain, P. Jacquet and P. Lechelle.—p. 74. Idem.—p. 79.
*Pneumocolon for Roentgenoscopy. M. Faure-Beaulieu and H. Béclère.—p. 81.
Primary Pneumococcus Septicemia. Menetrier and Levesque.—p. 85.

Cold as Factor in Sclerodermia.—Dufour and Debray report the case of a woman, now 28, who has developed generalized sclerodermia in the course of the last six years. The first symptom had been the blanching of her fingers when they were exposed to cold, and the sclerodermia had then gradually become installed. They wrapped the woman's arms in cotton, with oiled silk outside, thus keeping in the warmth of the arm. This continuous warmth soon transformed the skin to normal conditions instead of the previous leathery aspect and stiffness. This method of keeping the skin constantly warm in treatment of sclerodermia—which was, they say, introduced by Dufour in 1908—has abolished sclerodermia, sclerema and edema from the pathology of the newly born. This treatment is further evidence of the influence of chilling as a factor in sclerema, paroxysmal hemoglobinuria, jaundice of the newly born, etc.

Anaphylactic Shock.—Sicard and Paraf cite a long array of research workers who have apparently demonstrated that anaphylactic shock and the shock sometimes observed after giving neo-arsphenamin are manifestations of flocculation in the serum and change in the electric charge of the colloids in the serum. The physical balance is upset, and the flocculation obstructs the capillaries, entailing fulminating asphyxia of the tissues. By preventing this physical upset, this *colloïdoclasie sérique* can be warded off, and they have found that injection by the vein of from 0.5 to 2 gm. of sodium carbonate, in 40 or 60 c.c. of saline or distilled water, is effectual, and there is no obliteration of the vessel at this dilution. Their experimental and clinical experience has also shown that sodium bicarbonate by the mouth, 10 to 15 gm. fifteen minutes beforehand, will ward off the anaphylactic shock to some extent but not so completely as the carbonate by the vein. Sodium hyposulphite seems to have a similar antianaphylactic action (Lumière). Repeated injection of a foreign serum or protein into man or animals induces the formation of precipitins in the subject's serum, but addition of a little sodium carbonate checks all precipitation in vitro. This experience can be repeated in the living subject. Even if his serum is known to be rich in precipitins, no precipitation occurs if he is given 1 gm. of sodium carbonate in 30 to 40 c.c. of fluid by the vein fifteen minutes before the test. This modern assumption of *réactions colloïdoclasiques* throws light on the familiar beneficial action of sodium bicarbonate in certain constitutional morbid conditions.

Herpes Zoster Encircling Anus.—The zona did not spread beyond this circle around the anus, but it had been preceded by symptoms for three or four days suggesting acute menin-

gitis in the woman of 35. The primary polymorphonucleosis in the cerebrospinal fluid testified to the acute involvement of the meninges, but then lymphocytosis supplanted it, and this has persisted for three months to date.

Syphilis Simulating Epidemic Encephalitis. — There is danger nowadays of ascribing to epidemic encephalitis nervous disturbances of other origin, as was done in two cases of syphilitic disease of the midbrain here described. One woman of 40 had been having neuralgic pains in the right side of the head and face, with ptosis of the ocular muscles, for nearly three weeks. She was apparently healthy otherwise, with four healthy children, but Wassermann tests were positive, and under specific treatment, improvement was realized. In a second case described, the neuralgic pains, ptosis, etc., on one side of the head, with erratic pains in neck and arm, and mental and physical weakness were accepted as signs of epidemic encephalitis but the lumbar puncture fluid gave a positive Wassermann reaction.

Pneumocolon.—Insufflation of the colon with carbon dioxid is often a great help in roentgenoscopic exploration of the liver and spleen. This is readily absorbed and thus is free from the drawback of oxygen and air for insufflation of the bowel. For the peritoneum it is no better than the other gases. as the disturbance from the insufflated gas is usually felt at once. Two cases are described in which 1.8 liters of oxygen had been gently injected into the peritoneal cavity and intense pains developed; in one case they came on as the patient tried to get up; in the other the pains developed while reclining, and they kept up for a week.

Journal de Médecine de Bordeaux

Feb. 10, 1921, **92**, No. 3

*Active Mobilization of Purulent Arthritis. A. Charrier.—p. 63.
*Embolism in the Retina. C. Lafon.—p. 66.
*Heat Stroke. Cheyrou.—p. 67.
Training Teachers for Physical Culture. Pierre-Nadal.—p. 68.

Active Mobilization of Purulent Arthritis.—Charrier warns that Willems' method is not applicable to all cases of purulent arthritis of the knee. The principle is that the best means to empty a joint of its secretions is by immediate and active mobilization. This is true theoretically, but it is often impossible to realize in practice on account of the intense pain therefrom. Charrier describes three cases in which the method actually aggravated conditions, and the fever did not drop until after the joint had been immobilized. Ineffectual mobilization is worse than none.

Embolism in the Retina.—Lafon describes a case in which vision was lost first in one eye and then in the other from obstruction of the central artery of the retina in a man of 66 with arteriosclerosis.

Heat Stroke.—In Cheyrou's case the symptoms from the heat stroke simulated an attack of pernicious malaria, with aphasia, except for the normal size of the spleen and deviation of the head and eyes. Artificial respiration had to be kept up for a long time, with the measures suitable for a pernicious attack of malaria in addition. The man was superintending road building in a French colony.

Journal d'Urologie, Paris

October, 1920, **10**, No. 4

*Anesthesia of the Bladder. P. Noguès.—p. 249.
Operative Case of Bifurcation of Urethra. T. Rietz.—p. 259.
Urinary Calculi in Soldiers. C. Gauthier.—p. 269.
Perforation of Urethra by Projectile. Lévy-Weissmann.—p. 271.
Bullet Voided in Urine; Two Cases. A. Grandjean.—p. 275.

Anesthesia of the Bladder.—The resistance of the bladder to general and spinal anesthesia is explained by Noguès as the natural result of the independence of the diseased bladder from the nerve centers. The only stimulus it obeys is that from distention of its walls. Refraining from anything liable to induce distention of any part of the bladder wall is the secret of success in intravesical maneuvers. General anesthesia does not suppress this functional sensibility to distention, but it attenuates it, while local anesthesia within therapeutic range does not modify it in the least. With cystitis or other anatomic lesion, this functional sensibility to distention is magnified; even the slightest contact with the wall may induce the muscular contraction for micturition. By curing the cystitis, this extra excitability may be reduced. Silver nitrate has proved its usefulness for this to such a point that it may be called the best of local anesthetics for the bladder.

Paris Médical

Feb. 12, 1921, **11**, No. 7

*Meningitis in Infants. L. Caussade and A. Rémy.—p. 129.
*Asepsis in Surgery. R. Sorel.—p. 132.
*Serotherapy to Aid Consolidation of Fractures. T. Pétrault.—p. 136.
*Sign of Pregnancy. Dezwarte.—p. 139.

Meningitis in Infants.—Caussade and Rémy ascribe great importance to the bulging of the fontanel as an early sign of acute hydrocephalus developing from meningitis in an infant. This is characteristic of ventriculitis. In a case described, the 3 months' old infant had been sick for a month with a vague infectious condition until the diagnosis was rendered possible by hydrocephalus, the fifty-second day. At once meningococcus antiserum was injected directly into the ventricle through the fontanel, and the child improved, but it died nine days later. This long latent phase of meningitis is frequently observed in infants. Other special features are the lack of fever and the alternations of improvement and aggravation in the general condition. The meningitis manifests itself insidiously. The openings for communication in the infant skull are so small that they become blocked very readily. This child might have been saved perhaps if the ventricle had been punctured as soon as hydrocephalus was suspected. Some advocate intraventricular serotherapy when the antiserum cannot be injected by the lumbar route, without waiting for signs of hydrocephalus. Others urge the intraventricular injection from the first, whenever cerebrospinal meningitis is diagnosed in an infant. Quite large amounts of the fluid may be withdrawn without apparent harm. Some advise lumbar puncture at the same time as the ventricular puncture, injecting the antiserum into the lateral ventricle until it flows from the needle in the lumbar region, thus rinsing out the whole canal. The injections must be made in the ventricles in turn, generally once every second day. In conclusion they mention the possibility that there may be a focus of meningitis at the base of the brain which escapes the action of the serotherapy. This might be reached by Bériel's sphenoidal puncture, but this would be difficult in an infant.

Asepsis of the Field of Operation.—Sorel discards all antiseptics and uses gloves and a varnish for the field of operation. He makes the varnish of 20 gm. mastic; 50 gm. chloroform and 1 gm. linseed oil, and paints the field of operation with this, and lays over it a compress which sticks to the skin, each side of the incision. He has thus discarded all disinfectants for his hands and the field of operation for six or seven years, with increasing satisfaction. He does not apply any dressing to an uncovered surface, merely coating it with varnish. Antiseptics, he insists, never actualiy sterilize the skin, but facilitate infection by irritating it.

Serotherapy for Delayed Healing of Fractures.—Pétrault succeeded in retarding the healing of fractures of long bones in seventeen dogs by keeping them on an inadequate diet. He then injected the dogs with serum from other dogs, normal otherwise, that had recently recovered from fractures with normal consolidation. The results demonstrated, he says, that this serotherapy had an unmistakable effect in promoting the healing of the fracture. The serum was most effectual the more recent the fracture. Horse serum showed no efficacy in this line. He also describes four clinical cases in which fracture of the femur or tibia had refused to heal properly under long treatment. Then he injected serum from a person recently recovered from a fracture with good consolidation, and in a few days the fractures began to heal. Not only the consolidation was complete but the function seemed perfect in the cases reported, in from sixteen to twenty days. This method of serotherapy was first applied by Guyot of Bordeaux.

Sign of Pregnancy.—Dezwarte comments on the movability of the normal uterus and the importance of noting whether the palpating finger in the vagina feels the side of the cervix first, then the os, then the other lip of the cervix and the

aginal culdesac, or the finger meets the center of the cervix n the axial line of the vagina. This difference shows that nstead of the uterus being in the normal anteflexion, at a nore or less right angle to the vagina, it lies in a line with ie axis of the vagina, with tendency to slide down into ie latter. This position indicates that the uterus is heavier ian normal. The uterus is rendered heavy by the menstrual ongestion preceding the onset of the menses, or else from the mbedding of an ovum. If the menstrual discharge does not ollow within a few days, the presumption of incipient pregiancy is justified. If the uterus is found at the normal angle o the vagina and menstruation is not evident, general treatnent for amenorrhea should be applied.

Feb. 26, 1921, **11**, No. 9

Iron Deposits in Liver. A. Gilbert and H. Surmont.—p. 161.
Graft of Toe on Thumb. R. Grégoire.—p. 164.
Peptone Treatment of Hemophilia. A. Radovici and S. Iagnov.—p. 167.
Technic for Artificial Pneumothorax. R. Hervé.—p. 169.
Intestinal Hemorrhage at Kelotomy. R. Ducastaing.—p. 171.

Graft of Big Toe to Restore Thumb.—Grégoire implanted he stump of the metacarpal bone of the right thumb in the :avity left by resection of the first right metatarsal bone, and mmobilized in plaster the hand and foot thus united. The)atient was a boy of 15, and the plaster was suspended by)ulleys and weights. The results are highly satisfactory, but in osteotomy was required later to twist the toe around. This :ould have been avoided if the left toe had been used. The supple tissues of the young adapt themselves remarkably to he contortion required.

Peptone Treatment of Hemophilia.—Three brothers of the iemophiliac man of 36 were hemophiliacs, as also his two incles, two of his five nephews and one great nephew. Sub:utaneous injection of 5 c.c. of a 5 per cent. peptone solution reduced the coagulating time from two hours to half an hour on the slide and from five to two hours in the tube. But the effect did not last more than twenty-four hours. Even this transient effect, however, may influence favorably the local accidents from hemophilia. Injected by the vein, the peptone did not modify the coagulating time, while the first three of the six intravenous injections induced a severe reaction. The peptone solution is made with 5 gm. peptone; 0.5 gm. sodium chlorid, and 100 gm. of distilled water at boiling point; filtering and sterilizing at 120 C. Six subcutaneous injections were made in the two weeks, but the coagulating time returned to the former status the following day each time.

Intestinal Hemorrhage at Kelotomy.—The strangulation was recent and very tight, and the hernial sac contained several loops of the small intestine. Half an hour after the herniotomy half a basinful of blood was voided from the bowel, with a smaller hemorrhage later, followed by smooth recovery.

Presse Médicale, Paris

Feb. 12, 1921, **29**, No. 13

*Alimentary Hemolysis in Diabetes. F. Widal, P. Abrami and N. Iancovesco.—p. 121.
Sacralization of Fifth Lumbar Vertebra. E. Ledoux and G. Caillods.—p. 123.
Persisting Ductus Arteriosus. Constantinescu and Danulescu.—p. 124.
Diuretic Medication. L. Cheinisse.—p. 126.

Alimentary Hemolysis in Diabetes.—By having diabetics ingest 20 gm. of glucose in 200 c.c. of water, fasting and counting the leukocytes every twenty minutes for an hour and a half, a typical *crise hémoclasique* is observed, revealed by the drop in the number of leukocytes. The hemolysis is transient, but the whites sometimes dropped from 7,000 to 3,600; in one patient from 13,800 to 6,600; in another, 7,400 to 5,300. This hemolysis occurred in 97 per cent. of 34 diabetics tested, while none of 20 other persons, healthy or with various other diseases. showed any trace of the transient phase of hemolysis, even after ingestion of up to 100 gm. of glucose. In 20 others with evident disease of the liver, there was no hemolysis except in 6, and in these only with very large doses; in 5 in this group of 6 the liver disturbances were of cardiac origin. The *crise hémoclasique* elicited sometimes in diabetics with as little as 3 or 5 gm. of glucose, or even 2 gm., in one case, was pronounced. It seems to be a new fact in biology, the authors remark, and one that can be easily determined at any time, as a *stigmate humoral* of diabetes. Lactose, levulose and saccharose induce the same transient hemolysis, but it is not quite so intense. The hemolysis usually becomes evident in not less than forty minutes but had always subsided in their tests within an hour and a half. A reactional leukocytosis follows the leukopenia. (A study of digestion hemolysis as a sign of insufficiency of the liver was summarized in these columns, Jan. 22, 1921, p. 275.)

Feb. 16, 1921, **29**, No. 14

*Asthenia of Syphilitic Origin. P. Merklen, A. Devaux and A. Desmoulière.—p. 133.
*Trauma of the Uterus at Term. P. Constantinesco.—p. 135.
*Fracture of the Acetabulum. J. Dupont.—p. 135.

Asthenia of Syphilitic Origin.—Evidence is presented to show that asthenia in many cases is the result of a polyglandular endocrine derangement of syphilitic origin. The syphilis may be acquired or inherited, the disease ignored or supposed to have been cured, or the asthenia may be the only manifestation of inherited syphilis. The patients—generally women—complain of continual or intermittent weariness. They are not sick enough to be kept at home, but they have to make an effort for everything, and are constantly complaining, and are generally regarded as lazy, or that their troubles are imaginary. With asthenia in a woman, the husband should be examined for syphilis, and in children, the parents. The Wassermann reaction may be positive when extremely sensitive technics are used. But the convincing argument is the way in which the asthenia is thrown off and the whole aspect of life changed for the patient under specific treatment in the majority of cases when kept up long enough. Adjuvants are good but not indispensable; organotherapy is incapable of modifying the syphilitic lesion of the ductless glands. In the experiences of the writers suggestion was excluded. The asthenia may yield to specific treatment before the Wassermann reaction is modified.

Wounds of the Uterus at Term.—Constantinesco commends the slight additional traumatism represented by cesarean section when it is thus possible to save the child and the uterus and hasten the woman's recovery. In the case reported, the woman of 32, at term, was gored by a bull, the horn perforating the uterus. Cesarean section a few hours after the accident allowed suture of the uterine wound after removal of the living child, thus providing ample drainage from above and below. When the operation can be done soon enough to avoid infectious processes, the uterus can be saved, but after delay of a day or two the uterus should be removed.

Fracture of the Acetabulum.—In the case described, the comminuted fracture of the left cotyloid cavity allowed the head of the femur to slide into the pelvis, and healing was defective. Even if it had been possible to apply extension to bring the femur into place, it is a question whether it could have been maintained there. A plaster cast had been applied for several months, and the man was able to work for five years, but the use of the hip is growing painful and he is unable to stand long. There is no ankylosis; no operation is suggested at present.

Feb. 19, 1921, **29**, No. 15

Inaugural Lecture of Pediatrics Course. Nobécourt.—p. 141.
*Action of Epinephrin in Heart Block. R. Lutembacher.—p. 145.
*Treatment of Epidemic Encephalitis. L. Cheinisse.—p. 146.

Action of Epinephrin in Heart Block.—Lutembacher gives some tracings showing the effect of epinephrin on the heart with total and partial heart block. The beat of the auricles and of the ventricles is each accelerated, but independently of each other. The consequences are liable to be disastrous. The stimulating effect on the heart is beyond question, but its effect on conductivity may be slight or nil. Intravenous injection of epinephrin while accelerating the ventricle beat often entails long pauses followed by syncopes. The most dangerous feature of the epinephrin treatment, however, is that after the phase of acceleration the heart beat may be seriously retarded for several days. This inhibition may be dangerous in case of complete dissociation of the auricle and ventricle beat.

Treatment of Epidemic Encephalitis.—Cheinisse reviews the different publications on treatment, and says that none

have stood the test of time except the turpentine fixation abscess. Pic published excellent results with this, Feb. 3, 1920, and Netter has been advocating it since March, 1920. The abscess developed in sixty-seven of eighty-three cases treated in this way, and the mortality in this group was 7.46 per cent. In the sixteen other cases in which the injection did not induce the formation of an abscess, fifteen died. The turpentine injection should be made early, recovery having been more rapid and more complete the earlier this treatment had been instituted. If one injection does not answer the purpose, another can be made in forty-eight hours and a third two days later. The first injection is usually made in the subcutaneous tissue of the abdominal wall, half way between the left iliac spine and the umbilicus. It is better to use old turpentine, and inject 1 or 2 c.c. in adults and 0.25 to 0.5 c.c. for children. The only other measure that is advocated is the use of hexamethylenamin which Netter advises to give by mouth. Injected into a vein it disappears from the blood too quickly, and to keep the arachnoid cavity under its influence small doses by the mouth, frequently repeated, seem to be more effectual. On account of possible danger to the kidneys from this drug, he gives it in declining doses from 2 to 1 gm. Netter has gradually abandoned other measures, except that he may give 3 or 4 drops of epinephrin every three hours to combat asthenia. Pic recommends subcutaneous injection of epinephrin when the heart or oblongata seem weak. With delirium and neuritic pains, hot baths every three or six hours may be useful. In conclusion Cheinisse remarks that the so-called sequelae of epidemic encephalitis generally represent a chronic form, with sudden flaring up. Pic combats them with tepid hydrotherapy, revulsion to the spine, while reducing toxic action with appropriate diet, and giving hexamethylenamin at the same time.

Progrès Médical, Paris

Feb. 19, 1921, **36**, No. 8

*Clinical Import of Ecchymoses. A. Bréchot.—p. 79.
The Medical Secret. Garçon.—p. 81. Conc'n.
Epidemic Hiccup Plus Acute Otitis. Loeper and Forestier.—p. 82.

Clinical Import of Ecchymoses.—Bréchot emphasizes that a tardy and extensive ecchymosis after an injury is almost a certain sign of fracture of the bone. With extracapsular fracture of the neck of the femur and trochanter, the crushing of the spongy bone causes an extensive ecchymosis on the outside of the thigh, but with intracapsular fracture the hemorrhage is slight, and it usually presents only in the base of the inguinal triangle. Tearing off of the external malleolus may entail a linear ecchymosis which may be the only symptom. With a sprain, the ecchymosis encircles the external malleolus and extends downward. Fracture of the heel bone causes considerable ecchymosis which surrounds the ankle and spreads upward and down on the sole. Ecchymosis at the umbilicus suggests a wound of the convex surface of the liver. The blood from a superficial lesion develops an ecchymosis within a few hours. It requires twenty-four or thirty-six hours for it to infiltrate the skin from a lesion in the subcutaneous cellular tissue. Deeper than this, it may take from three to six days to appear. The ecchymosis is particularly instructive with fractures of the skull. A horse-shoe ecchymosis of the palate is a symptom of fracture of the upper jaw. An increase in the blood pressure may induce an apparently spontaneous ecchymosis, likewise vasomotor disturbance and trophic changes in the vessel walls.

Schweizerische medizinische Wochenschrift, Basel

Feb. 10, 1921, **51**, No. 6

*Origin and Growth of Kidney Stones. R. Schweizer.—**p. 121.**
*Retrobulbar Neuritis. J. Strebel.—p. 123.
*Removal of Tattooing. P. Cattani.—p. 128.
Epidemic Encephalitis at Geneva. G. Piotrowski.—p. 132.
Treatment of Third Stage of Labor. R. von Fellenberg.—p. 135.

Origin and Growth of Kidney Stones.—Schweizer urges repeated radioscopy of kidney stones to learn their origin and growth.

Retrobulbar Optic Neuritis.—Strebel calls attention to the importance for the prognosis of a change in the shape of scotoma, especially in diabetics. Axial neuritis of chronic development shows an oval blind area in the visual field for red and green. In severe but benign cases of the acute form of axial neuritis, the scotoma is pericentric and star-shaped. This four-point star shape is generally the expression of inflammation from infection, or of toxic action or both. The oval chronic form is the manifestation of dystrophia and degeneration, and this diabetic papillomacular neurodystrophia is of grave prognosis. He found it once in an operative case of mammary cancer with multiple metastases. He insists that every practitioner can and should test for central scotoma. A good qualitative test is with the stereoscope, as he explains. Transient scotoma for red and green may follow even the smoking of a strong cigar. This method of examination may be useful in exploring stomach functioning. A large proportion of the cases recorded as amblyopia in diabetics are in fact cases of chronic neurodystrophia.

Removal of Tattooing.—Cattani gives a historical sketch of this subject from the mummies, 4,000 B. C., to modern times, and discusses the different methods for eradication of the pigment. In the days of ancient Rome cantharides were used, and other substances. At present, thirteen different methods can be applied, as he relates, no procedure being applicable to all kinds of cases. The practitioner had best choose, he says, between the Variot method, the galvanocautery under local anesthesia, "harpooning" according to Wederhake, and excision of the pigmented area, giving the details of the technic of each. He has applied the Variot method in a number of cases with complete removal of the tattooing, as a necrotic scab is thrown off after the inflammation from rubbing in silver nitrate and pulverized tannin. The procedure is painful, and takes much patience and time. The harpooning is done through an incision, turning back the skin flaps and picking out the deposits of pigment from the under side of the skin. The skin flaps are turned back and fastened to a small board. This exposes all the deposits of pigment without modifying the skin except for the one incision.

Pediatria, Naples

Feb. 1, 1921, **29**, No. 3

*Bactericidal Power of Intestinal Mucosa. U. Soli.—p. 97.
*The Wassermann Reaction in Human Milk. C. L. Rusca.—p. 121.
Thymic-Lymphatic Status with Rachitis. G. Jemma.—p. 126.
*Mesenteric Cysts in Children. F. Valente.—p. 131.

Bactericidal Power of Intestinal Mucosa.—Soli reports experiments on rabbits which have demonstrated a specific biologic bactericidal action of the intestinal lining epithelium. It varies in intensity, and in different portions of the intestine, being strongest in the jejunum. Any deep pathologic process with complete ischemia arrests this property completely.

The Wassermann Reaction in Human Milk.—Rusca's further experience has confirmed the presence of specific antibodies in breast milk, even in advanced lactation. The reaction is not so sensitive as the reaction in the blood, but a positive reaction in breast milk is strong presumptive evidence in favor of grave and still active syphilis. Under specific treatment the reaction becomes negative in the milk before it disappears from the blood.

Mesenteric Cysts in Children.—Valente knows of only twenty-four cases of this kind in children under 7, and adds to the list another case in a girl of 6. There had been symptoms for seven months before the tumor was discovered and removed. About a third of a liter of fluid was extracted, but the sac could not be shelled out. Its walls were sutured to the walls of the incision, and the cyst was treated until it was deemed safe in a few days to reduce it. The child has been in the best of health since. The tumor had been palpated in the region of the mesogastrium.

Policlinico, Rome

Jan. 15, 1921, **28**, Surgical Section No. 1

*To Prevent Disability After Trauma of Hand. E. Fossataro.—**p. 1.**
*Primary Tumors of the Vagina. G. Piccagnoni.—p. 8.
*Acute Lumbar Spondylitis. S. Pulvirenti.—p. 27.
*Intradermal Test for Echinococcus Disease. G. Serra.—p. 35.

Prophylaxis of Traumatic Disability of the Hand.—Fossataro discusses the various indications and technics for preventing and curing traumatic disability of the hand. He

remarks in conclusion that the cineplastic methods should be applied as a routine measure for all amputations affecting the use of the hand.

Primary Tumors of the Vagina.—In the first of Piccagnoni's three cases the primary tumor was a fibromyoma, in the second a sarcoma, in the third an epithelioma. Recurrence is the rule with vaginal sarcoma in women, and ulceration and metastasis are common, but the latter is rare in children.

Lumbar Spondylitis.—The young man presented symptoms suggesting acute spinal cord disease. The acute onset of the pain in the lumbar vertebrae, with fever, retention of urine and paresis of the legs had been preceded by ten days in which several furuncles had developed with slight fever. An exploratory lumbar puncture brought pus. It could not have come from the subarachnoid space as there were no signs of purulent spinal meningitis. Staphylococci were found in the extradural pus, and evacuation of the process put an end to all symptoms. The young man has been in good health during the eight months since.

Intradermal Test for Echinococcus Disease.—Serra declares that a positive reaction to intradermal injection of 0.5 c.c. of hydatid fluid is a reliable sign of existing echinococcus disease. There was never any reaction in the twenty-two cases of other diseases tested. If the walls of the cyst are too thick to allow absorption of fluid, or prolonged suppuration in the cyst has modified conditions, the test may not elicit any response, but this is very exceptional.

Feb. 7, 1921, **28**, No. 6

Postencephalitic Insomnia. G. Roasenda.—p. 181.
*Transplantation of Ileocecal Valve. A. Caucci.—p. 186.
*Ether Treatment of Pertussis. G. Genoese.—p. 187.
Some Hematologic Data. V. Giudiceandrea.—p. 190.

Transplantation of Ileocecal Valve.—Caucci reports his success in experiments on dogs in which after resection of the segment of bowel he reimplanted the ileocecal valve in the colon. By this means regurgitation and passage of gases in the five surviving dogs were effectually prevented by the valve action.

Injection of Ether in Whooping Cough.—Genoese states that the results with vaccine treatment in forty children with whooping cough were uncertain. But the results of 0.5 to 2 c.c. of ether, injected deep into the gluteal muscles, were better and more reliable and permanent than with any other measure he knows of to date. He tabulates the details of the twenty cases in which this treatment was applied. From three to six injections were made, beginning at the sixth to fifteenth day of the disease. The ages ranged from 6 months to 11 years. The treatment is kept up for from six to twelve days, making the injections every second day. The first injection may be transiently a little painful; he massages the spot first with a little alcohol and ether. There never was much swelling or any suppuration. The vomiting stops, he says, as if by magic; the general condition improves, and the paroxysms are milder and gradually cease altogether. Diuresis was increased, but the urine kept normal. The effect on the pertussis was equally good in the cases complicated with pneumonia, the pneumonia itself being favorably modified also. Lassalle has recently reported similar benefit in some cases of pneumonia following measles. The heart beat was always transiently accelerated, but by an hour or a little more it was normal once more.

Riforma Medica, Naples

Jan. 29, 1921, **37**, No. 5

Teaching of Internal Medicine. M. Ascoli.—p. 97.
*Primary Lymphosarcoma of the Tonsil. F. Fedeli.—p. 100.
Behavior of Bacillus Prodigiosus in Conjunctival Sac. Mazzei.—p. 102.
*Complement Fixation in Amebic Dysentery. L. Scalas.—p. 103.
Volvulus of Cecum from Membranous Pericolitis. C. Silvan.—p. 104.
*Pulmonary Docimasia. M. Carrara.—p. 108.
*Surgery of the Mamma. E. Aievoli.—p. 110.

Primary Lymphosarcoma of the Tonsil.—Fedeli's patient was a woman of 52, with recovery, after tonsillectomy, during the ten months to date.

Complement Fixation in Amebic Dysentery. — Scalas obtained positive results in four cases of amebic dysentery and negative in four of bacillary dysentery, using a specific antigen derived from the scraps of intestinal mucosa in the patients' stools. It is thus possible by the complement fixation test to distinguish between amebic and bacillary dysentery.

Pulmonary Docimasia.—Carrara is director of the Medico-legal Institute at Turin, and he endorses Icard's method of expanding the small amount of air imprisoned in the alveoli if there has been respiration in a lung, even though it is empty of air at the time of examination. The air can be expanded by transferring the scrap of lung from cold water to hot water near to boiling. As the fragment allows the escape of the air, bubbles rise to the surface. The air inclosed in the scrap expands and distends the scrap, which then floats. Or the fragment can be placed in water previously boiled to expel the gas, and then, by aspiration of the air over its surface, any air contained in the fragment of lung expands. As the pressure is thus reduced, the fragment floats. Another means of testing whether there has been respiration in the lung is to submerge the fragment in an alcoholic solution of potassium hydroxid (15 gm. in 50 c.c. alcohol). The fragment dissolves, but bubbles of air appear on its surface as it is destroyed by the hydroxid, while the surface of the fluid in the test tube is raised to correspond. These three simple tests do not require any instruments; of course they are all negative if air has not entered the lungs.

Surgery of the Mamma.—Aievoli warns that we must not overestimate the value of radium treatment; its field, he thinks, is in inoperable cases and as an adjuvant to operation.

Brazil-Medico, Rio de Janeiro

Jan. 15, 1921, **35**, No. 3

*Cataphrenias. A. Austregesilo.—p. 35.
Reform in Medical Education. Azevedo Sodré.—p. 36. Conc'n.

Jan. 29, 1921, **35**, No. 5

Auto-Bone Implants. J. Gouvêa.—p. 61.
Pathologic Anatomy of Peritonitis. Brito e Silva.—p. 62.

Cataphrenias.—Austregesilo has been teaching for some time that the curable cases of dementia praecox and similar diseases should be classed apart, and for this class he has coined the term cataphrenia. A wide variety of causes, from syphilis to epidemic encephalitis, may induce this spurious dementia praecox. It includes many cases of manic-depressive psychosis of a confusional type, post-traumatic psychoses, curable chronic confusion, delirium of a catatonoid type, confusional hysteric psychoses on an oniric basis, and probably many cases erroneously labeled dementia praecox although the patients finally recovered. He adds that in the classic description of dementia praecox by Kraepelin in his textbook, he alters the description somewhat in each succeeding edition. Time will probably define still more clearly this notion of cataphrenias.

Revista Española de Med. y Cir., Barcelona

December, 1920, **3**, No. 30

*Treatment of Obstruction of the Nose. R. Botey.—p. 639.
Simulation and Concealment of Ocular Anomalies. S. Viusá.—p. 641.
*Scarlatinal Mastoiditis. J. Torrents Castelltort.—p. 646.
*Arthritis of Focal Origin. Ramón Torres Casanovas.—p. 647.

Treatment of Obstruction of the Nose.—Botey protests against the application of the cautery or knife in treatment of hypertrophic rhinitis. This leaves a lesion, and usually entails dry rhinitis. He has avoided this by stretching the passage, and gives illustrations of the instrument with thumb screw with which he forces the inferior turbinated bone out of the way to open the passage wider. He prefers general anesthesia for the purpose, as the sensation from the crushing of the bone is disagreeable even under local anesthesia. He then introduces a rubber tube which holds the bone in its new position while allowing free respiration and expulsion of secretions. A warm 1 per cent. solution of sodium chlorid is used to rinse out the nasal cavity three times a day and the tube can be removed in a week. The results have been permanent for three years to date in the majority of his patients, but in a very few the obstruction returned, compelling finally the usual mutilating treatment.

Scarlatinal Mastoiditis.—Torrents Castelltort reports a case with intense otomastoiditis, with symptoms on the part of the

brain and meninges, which confirms the pathogenic influence of tonsillitis in the development of scarlatinal otitis media. The extension of the process was evidently due to aberrant mastoid cells. Early paracentesis of the tympanic membrane saved the hearing, and recovery was prompt after resection of the base of the mastoid and removal of a sequester.

Arthritis of Focal Origin.—This article is a summary of the work of Americans in curing chronic arthritis by removal of an infectious focus elsewhere.

Revista del Instituto Bacteriológico, Buenos Aires

May, 1920, **2**, No. 5

Normal Horse Serum in Treatment of Diphtheria. R. Kraus and A. Sordelli.—p. 613.
*Experimental Goiter. B. A. Houssay.—p. 629.
*Thyroidectomy in Horses. B. A. Houssay and E. Hug.—p. 637.
Epidemiology of Tuberculosis in Argentina. Carbonell.—p. 653.
Dysenteric Toxin in Birds. A. Sordelli.—p. 665.
*Production of Antiserums. A. Sordelli.—p. 673.
Antibodies Normally in the Blood. A. Sorelli.—p. 679.
Test for Anthrax Antiserums. P. Beltrami and J. M. Grassi.—p. 689.
Antiserum for Borna Disease in Horses. Kraus and Beltrami.—p. 701.
Vaccine Against Contagious Epithelioma in Fowls. Negrete.—p. 713.
Serologic Tests in Various Diseases. Ariazzi and Pico.—p. 721.
*Insect Transmitting Chagas' Disease. E. del Ponte.—p. 729.
Vaccination Against Influenza. R. Kraus.—p. 745.

Experimental Goiter.—Houssay reports that goiter developed in two rats at Buenos Aires that were given exclusively water from a remote focus of endemic goiter. The water in demijohns was three or five or more days en route. Several lots of twenty white rats each were given the water for about six months, but in none of the others was there any tendency to enlargement of the thyroid. No tendency of the kind had ever been noted in 160 normal Buenos Aires rats examined, nor in eighty others dying from various causes. Spontaneous goiter has never been found at Buenos Aires in any laboratory animals. Bircher reported macroscopic goiter in 90.1 per cent. of 484 rats tested in this way in Switzerland.

Thyroidectomy in Horses.—Houssay and Hug report that thyroidectomy seemed to retard the growth of colts, but adult horses did not show much disturbance after the thyroidectomy. Some of the eight animals experimented on died in a few months, apparently from general debility.

Improved Preparation of Antiserums.—Sordelli commends the technic described as allowing rapid preparation of the serum on a large scale. The blood is drawn into a 2.6 per cent. solution of sodium oxalate (40 c.c. to each liter of blood). The plasma is siphoned out after forty-eight hours, and it is then coagulated with 1.2 to 1.4 gm. of calcium chlorid to each liter. This precipitates the oxalic acid, and the serum is then filtered through porcelain. This technic yields serum to 60 per cent. of the blood, and there seems to be less tendency to serum sickness with the antiserum thus prepared.

Insect Transmitting Chagas' Disease.—The anatomy and biology of the triatoma are reviewed, with twenty-eight illustrations of this biting beetle-like insect.

Semana Médica, Buenos Aires

Aug. 5, 1920, **27**, No. 32

*Access to Tonsil Through Side of Neck. L. Mérola.—p. 165.
Research on Dystocia. E. A. Bocro.—p. 168. Cont'n.
Diphtheria Antitoxin in Treatment of Epidemic Encephalitis in Child: Recovery. N. Capizzano.—p. 182.
Dermoid Cyst in Both Ovaries. J. González.—p. 183.

Access to Cancer in Nasopharynx.—Mérola relates that he has been advocating access to the tonsil region from the side since about 1906. The key to the neck, as he calls it, is the fibrous band passing from the external sternocleidomastoid muscle to the jaw. Severing this allows access to the salivary glands and the angle of the lower jaw; the latter has to be resected. The various steps of the intervention described and the proper incision are shown in an illustration.

Sept. 9, 1920, **27**, No. 37

*Allen's Method of Treating Diabetes. R. A. Bullrich.—p. 335.
Multilocular Hydatid Cyst of the Liver. C. I. Allende.—p. 338.
Sulpharsenol Treatment of Syphilis. E. Chabroux.—p. 342.
*Does Saline Increase Leukocytosis? G. Segura.—p. 344.
Tuberculosis of Mesenteric Glands. J. C. Navarro.—p. 346.
Case of Epidemic Encephalitis. J. B. Furmento.—p. 351.
Psychasthenia from Acquired Syphilis. G. Bermann.—p. 355.
Ferrán's Vaccination Against Tuberculosis. A. Pulido.—p. 361.

Treatment of Diabetes.—Bullrich has been applying the Allen fasting method for two years, and in many cases has succeeded with it in banishing the sugar from the urine after failure of all other measures for more than ten years. He has found it particularly useful in cases with serious complications, gangrene, etc., and in modifying impending acidosis. He says that it never failed him in his fifty cases.

Does Physiologic Serum Increase Leukocytosis?—Segura has been studying for five years the effect on the leukocytes of injection of saline, and states that it does not increase the number of leukocytes, while in pneumonia in particular it increases the fluid in the circulation and thus overtaxes the heart. It is particularly harmful in nephritis and in pneumonia and other diseases in which there is retention of chlorids.

Siglo Médico, Madrid

Dec. 11, 1920, **67**, No. 3496

Silver Salvarsan. J. Mouris.—p. 937. Cont'd.
History and Present Status of Treatment of Cataract. Márquez.—p. 941. Conc'n in No. 3499, p. 6.
Lime Plus Formaldehyd in Disinfection. F. Valenzuela.—p. 943.

Dec. 18, 1920, **67**, No. 3497

Sanitary Study of Gibraltar. V. M. Cortezo.—p. 957. Conc'n in No. 3501, p. 48.
*Arsphenamin in Multiple Sclerosis. C. Juarros.—p. 960.

Treatment of Sclerosis in Patches with Arsphenamin.—Juarros has been administering arsphenamin in three cases of multiple sclerosis, and reports marked improvement in all, beyond anything he has ever obtained with other measures. He says that it seems to be established that sclerosis in patches is a disease of inflammatory nature, the work of some virus in the blood stream. Injection of spinal fluid and blood from patients with multiple sclerosis induces nervous cerebromedullary disturbances in animals, and a spirochete has been found in the blood of such animals, distinct from the spirochete of syphilis. He cites a number of writers who have published cases of remission of the disease for from two to ten years.

Grèce Médicale, Athens

December, 1920, **22**, No. 2

*The Abdominocardiac Reflex. P. E. Livierato.—p. 173.
The Medical Conceptions of Jurisprudence Among the Romans, Especially in Regard to Slaves. H. Gamaliel.—p. 175.

The Abdominocardiac Reflex.—Livierato reports that his own and others' extensive experience has confirmed the instructive increase in the size of the right ventricle by mechanical stimulation of the abdominal nerves. He taps along the median line in the epigastrium, the patient recumbent, the abdominal walls relaxed. The left ventricle shows no change, and there is no change in the healthy, but when the heart elasticity is below par, the right ventricle enlarges from this tapping, and it is thus a very useful sign of the condition of tonus of the myocardium, revealing insufficiency before it has become manifest in any other way. This reflex was always positive in patients convalescing from various diseases. Livierato reports further that when the right heart shows spontaneous dilatation on changing from the recumbent to the erect posture, this is likewise a sign of hypotonicity of the myocardium. The dilatation subsides spontaneously as the subject reclines again. This spontaneous increase of the heart area upward and to the right on change from the horizontal to the erect posture is always a sign of pronounced hypotonicity of the heart muscle.

Archiv für klinische Chirurgie, Berlin

Sept. 20, 1920, **114**, No. 2

*Foreign Bodies in Esophagus. F. Schlemmer.—p. 269. Conc'n.
Malignant Teratoma in Thyroid Region. R. Fritzsche.—p. 317.
*Influence of Roentgen Rays on the Brain. I. H. Brunner.—p. 332.
Transfusion of Blood. G. Schöne.—p. 373.
Rehn's Operative Treatment for Peritonitis. W. Noetzel.—p. 381.
*Disturbances After Ligation of Carotid. Perthes.—p. 403.
Pathology and Treatment of Abscess in Spleen. Wildegans.—p. 416.
Physiology of the Brain (from War Experiences). F. Krause.—p. 443.
Backward Luxation of Lower End of Fibula. Siedamgrotzky.—p. 470.
Carbuncle in the Kidney. Barth.—p. 477.
Principle for Surgery of Large Intestine. F. Pendl.—p. 486.
Racemose Arterial Angioma. L. Schönbauer.—p. 505.
Tearing Off of Mastoid Process. L. Schönbauer.—p. 514.
"Partial Antigens." V. Zweig.—p. 520.

Foreign Bodies in Esophagus.—Summarized on page 900.

Influence of Roentgen Rays on the Brain.—Brunner reports experimental research in this line on four kittens and four puppies. The microscopic sections of the brain thereafter showed a direct effect from the roentgen-ray exposures in certain elements of the cerebellum, while the ectodermal elements of the central nervous system seemed to be resistant to the action of the rays. There is active hyperemia which tends to edema and internal hydrocephalus. The hyperemia leads to hemorrhage, and the blood in the vessels and the extravasated blood contain numerous polynuclear leukocytes—evidently from the action of the roentgen rays on the blood stream and bone marrow. The experimental findings warn against exposure of the brain of the young to the roentgen rays. They warn further against this as the routine procedure for gunshot wounds of the skull.

Ligation of the Carotid.—Perthes' experimental and clinical experience has demonstrated that the focus of softening of the brain after ligation of the carotid is the result of progressive thrombosis or embolism. This in turn is the result of injury of the intima during the ligation and this is preventable, he says. His illustrations show the narrow band of devitalized tissue in the intima with the ordinary ligature. Nothing of the kind is observed when the ligation is done with a broad strip of fascia, the ends of the knot sutured to hold it. A folded strip of fascia is laid lengthwise on the artery, and the fascia is tied over this. The walls of the vessel are thus compressed in a crescent shape, the pressure equalized over quite an extent.

Deutsches Archiv für klinische Medizin, Leipzig

Dec. 21, 1920, **134**, No. 5-6

*Acute Hematoporphyria. H. Günther.—p. 257.
*Tropical Malaria. C. Seyfarth.—p. 298.
Ventricular Allorhythmia with Normal Beat. L. Fuchs.—p. 315.
*Distribution of Indican in the Organism. E. Becher.—p. 325.
Proportionate Urea and Residual Nitrogen Content of Blood and Tissues. E. Becher.—p. 331.
*The Blood in Myxedema. G. Deusch.—p. 342.
Dulness on Sound Side with Pleural Effusion. G. Leendertz.—p. 352.
Idem. G. Denecke.—p. 363.
*Nephrosclerosis. T. Fahr.—p. 366.

Acute Hematoporphyria.—Günther reports two typical cases, in a young man and in a woman of 40. A neuropathic tendency, signs of hysteria, and tendency to pigmentation are evident in both, and porphyrin is found in the urine even between the attacks. These begin with abdominal pains, below the umbilicus, with vomiting, constipation and oliguria, and both urine and stools contain large amounts of porphyrin. He knows of only twenty typical cases like these on record. A psychopathic or neuropathic element is known in at least seven of the cases; a hereditary factor only in one of the cases. The abdominal pains are evidently an intestinal neurosis. The ages ranged from 17 to 67. The relaxed abdominal walls, in contrast to the intense pain, is instructive. Necropsy in six cases showed nothing characteristic.

Tropical Malaria.—Seyfarth was for nearly three years of the war in charge of a malaria hospital on the Egean Sea, and he comments on the exceptional severity of the malaria observed there among his 7,000 patients and the numerous outpatients. The attacks may return after only a two or three hour interval, so that the fever is practically an irregular continuous fever, often speedily fatal. Sudden onset, with coma or with symptoms suggesting dysentery, was common. Tormenting, almost continuous tenesmus was noted in some cases. Blackwater fever was severe and often fatal, but it was never observed except in old chronic cases of malaria. All the blackwater fever cases occurred in the colder months. It seemed to develop in the predisposed when a certain limit had been passed in the taking of quinin, or there had been prolonged exposure to cold and dampness. In one case the erythrocytes dropped in four hours from 4.5 to 1.2 millions. In some cases only 500,000 or 800,000 could be found after the attack of hemoglobinuria. In others there were recurring attacks of hemoglobinuria. In some cases death occurred in twelve to thirty hours after the first symptoms; in one the seventh day. Necropsy in 208 cases showed pure malaria or blackwater fever almost without exception. In two cases the large spleen ruptured during massage by quacks, with fatal hemorrhage. In another case the spleen ruptured as the man jumped out of a car; in a fourth case the rupture occurred from a slight blow on the abdomen. Convalescents' serum did not prove as effectual as quinin in the ordinary cases, but in some of the severest comatose cases, apparently entirely hopeless, the serotherapy combined with intramuscular injections of quinin seemed to display a life-saving influence in a number of cases. After this combined quinin and antiserum treatment was introduced, there were no further fatal cases of malaria, although the proportion of the severer cases was even higher than during the years before.

Distribution of Indican in the Body.—Becher's research in this line showed that indican retained on account of insufficiency of the kidneys collects in the blood serum. There does not seem to be any special indican deposit in any tissue.

Concentration of the Serum and Viscosity of the Blood in Myxedema.—Deusch found in seven myxedema patients that the viscosity of the whole blood was within normal range, but the albumin content, the viscosity and the refraction coefficient of the serum were abnormally high. Under thyroid treatment, these figures returned to normal as clinical improvement became manifest. He regards this as a means of obtaining rapid oversight of conditions in regard to albumin metabolism. At least, it shows or disproves any great disturbance in the nitrogen transformations. It also enables us to classify the severer forms of myxedema, and to watch the effect of treatment with different forms of thyroid treatment.

Nephrosclerosis.—Fahr has been contending for some time that we must distinguish between a mild form of purely arteriolosclerotic changes in the kidneys and a malignant form (true contracted kidney). He here reviews 100 cases of the mild type and 40 cases of the malignant, pointing out that the 100 with the benign type were all over 50 except 3 in the forties, while of those with the malignant type, 1 was under 30, 10 under 40, 13 under 50, 13 under 60, and none were older than this. He warns against the modern tendency to regard hypertonia as a morbid entity when it is only a symptom. We should strive to differentiate the causal factors, to distinguish between a compensating and a direct pressor hypertonia.

Deutsche medizinische Wochenschrift, Berlin

Nov. 18, 1920, **46**, No. 47

Chemotherapy as Applied to Carriers of B. Typhosus and to Gallbladder Infections. P. Uhlenhuth and T. Messerschmidt.—p. 1293.
Effect on Brain Functioning of Substances Directly Injected. F. Breslauer-Schück.—p. 1295.
Operative Intervention in Cardiospasm. W. Mintz.—p. 1296.
The Jacobson-Holzknecht Phenomenon in Unilateral Bronchostenosis Caused by Fibroma. W. Pfeiffer.—p. 1298.
Cascade Type of Bilocular Stomach. H. Laurell.—p. 1300.
Adiposogenital Dystrophy. R. Pfeiffer.—p. 1302.
Roentgen Diagnosis of Subphrenic Suppuration. E. Lyon.—p. 1303.
Hospitalism in Foundling Homes. C. Harmening.—p. 1304.
Bilateral Herpes Zoster. P. Reckzeh.—p. 1306.
Early Diagnosis and Treatment of Duodenal Ulcer. F. Mendel.—p. 1307.
Epidemic of Dysentery in Thuringia. E. Jennicke.—p. 1308.
Roentgen-Ray Stimulative Doses. M. Fraenkel.—p. 1309.
Treatment of Alopecia Areata. Bibergeil.—p. 1309.
Health Resorts in Southern Spain. Rohleder.—p. 1310.
Pathogenesis and Treatment of Otosclerosis. L. Joseph.—p. 1311.
Diseases of the Eyelids. Steindorff.—p. 1312.

Deutsche Zeitschrift für Chirurgie, Leipzig

November, 1920, **160**, No. 1-2

Retroperitoneal Hernia. R. Beneke and A. Lorenz.—p. 1.
*Congenital Diaphragmatic Hernia. O. Aue.—p. 14.
*Atresia of the Anus and Rectum. H. E. Anders.—p. 36.
*Reconstruction of Soft Parts of Face. A. Lindemann.—p. 46.
Dislocation of Half of Pelvis; Wire Extension. W. Block.—p. 113.
Trauma and Peritonitis. H. Harttung.—p. 123.
*Operations for Hernia in Infants. J. Esten.—p. 127.
*Spinal Cord Tumors. H. von Lennep.—p. 137.

Congenital Diaphragmatic Hernia.—Aue reports a case in which an operation at the age of 9 cured conditions so that eighteen years afterward the young man was in apparently perfect health. In a second case in a boy of 5 the operation temporarily cured conditions, but the second step of the planned procedure was refused, and the child died two weeks later. There had been vomiting from the very first day after birth. In the first case Aue sutured the left portion of the slit while the right portion, back of and over the liver, was left

unmolested, except for introducing a strip of gauze to induce production of adhesions. The expanding lung evidently came in contact with the gauze which stimulated growth until the defect was definitely and solidly closed by adhesion of the lung to the edges of the slit. In the second case the gauze was not used, and the failure is attributed to this. In such cases it is impossible to plan your operation from the roentgen-ray findings alone.

Operative Treatment of Atresia of Anus and Rectum.—Anders relates experiences which demonstrate that if there is a depression in the anal region with atresia ani, we can count on the intestine being close to the anus, so that a plastic operation has every prospect for success. But if with atresia of the anus there is no indication of depression in the anal region, the intestine within is probably so remote that, for technical reasons, he advises to give up the idea of a plastic operation and make an artificial anus elsewhere. If with atresia of the anus there are indications of a sphincter muscle, then the rectum was originally approximately normally constituted, and the atresia developed in consequence of secondary processes. In this case, operative intervention has every chance for success. The absence of a sphincter muscle indicates that the blind end of the intestine never reached to the anus, and is probably high in the pelvic cavity.

Reconstruction of Soft Parts of the Face.—Lindemann concludes his long study of this subject by saying that if an autoplastic operation is not possible, it had better be considered whether it is not wiser to abandon the idea of a plastic operation, and to advise the patient to wear a rubber or other partial prosthesis to conceal the disfigurement.

Operations for Hernia in Infants.—Esten reports on the ultimate outcome of 101 operations for inguinal hernia in 85 children under 2 in the last eleven years. There has been recurrence in only one case, and the 3 deaths in the total 85 children can be explained by other causes.

Three Cases of Spinal Cord Tumors.—Lennep compares with these 3 cases, 153 from the literature—a total of 156 operative cases. About 33 per cent. were cured and 15 per cent. improved, but 33 per cent. died and in 11 per cent. no benefit followed the operation. Among 25 patients with intramedullary tumors, 28 per cent. were materially improved and 52 per cent. died. The outcome with 64 intradural tumors was 65.6 per cent. cured or materially improved, with 25 per cent. mortality. In 30 cases of vertebral tumors, 23 per cent. were improved and 50 per cent. died, including all the carcinoma cases and 3 of the 12 sarcoma cases.

December, 1920, **160**, No. 3-4

*Walking Splint with Elastic Extension. B. Chatzkelsohn.—p. 145.
*Reduction of Testicle with Short Cord. R. Sievers.—p. 159.
*Sarcoma of the Duodenum. H. W. von Salis.—p. 180.
*Factors in Gangrene from Chilling. E. Nägelsbach.—p. 205.
Osteotomy for Genu Varum Adolescentium. H. Hueck.—p. 245.
Primary Acute Suppurative Parotitis. F. Honigmann.—p. 252.
Profuse Hemorrhages from Tuberculous Kidney. Karewski.—p. 269.
Operation for Hemorrhagic Cyst in Spleen. W. Krause.—p. 273.
*Tuberculous Disease of the Ankle. D. O. M. Chiari.—p. 277.
*Simple Fracture of the Olecranon. R. Kötter.—p. 281.

Walking Splint with Elastic Extension for Fractured Leg.—Chatzkelsohn gives a number of illustrations and extols the advantages of the crutchlike splint which is applied from the crotch to below the sole, with an extension to serve as a crutch.

Reduction of Testicle with Short Cord.—Sievers does not attempt to lengthen the spermatic cord but shortens its path, by passing the undescended testicle through the obturator foramen. As the testicle is usually more or less atrophied, it can be readily passed through this opening, which much shortens the route to the scrotum. Another advantage of this is that the spermatic cord is thus removed entirely from the inguinal region, which is a great assistance in operations for hernia.

Case of Sarcoma of the Duodenum.—Salis comments on the difficulty of the diagnosis in the case of myosarcoma described in a man of 40. Its long course, seven years, seemed to exclude malignant disease, and the symptoms indicated pancreatitis or a pancreatic cyst. He compares this case with fifty-six articles on the subject in the literature.

Factors in Gangrene from Chilling.—Nägelsbach reviews 165 articles on this subject, and concludes that the direct action of the cold is sufficient alone to induce gangrene.

Tuberculous Disease of the Ankle.—Chiari reports a case which confirms the advantages of the Kirschner method, cutting down to the line of the Lisfranc articulation, from one malleolus to the other, across the dorsum of the foot, in plantar flexion. By this means the functional use of the foot was restored. The case encourages extensive resection in tuberculosis of the small bones of the tarsus.

Transverse Fracture of the Olecranon.—Kötter reports five cases of subcutaneous fracture of the olecranon cured by Hülsmann's method. The dorsal splint dressing is applied first in complete extension; for this a few whiffs of an anesthetic may be necessary. The dressing is taken off two days later. Then the upper tip of the olecranon is seized with thumb and forefinger, pushing aside the swollen parts, and the olecranon is pushed downward in the axis of the lower arm until the fractured surfaces are pressed together. The arm below the elbow and this upper fragment of the olecranon are then flexed slowly, as a composite whole, repeating this until the arm can be brought to a right angle. This movement is moderately painful at first. Then the dressings are applied again in complete extension. This procedure is repeated every two or three days until healing is complete. The results are surprisingly good. At every change of dressing it can be seen that the gap between the fragments is less and that the upper fragment follows the movements of the lower arm much more readily and with less pain. The dressing could be discarded after the fourth week. Bony consolidation of the fragments with complete restoration of function followed without exception, and the earning capacity was not reduced in any instance. In one of these cases the separation of the fragments and the effusion in the joint had been considerable.

Jahrbuch für Kinderheilkunde, Berlin

1921, **94**, No. 1

*Influence of Atropin on Action of Epinephrin. E. Schiff and A. Bálint.—p. 1.
*Open Meckel Diverticulum. Z. von Bókay.—p. 10.
*Tolerance for Grape Sugar in Children. W. Kahn.—p. 15.
*Constitutional Deficiency in Calcium. H. A. Stheeman.—p. 27.
Influence of Vitamins on Consumption of Oxygen by Cells. P. György.—p. 55.

Influence of Atropin on Action of Epinephrin.—Schiff and Bálint state that in a certain group of children with small, depressible pulse, epinephrin does not cause the usual rise in blood pressure. They experimented on other children and found that injection of atropin completely arrested the pressure-raising action of epinephrin. They theorize that this is due to the paralyzing action of the atropin on the myoneural junction. In the group of children with small, depressible pulse, this myoneural junction seems to be constitutionally inferior. One practical result of their experiments is that a preliminary injection of atropin may prevent the disturbances sometimes observed with epinephrin, as in a case described in which a boy of 13 with severe asthma developed syncope each time he was given an injection of 0.5 c.c. of the 1:1,000 solution of epinephrin.

Open Meckel Diverticulum.—Bókay gives an illustrated description of a case in which a healthy infant of three weeks died from the effects of prolapse and eversion of a long portion of the small intestine through the persisting vitelline duct.

Tolerance for Grape Sugar in Children.—Kahn gave children 100 to 150 c.c. of a 20 per cent. solution of grape sugar, fasting, or in the evening, and infants 160 c.c. in place of the last feeding of the day. He found that the infants displayed great tolerance for grape sugar. The lowest thresholds were between 6.7 and 11.1 gm. per kg., the highest between 13.5 and 17.5. At the age of 1½ years the limit of assimilation drops. In older children the average is only 3.5 gm. per kg.

Constitutional Calcium Deficiency.—Stheemann reports further research on what he calls the *calciprive constitution*, tabulating the details in forty-five children free from rachitis and in sixteen others with rachitis. He declares that subnormal conditions in regard to the calcium content of the blood and tissues is a typical "fatigue disease." The Erb

and Chvostek phenomena are signs of deficiency of calcium. They accompany a small calcium content of the blood. A low calcium content in the blood serum is a sign of previous calcium starvation and of present inadequacy of the calcium supply. But there may be calcium deficiency even with a high or normal calcium content of the blood; this occurs especially in rachitis. The use of cod liver oil and phosphorus may bring the calcium content down to normal to correspond with the actual calcium supply. The constitutional liability to disturbances in the calcium metabolism is revealed by the Erb and Chvostek phenomena when they are habitual. The manifestations of this constitutional calcium starvation are principally the signs of weakness in the sphere of the action of the nerves and glands, especially the trophic, endocrine, the digestive and the development glands. He adds that ample oversight is given of conditions by the calcium content of the blood. Galvanic examination is a simple and rapid method for determining calcium poverty, but the aspect of the child will usually reveal the status calciprivus. Tapping the motor point of certain nerves may aid in diagnosis, but we must not forget that these responses are inconstant, and are less reliable than the indications of the manifest adynamia.

1921, **94**, No. 2

Bacteriology of the Urine in Infants. H. Kleinschmidt.—p. 77.
*Infiltration of Child Lung. H. Eliasberg and W. Neuland.—p. 102.
Buttermilk in Infant Feeding. B. Leichtentritt.—p. 119.
*Intolerance for Cow's Milk. E. Rhonheimer.—p. 128.
Spontaneous Pneumothorax in a Child. L. Sior.—p. 131.

Gelatinous and Epituberculous Infiltration of the Child Lung.—Eliasberg and Neuland here present evidence as to the tuberculous nature of gelatinous infiltration found in an 18 months' infant. Necropsy showed it to have been the preliminary to cheesy processes. The child died from sinus thrombosis, and the lung process was thus discovered at an earlier date than had been previously encountered. In another infant of 6 months the gelatinous infiltration had developed suddenly also, and in three others the onset of the gelatinous infiltration occurred under their eyes. The sudden general phenomena and the rapid development of the infiltration are characteristic of this lobar gelatinous pulmonary process. The clinical picture of what they call epituberculous infiltration develops more gradually; they describe a case in an infant of nine months long under observation in the hospital. High fever, tuberculous foci in other parts of the lung, and tubercle bacilli are found with gelatinous infiltration, but were never found with this epituberculous infiltration. The gelatinous infiltration rapidly passes into acute caseation, the cheesy process complete in two or three months. The prognosis therefore of the two is widely different. The lobar infiltration in tuberculous children which disappears in time without leaving a trace, belongs to this nonspecific epituberculous infiltration group. Necropsy in one child of 11 months showed the complete absence of any tuberculous changes in the right lung although the infiltration in the right superior lobe had been noted for eight months. The disease process must be restricted to the interior of the alveoli in this epituberculous infiltration process. In one case the exudate consisted almost exclusively of small round cells. This epituberculous infiltration has never been observed yet except in children with tuberculous infection, although the process itself is evidently not of tuberculous nature.

Intolerance for Cow's Milk.—In the case reported by Rhonheimer the boy of 4 months developed severe urticaria and fever when given cow's milk, and also when given a commercial preparation containing milk casein. The phenomena resembled those of serum sickness so closely that an anaphylactic reaction must be assumed. The child was breast fed and the cow's milk was given only occasionally as supplementary feeding.

Münchener medizinische Wochenschrift, Munich

Nov. 26, 1920, **67**, No. 48

Cerebrospinal Fluid as Guide in Neurosyphilis. G. L. Dreyfus.—p. 1369.
The Use of Silver Arsphenamin. Naegeli.—p. 1372.
Manual Reduction of Prolapsed Umbilical Cord. Zangemeister.—p. 1375.
Disability Claims in War Neuroses. R. Tscherning.—p. 1376.
Antitoxin in Surgical Diphtheria. W. Bieber and H. Dieterich.—p. 1381
*Preservation of Complement. J. Hammerschmidt.—p. 1382.
Methylene Blue Test for Blood Sugar. W. Eisenhardt.—p. 1382.
Bothriocephalus Anemia. F. Herzog.—p. 1383.
*Kidney Decapsulation in Eclampsia. Lübbert.—p. 1385.
*Enrichment Chamber for Urinalysis. Pflaumer.—p. 1385.
"Use of Cautery in French Internal Medicine." A. Gallinger.—p. 1386.
"Milk Injections in Albuminuric Retinitis." R. Schmidt.—p. 1386.
"Can Germany Feed Herself?" M. v. Gruber.—p. 1386.

Preservation of Complement.—Hammerschmidt reports the results of his trials with Rhamy's method of preserving complement for Wassermann tests, as described in The Journal, Sept. 22, 1917, p. 973. Rhamy mixed fresh guinea-pig serum with a sterile 10 per cent. solution of sodium acetate in physiologic sodium chlorid solution in the proportion of 4:6. Hammerschmidt confirms that by this method complement can be preserved for at least ten days (possibly longer) without loss of strength.

Kidney Decapsulation in Eclampsia Postpartum.—Lübbert reports two cases of severe eclampsia in which decapsulation was performed in patients with marked albuminuria and oliguria. Both cases ended in recovery and Lübbert thinks that they confirm the value of the Edebohls method.

Enrichment Chamber for Microscopic Examination of Urine.—Pflaumer describes a method of enrichment which dispenses with the necessity of centrifuging.

Wiener klinische Wochenschrift, Vienna

Nov. 11, 1920, **33**, No. 46

*Spirochete Findings in Lymphatic Glands. R. Frühwald.—p. 999.
Adenotomy. J. Fein.—p. 1003.
*Blood Pressure After Lumbar Puncture. H. Kahler.—p. 1007.
*Physiology of the Secretion of Sweat. E. Freund.—p. 1009.
Case of Ileus Combined with Tubal Pregnancy Appearing a Second Time on the Same Side. F. Hanak.—p. 1010.

Spirochetes in Lymphatic Glands.—Frühwald reports the findings in 89 gland punctures done on a series of 83 syphilitics. In 20 of the 24 primary cases he found spirochetes in the regional inguinal glands, but not in the other 4 cases. Of the 18 patients who, beside the primary affection, had also an exanthem, only 7 presented spirochetes in the gland puncture. This is in line with the observations of other authorities that in the secondary stage the spirochete findings in the glands become less frequent. In old recurrent cases of syphilis he found spirochetes 7 times as compared with 20 negative findings. As secondary syphilis progresses, spirochetes in the glands become rarer, but the glands may shelter them up to the third year of the syphilis. In 4 cases of latent syphilis, after conclusion of treatment, puncture revealed spirochetes in 3 of the 14 punctures made. This group included one case with positive Wassermann in the third year of the disease, after three courses of mercurial treatment.

Rise in Blood Pressure After Lumbar Puncture with Cerebral Processes.—Kahler gives the results of a series of investigations, comprising twenty comparatively normal persons. In eighteen the blood pressure after lumbar puncture dropped at once—often considerably. On the other hand, in thirty cases of brain disease, in twenty-nine the blood pressure rose at once after the puncture. In two thirds of the cases the rise was at least 10 mm. and in one third, 20 mm. In one patient it ran up even 105 mm. of mercury. He theorizes to explain this difference in the behavior of the blood pressure after lumbar puncture, according as there is a cerebral process or not, and suggests that it may have diagnostic import.

The Physiology of Secretion of Sweat.—In investigations on epinephrin iontophoresis, Freund has made certain observations. On the back of his hand, he produced by means of an epinephrin solution (1:50,000) from the anode an anemic area corresponding to the field of the electrode. The current was 3 milliamperes, applied for five minutes. Immediately after the electrode was removed, the skin area corresponding to the field of the electrode was ivory white and dry, and occasionally goose flesh appeared. This hand was then put in a hot-air chamber, in order to observe the behavior of the anemic skin area under the influence of heat. When the heat had been applied for several minutes, the anemic area became covered with heavy drops of sweat, whereas the rest of the hand, although intensely reddened by the heat, had scarcely become moist. The intense secretion of sweat was sharply confined to the anemic area. This finding was not constant although it occurred frequently on repeated tests.

Zentralblatt für Chirurgie, Leipzig

Nov. 6, 1920, **47**, No. 45

Plastic Use of Celluloid in Skull Defects. E. Payr.—p. 1362.
Technic of Goiter Operations. E. Enderlen and G. Hotz.—p. 1365.
*Transplantation of Parathyroids. E. Borchers.—p. 1366.
Transverse Resection for Perforated Stomach Ulcer. D. Eberle.—p. 1368.

Transplantation of Parathyroids.—Borchers found that parathyroids are often confused with other bodies of similar appearance—more especially with accessory thyroid glands but also with lymph glands or fat lobules. He thinks this blunder is the main factor in explanation of the failures resulting from parathyroid transplantation. He had known for some time that such confusion might arise but not until recently did he learn the full magnitude of the danger. Now he has established a definite rule that no parathyroid transplantations be carried out without histologic control, as he no longer dares trust to the macroscopic appearance of the bodies.

Zentralblatt für Gynäkologie, Leipzig

Nov. 13, 1920, **44**, No. 46

Nagel-Veit's Gynatresia Theory. B. Otto.—p. 1306.
Vagitus Uterinus. H. Fuchs.—p. 1310.
A Type of Skin Suture. R. Asch.—p. 1314.
Incision for Alexander-Adam Operation. A. Hofmann.—p. 1315.
Protection of the Peritoneal Fold in Extraperitoneal Cesarean Section. W. Rübsamen.—p. 1316.

Mededeelingen v. d. Burg. Geneesk. Dienst, Java

1920, No. 5. German and English Edition

*Clonorchiosis. J. Mebius.—p. 2.
Serodiagnosis of Syphilis (Sachs-Georgi). J. A. De Nooy.—p. 98.

Clonorchiosis.—Mebius found *Clonorchis sinensis* in five of ten cadavers of Chinese examined at Batavia. He analyzes the clinical and necropsy findings, one case presenting parasitic cirrhosis such as Zwaardemaker has described in the dog. A number of photomicrograms of the parasites and their ova are given, and the differences between them and those of *Opisthorchis felineus* are emphasized.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 15, 1921, **1**, No. 3

*The Resisting Power of the Erythrocytes. N. P. van Spanje.—p. 274.
Poisoning with Datura Stramoni Seeds; Two Cases. A. van Ravenswaay.—p. 298.
Epidemic Encephalitis; Two Cases. N. J. F. M. Konings.—p. 299.
*Medical Impressions of America. A. C. M. Beukers.—p. 334.

The Resisting Power of the Erythrocytes.—The resistance to osmotic changes of the red corpuscles is studied in connection with their number, size, hemoglobin content, the specific gravity, and the viscosity of the blood in different conditions. The changes in the resisting power of the erythrocytes are extremely pronounced in carbon dioxid intoxication, in anemia, etc., and instructive oversight is afforded by a comparison of the different values. A useful graphic method for recording this is with a small chart showing four graduated scales, one up to 10, one to 100, one to 70, and one to 120. The first scale records the viscosity, the second the volume, the third the specific gravity, and the fourth the hemoglobin percentage.

Medical Impressions of America.—Beukers visited the different medical centers and describes here his month with Harvey Cushing at Boston.

Acta Chirurgica Scandinavica, Stockholm

December, 1920, **53**, No. 2

Entero-Anastomosis in Intestinal Occlusion. R. Ingebrigtsen.—p. 105.
Amputation of Tibia. G. Borchgrevink.—p. 128.
*Operations for Cancer of Breast. E. Brattström.—p. 146.
*Lipomata of Jejuno-Ileum. A. Odelberg.—p. 154.
*Roentgen Diagnosis of Ostitis Fibrosa. S. Ström.—p. 175.

Operations for Cancer of Breast.—Brattström gives an excellent series of statistic tables, with description of a dozen selected cases. His material is derived from the period 1898-1915. The group 1905-1915 comprises 212 operative cases with 90 subsequent recurrences and death; 45 recurrences still under treatment, and 63 nonrecurrences. Comparative tables are made for data recorded in other hospitals. (In English.)

Lipomas in Jejunum or Ileum.—Odelberg describes five cases of lipoma; stasis may be a causal factor. The clinical symptoms usually are obscure, or wanting until the growth acquires a size sufficient to interfere with normal functions, when constipation, alternating with diarrhea, acute pain, vomiting, meteorism, all of short duration, but often repeated, occur. Then follows invagination, with chronic ileus, sometimes the very first clinical sign. Healing may occur spontaneously after evacuation of tumor; usually operation is indicated by the invagination symptoms. Tabulation of thirty-seven cases follows, with a bibliography. (In English.)

Roentgen Diagnosis of Osteitis Fibrosa.—Ström attempts a differential diagnosis of osteitis as differentiated from bone cyst. The former picture shows extensive alterations in the greater part of the affected bones, while the cyst is localized, and no alterations occur apart from the circumscribed cyst itself. Eight excellent illustrations accompany the description of cases with mention of the operative findings. (In English.)

Hospitalstidende, Copenhagen

Dec. 8, 1920, **63**, No. 49

*Growth of Bacteria and Reaction of Culture Medium. A. H. Johansen.—p. 777.

Dependence of Growth of Bacteria on Reaction of Culture Medium.—Johansen concludes from his research that most of the pathogenic bacteria can adapt themselves to a wide range of reaction. It is only necessary to approximate the neutral point on the alkaline side. He determined further that it is not the reaction alone that is responsible for the lack of growth of the gonococcus on ordinary agar. He worked mainly with the colorimetric method.

Hygiea, Stockholm

Jan. 16, 1921, **83**, No. 1

*Bence-Jones Proteinuria. A. Wallgren.—p. 1.
*Posttraumatic Serous Meningitis in Children. G. Lindberg.—p. 15.

Bence-Jones Proteinuria.—Wallgren's article supplements his study of multiple myeloma, summarized recently in these columns, page 488. The Bence-Jones protein may be found with endothelioma, bone marrow metastases of cancer, leukemia, etc. Disease in the kidney was evident in all of the fifty-two cases of the proteinuria tested. The Bence-Jones proteinuria was found in all but a few of 118 proved cases of myeloma, and is thus an important aid in the diagnosis, and even in forecasting the onset of multiple myeloma. The proteinuria may be intermittent.

Posttraumatic Serous Meningitis in Children.—Lindberg's two cases are instructive from the standpoint of treatment. Lumbar puncture put an end to the symptoms suggesting severe acute meningitis. They had developed a few days after the boys, 10 and 4, had had a fall, hitting the head. The diagnosis would have been tuberculous or purulent meningitis if lumbar puncture had not shown the normal fluid under extremely high pressure. He has had a case in which tuberculous infection had induced merely a serous meningitis and the patient recovered, as also in four cases of the kind in Göppert's service.

Ugeskrift for Læger, Copenhagen

Jan. 6, 1921, **83**, No. 1

Roentgen-Ray Examination for Duodenal Ulcer. H. J. Panner.—p. 4.
*Mortality from Tuberculosis. C. Jensen.—p. 13.
Antistreptococcus Serum Treatment of Pyemia. Hansen.—p. 15.

Mortality from Tuberculosis.—Jensen compares the mortality by five year periods from 1890 to date in Copenhagen, in the various provinces, and for the whole country. The total mortality has dropped for the whole country by 31.05 per cent. and in the mortality from pulmonary tuberculosis the decline has been 47.12 per cent. In the provinces, the corresponding figures are 29.49 and 54.10 per cent. In Copenhagen alone, 32.84 and 37.22 per cent. The total mortality for the whole country thirty years ago was 19.78 per thousand inhabitants; for the provinces alone, 19.013, and for Copenhagen, 20.782. The corresponding figures now are 13.639; 13.407, and 13.957.

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RELATION BETWEEN THE SPECIALIST AND THE PRACTITIONER *

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In this paper it will be assumed that we are dealing with real specialists, real practitioners, real patients. If the specialist is a quack, the family doctor a commercial fraud, and the patient an ignoramus, talk is of little avail. Under such circumstances there are no relations except those of dishonesty, greed and gullibility. Their very nature condemns them and makes argument unnecessary.

I wish at the outset to advance the proposition that in any discussion of the relation between specialist and general practitioner there is a third party to be considered, namely, the patient. Furthermore, his rights take precedence over those of the other two parties. In theory the correctness of this conception will be generally admitted; in practice it is often overlooked.

I take it that this committee, a committee on education, is more concerned with the question of the development and training of the specialist of the future than with questions of so-called medical ethics. I shall, therefore, omit as not germane to the subject as it may properly be brought before this body, any lengthy consideration of certain phases of medical conduct that concern specialist and practitioner, though such discussion might not improperly be indulged in under the caption assigned me. I may cite as examples the attitude of some family physicians who deny that the specialist has the right, except by the express consent of the family physician, to examine the ambulatory patient who of his own free will comes to the specialist for an expert opinion or treatment; also, the behavior of the specialist who at a consultation is more concerned about his own glory and his own large fee than he is for the feelings, reputation or fee of his colleague who has requested his help, or, on the other hand, the attitude of the practitioner who at the consultation is more exercised over his own reputation than over the welfare of the patient and who resents a frank expression of opinion, no matter how gently and tactfully it may be advanced, if in any way it seems to hint at a criticism of his diagnosis or his handling of the case. And then there is the matter of fees—the split fee, inherently wrong because it is secret and underhanded; the disproportion between the large, sometimes exorbitant fee of the specialist and the meager fee of the practitioner, the operator perhaps receiving for an hour's work, largely mechanical, as much as the practitioner receives for six months of the hardest kind of physical and mental drudgery.

These are live questions. They have a bearing on the present-day trend toward specialism. They often lead to a straining of the relations between these two classes of physicians; they are among the causes of the oft heard rancorous protest on the part of the practitioners against the smaller privileged class of specialists who seem to them to be reaching out more and more after the glory and the major portion of the financial returns, and who are now banding together in groups, corporation-like, in such a way as still further, with greater force because of greater mass, to bear down on the practitioner and to crush him dry of the privileges he regards as his due.

These features I shall not dwell on, but they must be remembered when we are planning to create a still higher type of specialist. No matter how lofty and altruistic our motives—and we know they are unselfish—we cannot afford to ignore the possible antagonism of irate practitioners who may unite to protect their real or fancied rights. There should be evolved some readjustment by which the practitioner who now feels that he is treated as of secondary importance may not have cause to complain that he is still further degraded. If the discussion of these questions can be lifted from the level of trade or business to that of profession, if the specialist will oftener put himself in the place of the family physician and vice versa, and if, above all the good of the patient—or call it the public if you prefer—is the prime consideration, many of the difficulties of conduct, ethics, fee, relative glory will disappear, and the solution of some of the problems involved in the development of specialists, with which problems this committee is to be occupied, will be comparatively simple.

Leaving the subject of the ethical relations of the practitioner and specialist, we may ask in the expressive language of the day, Why is a specialist? Also, What is a specialist and how is he to be made? Who is entitled to be so called? I offer but fragmentary and incomplete answers to these questions.

ESSENTIALS OF THE SPECIALIST

For a physician merely to announce that in the future he will limit his practice to a certain kind of disease does not suddenly transform him into a specialist. Exceptional knowledge or unusual technical skill are prerequisites. Many self-styled specialists do not possess these essentials.

Other things being equal, the best specialist is the one who develops from the general practitioner—I assume previous high-grade college degree, a service as an intern, a studious, progressive mental attitude during the years of practice. That men may begin to specialize

* Read before the Annual Conference on Medical Education and Hospitals, Licensure and Public Health, Chicago, March 7, 1921.

from the day of graduation or even before graduation and become competent and successful is true. In many instances I regard such an early specialization as proper. An internship in, or better, a position on the attending staff of, a general hospital is a partial substitute for the years of practice; but here the knowledge of slight ailments, and of the beginnings of disease and their frequently slow progress is lacking; it is chiefly the serious illness and the terminal stage that are studied by the hospital physician. Sir James Mackenzie's strictures on the workers in the laboratory and the wards of the hospital are provincial and largely undeserved; but one must in the main agree with him in his encomium of the general practitioner. Without these years of general training, the specialist fails to understand the problems that vex the family physician. He lacks breadth of vision; he sees only tonsil, tooth, appendix, heart murmur, achylia or displaced uterus, and sees them unduly magnified; he is using the oil immersion lens before knowing the relation of parts that would be shown by a preliminary study with the lens of lower power. Sometimes, conscious of his limitations, yet desirous of being thorough and of escaping the charge of superficiality, he searches for causes and relations other than those directly associated with his own specialty; he strives to be broad visioned and up with the times. But the picture that he sees lacks background, perspective, light and shade; the figures in it are to him isolated and unrelated to each other; and without experience, his interpretations are strained, artificial and illogical. Without due proof, disease may be referred to pathologic conditions not causally related. In this way arise the fads of medicine and surgery, the needless sacrifice of teeth and tonsils, the operative correction of supposedly serious yet really trivial architectural defects in the pelvis, the whims about diet that are mistakenly regarded as the embodiment of physiologic principles, the routine use of remedial agents, be they drugs, vaccines or water cures, that are prescribed not only unscientifically but at times not innocuously.

That this type of specialist is far from ideal is clear. That—to apply our test of the greatest good to the patient—he fails to render a maximum of efficient service and is thus found wanting is also plain. What is needed is the analytic mind, the sane judgment of the wise man of experience. Knowledge comes, but wisdom lingers.

RELATION OF PRACTITIONER AND SPECIALIST

What is to be the relation of the practitioner and specialist in the future? We are in a transitional stage, the practitioner losing ground, those calling themselves specialists increasing in number and rapidly uniting into groups. With the enormous increase in the bulk of medical knowledge, the bewildering complexity of new facts in every line of medical work, the insistent demand for technical skill of a high order, the physician has perforce to concentrate on a single topic or on a few to avoid spreading himself out too thin. It is no more than justice that in difficult cases aid should be asked of others, often of several experts; and the economical, practical way of making such help available is by cooperation in groups. Group medicine in some form is to be given a trial; it should be. In just what form it will survive, who can say? Groups gathered about men of commanding personality, groups in private or semiprivate hospitals, groups connected with university hospitals or dispensaries, may all have their places. These types and various others have been well described by Dr. Leonard[1] of Duluth. Unless some working plan is devised by which patients of moderate means are to receive the benefit of the skill of specialists, the state may step in to see that they do receive it, and may step in in ways not altogether pleasing to the medical profession. Means should be devised by which the best interest of the public is conserved while the status of the physicians, and their rights as individuals and as a class, are protected. The plan recently set forth by Dr. Billings[2] is worth serious thought and has the very commendable feature that, while looking out for the interests of the patient and recognizing the necessity for specialists, it protects the rights of the practitioner.

There are dangers connected with group practice—danger that a machine-like routine instead of an individualist investigation may be made; danger that the results of the various technical examinations made by the individual members of the group may not be reviewed and correlated by some sane, masterful, judicial mind that will see that this assembled diagnosis is made up of parts well fitted and joined together; danger that the practice may be commercialized, that the group may become a profiteering corporation, and that the profession of medicine may yet further degenerate into a trade.

What will be the relation of the general practitioner to the group? Will he be in good standing with it? Will he be able to retain his position as family adviser to the patient who enters the portals of the group? Will he have rights in the group hospital? What will be his exact status in the community hospital? Is it possible that he may shrivel up into nothing more than a physician who makes a tentative diagnosis and who, like the examining room doctor in the hospital or the distributer in the dispensary, assigns the patient to the proper specialist or group?

Will there be a general practitioner? May he not finally become merely an emergency physician called in for minor ailments or when the specialist is not available, but not expected to treat the case of pneumonia or of chronic constipation, to operate on the patient with hernia or empyema, or to manage the case of eczema or give the arsphenamin? Indeed, in our larger cities this is already to a considerable degree his present position. Well-to-do or even poorer people go to Dr. A if they suspect appendicitis, to Dr. B if they fear tuberculosis, to Dr. C if they think it is the goiter that is causing trouble, to Dr. D with the baby. They have their list of supposed experts and, ignoring their family physician, their "ordinary doctor," as he is sometimes called, they go to the specialist, preferably the professor. Perhaps in the future they may go to Group A or B or C, the particular group chosen because of its reputation as surgically or medically skilful, as especially careful in examination, as moderate in charge, or as having a comfortable waiting room with pleasant outlook over the lake.

And the practitioner? Perhaps he will refer cases to this group for the diagnosis which, with his limited knowledge and facilities, he is unable to make. Perhaps—occasionally—the patient will be returned to him for treatment; or, sans teeth, sans tonsils, sans appendix, sans ovaries, sans bank account, the patient will return to have the physician resume his position: not

1. Leonard, V. N.: The Significance of Group Practice, J. A. M. A. **76**: 421 (Feb. 12) 1921; Private Medical Practice in Its Relation to the Idea of Progress, abstr. ibid. **76**: 731 (March 12) 1921.
2. Billings, Frank: The Future of Private Medical Practice, J. A. M. A. **76**: 349 (Feb. 5) 1921.

the honored position once held by the family physician, but that of ordinary or emergency doctor, the doctor who responds to calls in the night, sews up the scalp wound, prescribes the tonic for worn out nerves and who, if he has winning ways with children and is not too high priced, may be allowed to vaccinate the family or pull the loosened milk teeth.

I do not believe such a future is necessary. If it comes to pass it is largely our fault. There is a place for the family adviser, and we must strive to make that position one of honor, dignity and remuneration. Details of any such plans I cannot give. The problem will to a great extent solve itself by a process of evolution. In fact, in some communities I think I see working out what I would call the practitioner-group system. Not housed in one office, but living in the same small town the practitioners, while independent, tacitly recognize that Dr. A is better qualified to do surgery, Dr. B knows more about children, Dr. C has the roentgen-ray outfit, and Dr. D has unusual information about neurology. Each has his families, each cares and cares well for all ordinary cases of sickness, each recognizes his own limitations and is free to call on his colleagues for help, or when necessary to advise the services of the specialist or groups of the city, or of the hospital in the larger town nearby. This is a retention of the family physician idea. The doctor does not lose his self-respect; he is at peace with his colleagues; he cooperates with the group of experts, and the best interests of the patient—the sensible ones who will take any advice—are conserved. If he does not regard it as beneath his dignity to take the temperature, or to help give a sponge bath or an enema; if he is willing to take the time to make a pelvic examination or to look at an ear drum, things which the older type of family physician used to do and do well, he will find his patients appreciative of his efforts to save them unnecessary expense for nurse or specialist.

TRAINING OF THE SPECIALIST

I wish to add as an appendix—which some of you may think is diseased and should be cut out—that there is need of caution in the advances we are striving to make in the training of specialists. This body is trying to lay down principles that shall guide in the creation of experts in various brances of medicine and surgery. May we not go too far? Do we stop to consider what some of our plans imply? Do we realize what the conditions we are imposing mean to one desiring to qualify as a specialist? Take the time element alone. He must have had at least two years of college work—some say three, some four—with inclusion of certain studies. He must take four years of general medical studies and one year as an intern. We prefer to have him serve for a few years as a general practitioner, and then we are asking him to drop out of practice, again go to school, to take three years of special work. How old will he be at this time? How much of his youthful enthusiasm will remain to him? Are we not forcing him to spend in preparation his most impressionable years, the years of initiative? When will he begin to do, to accomplish? And is all of this necessary or wise? Shall we have as good a product, one as able to serve the patient and the public? And are we not forcing the majority of those who will specialize into a condition of financial parasitism, relief from which will be followed by a reactionary greed for gain? Most boys must depend on their parents to put them through college and the medical school. Are we now to ask them for a longer period to be dependent on others for help? Will not proud, self-reliant men shun such a plan? May not many desirable men of moderate means be debarred?

These are questions that may be asked. To some of them I see fairly satisfactory answers; regarding others I am not at all clear. A partial answer is the one offered by the Mayo Clinic in its plan of paid fellows, residents and assistants. An answer that is much talked of and is generally unwelcome to the physician is the one involved in the increasing tendency toward paternalism of the state toward the medical profession.

Our medical curriculum may be modified and thus shorten the road to specialism. It may be wrong, it may be heresy to question the correctness of the position that our medical schools should be concerned with turning out only general practitioners. At the risk of reversing myself and contradicting much that I have said before about the evolution of the specialist from the practitioner, I venture the prediction that the time is not far distant when many of our medical undergraduates will to a certain extent be allowed to specialize before they receive their diplomas. The medical school will have to make this possible. It is done in our literary colleges today and in our technical schools. A few favored students in our medical schools are able to do it. The one argument that holds us back is the fetish of the general practitioner. No matter how much we lengthen the premedical course, no matter how much time and content are added to our undergraduate medical curriculum, we must forever be bound by the tradition that the college must turn out only general practitioners.

A practitioner is supposed to practice. He may be well versed in general principles and general knowledge, but the application must be to a specific case. Often this general knowledge enables him successfully to make this application. But modern medicine requires an unusual degree of technical skill, an immense mass of information if one is to do the best possible for the patient; and the fact is that no one man today can know much about all medical subjects; the human brain has not the capacity; and so our general practitioner is, after all, not really competent to treat in the best way all the patients who come to him for help. The telephone, automobile, electric and steam railways, hospitals of various types found even in our country towns, groups of specialists, make it easy to bring the patient to the specialist or the specialist to the patient. The old-fashioned work of the general practitioner is going, and his field of activity is being constantly more and more restricted. No one man, then, will be called on to practice in all branches of medicine as in the past, and if he tries to do this he will do it inefficiently, because it is a physical impossibility for one small head to carry all the new (with apologies to Goldsmith).

Why, therefore, may our medical schools not lay down certain fundamental requirements in anatomy, phyiology, chemistry, pathology, general medicine, general surgery, general clinical diagnosis, etc., courses that teach general principles, which courses must be mastered by all? But at the end of a certain time, perhaps two years or three years, grant some choice of work. There will still be retained the main courses for those planning general practice—and we can turn out a splendid type of general practitioner; there will be other courses or another grouping of courses for those who wish to specialize. Let me illustrate what I mean: At the end of his second or third year a student of 24 or 26 may have a definite idea as to the department of

medicine in which he chooses to work. He knows, for example, that he prefers general surgery, or internal medicine or dermatology or ophthalmology, and he is, or ought to be by that time, mature enough to know his own mind. Why, if he decides on ophthalmology, should he be required to take a course dealing with the special details of obstetrics, the measurements of the pelvis, the mechanism of occipitoposterior position, etc.? Why should he be required to master the technic of the operation for extirpation of the kidney, laceration of the perineum or amputation of the breast? Why should he be forced to learn formulas for the artificial feeding of infants of various ages or to spend days in the study of the stools in cases of ulcer of the duodenum, carcinoma of the bowel, amebic dysentery or mucous colitis? May he not more profitably be engaged for a portion of his time in studies with a direct bearing on his chosen work? He may thus shorten his time of graduate work for specialism by at least a year. Is there any vital objection to this? The same principle might be carried still farther back in our system of education, to our literary and scientific colleges and even, as has been suggested by good educators, to our high and grade schools. Instead of putting all students of medicine through the same mill and turning them out at the age, say of 27, with the stamp of general practitioners, may we not allow or even compel our undergraduates to do as is required in many general cultural courses in our literary colleges, to major in some subject or group of subjects especially in his last two years. He would still be a qualified practitioner, but he would have more than a mere outline of each of the many subjects included in our curriculums of today. In some subject or perhaps two he would by concentration become something of an expert; he is an embryo specialist, if you please. When he goes out into general practice he will be likely to continue his studies of this topic and to become perhaps the practitioner-specialist of his neighborhood. At any rate, he is a better general physician for knowing one subject thoroughly than because he knows all subjects only fairly well. Our bright students are doing this today. They help and do extra work in the pathologic laboratories, in the department of electrocardiography, or in the surgical clinics. They are specializing. This is done in many of our technical schools. Our schools of engineering have certain common required courses in English, foreign langauge, mathematics, physics, etc.; and then, branching out, stress for the one student electricity, for another chemistry, architecture or naval construction, depending on what branch of engineering he intends to pursue. Or they permit him, if he chooses, to take the all round mechanical engineering course, comparable to a general practitioner course.

These ideas are suggestive only. They may be ill-timed, crude and half-baked. I admit contradictions and inconsistencies.

SUMMARY

A paper is supposed to end with conclusions. But what is one to do who has not even in his own mind reached a satisfactory solution of the problems presented, who has not reached conclusions?

Briefly summarized, the thought running through this paper is that there is an inevitable and justifiable trend toward specialism in medicine. This committee is engaged in the laudable attempt to see that only those qualified shall be regarded as specialists. The creation of a class of approved specialists will serve to draw more sharply than ever the line between specialist and practitioner between which classes relations are already somewhat strained. It is necessary to proceed cautiously to be sure we do not set our standard for the specialist so high that we defeat our own purpose by shutting out many desirable men, that we do not create a type of superspecialist that will still further arouse the antagonism of the practitioner. In all our planning we must devote more time to a consideration of what should be done for the unfortunate practitioner. If he is doomed, what is to take his place? If he can be saved, how is his salvation to be wrought?

Furthermore, there is advanced the idea that while the primary function of the undergraduate medical school is to educate a high grade general practitioner, there are many students who may in their last year or two concentrate on some one subject, in reality begin to specialize. By so doing, they save time if they are to practice a specialty. If they do not specialize, they are better practitioners for knowing one subject unusually well.

And I trust there has been manifest in this paper the thought that whatever we plan for specialist or practitioner, it must never be forgotten that the interest that is paramount is that of the patient.

122 South Michigan Avenue.

BASAL METABOLISM DETERMINATIONS WITH THE ORIGINAL PORTABLE BENEDICT APPARTUS

AND A SIMPLIFIED METHOD OF CALCULATION

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The present widespread clinical interest in basal metabolism marks an epoch in the practical application of scientific methods to the elucidation of life phenomena in their relationship to disease. It places before the clinician, with very moderate effort, an exact measure of the "speed" with which the stream of life's chemism is being driven, and thereby reveals facts, the fascination of which is exceeded only by their clinical importance.

In the animal body, oxygen consumption is an accurate measure of the processes of combustion; and these processes fundamentally underlie all animal life phenomena. The physics of physiology can, therefore, be expressed in terms of oxidation, each liter of oxygen calculated at zero centigrade and sea level barometric pressure—760 mm. of mercury—being equivalent to a certain number of calories, which varies somewhat with the substance or substances undergoing oxidation: For example, when oxidizing glucose, its caloric value is 5; when oxidizing protein, it is 4.6,[1] etc.

The caloric value of oxygen, the exact knowledge of which is essential in the determination of basal metabolism, can be accurately calculated at any given time from the respiratory quotient, that is, the quotient of the carbon dioxid output divided by the oxygen consumption. Benedict found this average quotient very constant at about 0.82, after fasting overnight and resting one-half hour, and this corresponds to a caloric value of 4.825 for each liter of oxygen when its volume has been corrected to the standard conditions before mentioned. He has, therefore, assumed this value as

1. Sherman, H. C.: Chemistry of Food and Nutrition, New York, the Macmillan Company, 1916.

constant under the usual conditions for determining basal metabolism, that is, fasting and resting state.

Fortunately, the mechanics of respiration, the function of which is to supply the tissues with oxygen and remove from them carbon dioxid—the principal product of body combustion—lends itself very readily to this inquiry. It is only necessary to measure the quantity of oxygen consumed in a given period of time in order to have all the data required to calculate the heat production, which equals the "metabolism" of the body. Now, simple as this may seem to be, it was not until the advent of the Benedict [2] portable respiration apparatus that the measurement of the oxygen consumption became clinically applicable outside expensively equipped institutions. This apparatus, which has already been fully described in the literature, uses what is called the closed-circuit method, the patient breathing into and out of a closed receptacle; the oxygen consumed being determined by loss in the volume of gas, which, inasmuch as the carbon dioxid is absorbed by passing through soda lime and the nitrogen is unchanged, accurately represents the oxygen consumed. It is rather inconveniently portable,[3] although it can be readily moved from one part of a hospital, or office, to another.

As the result of an experience of about two years of constant use of this apparatus in general diagnostic work, this paper is written with these objects in view:

1. To summarize again briefly my conclusions on the general diagnostic value of basal metabolism determinations.

2. To consider further certain points concerning the original Benedict portable respiration apparatus in particular, with which all my work has been done.

3. To offer a new and simplified method of calculation, which makes optional the use of logarithms.

4. To consider certain criticism recently made [4] of this apparatus, which, if well founded, must be regarded as a serious indictment of work done with this style of apparatus.

1. GENERAL VALUE OF BASAL METABOLISM DETERMINATIONS

As stated in an earlier paper,[5] they are in my opinion indispensable in the differential diagnosis of a large group of cases, such as those tabulated in the paper [5] to which reference has just been made. These cases have some of the symptoms of thyrotoxicosis, but they may be due to entirely different causes. The entire endocrine system must, of course, be considered and weighed so far as our present imperfect knowledge will permit; but I am more and more convinced of the substantial correctness of the opinion recently expressed by Boothby [6] that in actual practice "at least 95 per cent. of all abnormally increased metabolic rates (either that of exophthalmic goiter or of thyroid adenoma) are due to hyperthyroidism if a febrile condition is eliminated by the thermometer."

It seems to me that a word of caution is needed at this time. A new and somewhat spectacular method of diagnosis has been placed before the profession, and the temptation, subconsciously, to commercialize its impressiveness is very great. Patients may inadvertently be given an impression, and thoughtless physicians, if there are such, may even share the impression, that a "mathematical diagnosis" has been made. Of course, nothing of the sort has been done.

An important biologic phenomenon has been made available for study by the clinician, and is to be considered by him as a part of the data with which the final diagnosis, which is always a complex clinical judgment, is to be constructed. It should take its place without undue "fuss or feathers" by the side of the fever thermometer, cardiographic apparatus, etc., to assist in furnishing the clinician with a broader basis of fact upon which to rest his working clinical formula. An increase of metabolic rate up to 40 or 50 per cent. on a single observation may be nearly always regarded as an indictment of the thyroid, but whether or not the thyroid should be convicted of playing the major rôle in the pathology of any given case must depend on other factors. Overstimulation of the thyroid, to an extent sufficient to produce this result, at least transiently, may be caused by other primary pathologic conditions, such as focal infections, the existence of which it is the duty of the clinician to determine. Their removal may "cure" a mild hyperthyroidism; but such a result would be very doubtful with extreme increases in basal metabolic rates, for example, up to from 75 to 100 per cent. In such cases, the thyroid gland may at once be regarded as playing the major rôle. Such cases are usually so plain without the determination of the metabolic rate that he who runs may read, and, therefore, in this type of case, metabolism determinations may be said to be of somewhat less importance, at least for actual recognition of thyroid disease, although still important as a scientifically accurate measure of its severity and progress. In the group of cases with slight or moderate metabolic perversions and in which these data are most needed, they are least decisive.

It will be strange if commercial "enterprise" does not seize on the opportunity afforded by the increasing recognition of this method of diagnosis to foist on the profession crude and inaccurate methods, which do not bear the stamp of high scientific approval. The accuracy of the Benedict apparatus is certified by men of established reputation. The oxygen consumption is measured with great accuracy after careful calibration of the spirometer bell; and certainly nothing less accurate than this should be accepted by diagnosticians having a due regard for as great a degree of scientific accuracy as is practical or necessary in a clinical method.

2. RELIABILITY OF THE BENEDICT APPARATUS

Relative to the reliability of the Benedict apparatus in giving dependable results in the determination of the metabolic rate, there is no doubt, in my opinion, that it comes safely within the negligible margin of error permissible in clinical tests. In the first place, we have the reputation of Benedict as a well known scientific investigator, thoroughly familiar with the requirements of such a test. In fact, his work makes up a large part of the history of the subject. When, therefore, he offers this method to the clinician as a practical substitute for the unpractical methods heretofore in use, it can be confidently regarded as a considerable guarantee that the results compare sufficiently closely with the more exact methods of gas analysis to bring it easily within the range of dependability in clinical diagnosis.

2. Benedict, F. G.: A Portable Respiration Apparatus for Clinical Use, Boston M. & S. J. **178**: 667 (May 16) 1918.

3. A much more portable apparatus with the same general construction, which is not intended for measuring the carbon dioxid output, as is the original apparatus, is described by Benedict, F. G., and Collins, W. E.: Boston M. & S. J. **183**: 449 (Oct. 14) 1920.

4. Boothby, W. M., and Sandiford, I.: Laboratory Manual of the Technic of Basal Metabolic Rate Determinations, Philadelphia, W. B. Saunders Company, 1920.

5. McCaskey, G. W.: Basal Metabolism Determinations in General Internal Diagnosis, J. A. M. A. **74**: 928 (April 3) 1920.

6. Boothby, W. M.: The Fundamental Classification of Disease by the Basal Metabolic Rate, J. A. M. A. **76**: 84 (Jan. 8) 1921.

In fact, Benedict and Collins,[7] as a result of an "extensive series of well agreeing comparison tests" made by Benedict, Miles, Roth and Smith[8] with a group of young men, specifically say: "Therefore, we can assume that the *original portable apparatus gives results, particularly for oxygen, fully as satisfactory as any of the older and more complicated types of respiration apparatus.*" This conclusion is supported by another similar series of observations on seventeen healthy medical students made by Hendry, Carpenter and Emmes.[9]

These comparisons were made between the original portable apparatus and the one later described, which has been modified to meet the requirements of greater portability; and the results show slight variations, no greater than those obtained in the same person in two observations made close together. Variations in heat production as large as this might easily occur in the interval between two tests, even when made close together, as a result of slight nervousness, variations in respiratory or circulatory mechanisms, etc. In view of these observations and conclusions of Benedict and his associates, we need have no hesitation in accepting these methods as entirely trustworthy, provided detailed attention has been given to all the precautions and safeguards laid down by Benedict. These precautions need not be fully considered here, as they are found in the original paper by Benedict.[2] They include avoidance of leakage in the apparatus, or around the mouthpiece, or the mask, or through the nose; avoidance of restlessness during the half-hour rest period preceding the test, as well as during the test period; abstinence from food or stimulants within from twelve to fourteen hours before the test; failure strictly to retain a recumbent position during the rest period; inaccurate measurement of duration of the observation period, beginning and stopping at the end of a normal expiration, etc.

The accurate measurement of oxygen consumption and the correct calculation of the total calories per square meter per hour, together with the comparison of the result obtained with the normal standard for the age and sex of the individual, are the main additional points involved in the question of accuracy. The calibration of the spirometer bell, which contains oxygen, makes it possible to measure the exact loss of volume during the observation, and this equals the oxygen consumption.

3. CALCULATION

The metabolic rate is determined from the measurement of the oxygen consumption over a given period of time—say, ten or fifteen minutes. The calculations are a trifle cumbersome and have been made by the use of logarithms, a "weapon" with which clinicians, as a rule, are not very familiar. In following the work of my clinical assistants in making these basal metabolism determinations in selected cases in routine diagnostic work, it seemed to me both possible and desirable to devise a method of calculation which would meet these indications:

1. To make the use of logarithms entirely optional with the clinician.
2. To make the different steps of the calculation logically clear, so that, among other reasons, a mental check might be kept on the procedure throughout.
3. To shorten the process, at least to a slight extent, by eliminating one or two intermediate calculations by a "short cut."

TABLE 1.—PERCENTAGE OF OBSERVED VOLUME WHICH CORRESPONDS TO THE CORRECTED VOLUME*

Temperature, Centigrade	Barometric Pressure in Millimeters of Mercury															
	700	704	708	712	716	720	724	728	732	736	740	744	748	752	756	760
15	87.30	87.80	88.30	88.80	89.30	89.80	90.30	90.79	91.29	91.79	92.29	92.79	93.29	93.79	94.28	94.78
16	87.00	87.49	87.99	88.49	88.99	89.48	89.98	90.48	90.97	91.47	91.97	92.47	92.96	93.46	93.96	94.45
17	86.70	87.19	87.69	88.18	88.68	89.17	89.67	90.17	90.66	91.16	91.65	92.15	92.64	93.14	93.63	94.13
18	86.40	86.89	87.39	87.88	88.38	88.87	89.36	89.85	90.35	90.84	91.34	91.83	92.32	92.82	93.31	93.80
19	86.10	86.59	87.09	87.58	88.07	88.56	89.06	89.55	90.04	90.53	91.02	91.51	92.01	92.50	92.99	93.48
20	85.81	86.30	86.79	87.28	87.77	88.26	88.75	89.24	89.73	90.22	90.71	91.20	91.69	92.18	92.67	93.16
21	85.52	86.00	86.49	86.98	87.47	87.96	88.45	88.94	89.43	89.91	90.40	90.89	91.38	91.87	92.36	92.85
22	85.23	85.71	86.20	86.69	87.17	87.66	88.15	88.64	89.12	89.61	90.10	90.58	91.07	91.56	92.04	92.53
23	84.94	85.42	85.91	86.39	86.88	87.36	87.85	88.34	88.82	89.31	89.79	90.28	90.76	91.25	91.73	92.22
24	84.65	85.14	85.62	86.10	86.58	87.07	87.55	88.04	88.52	89.00	89.49	89.97	90.45	90.94	91.42	91.90
25	84.37	84.85	85.33	85.81	86.29	86.78	87.26	87.74	88.22	88.71	89.19	89.67	90.15	90.63	91.11	91.60
26	84.08	84.56	85.04	85.52	86.00	86.48	86.97	87.45	87.93	88.41	88.89	89.37	89.85	90.33	90.81	91.29
27	83.80	84.28	84.76	85.24	85.72	86.20	86.68	87.15	87.63	88.11	88.59	89.07	89.55	90.03	90.51	90.99
28	83.52	84.00	84.48	84.96	85.43	85.91	86.39	86.86	87.34	87.82	88.30	88.77	89.25	89.73	90.20	90.68
29	83.25	83.72	84.20	84.67	85.15	85.62	86.10	86.58	87.05	87.53	88.00	88.48	88.95	89.43	89.91	90.38
30	82.96	83.44	83.92	84.39	84.87	85.34	85.82	86.29	86.76	87.24	87.71	88.19	88.66	89.14	89.61	90.08

The figures represent percentages of the observed volume, which correspond to the corrected volume. No other corrections are needed with the portable Benedict apparatus.

* Table to be used for the correction of the volume of oxygen gas from the temperature centigrade given in left hand column and barometric pressure in millimeters of mercury given at the head of each column to 0 C. and 760 mm. of mercury.

The first step in the calculation is to observe the exact number of cubic centimeters of oxygen consumed in a certain number of seconds (covering the entire period of the observation), preferably in two or three shorter periods, each to be checked against the other. The range of temperature of the contents of the spirometer bell is noted by reading a thermometer, preferably centigrade, projecting from it, at the beginning and at the end of the observation. For each rise of 1 degree C., 1.8 c.c. is added to the "observed" volume (Benedict). The mean temperature is then determined, being that temperature which is midway between the two extremes. This temperature, together with the barometric pressure expressed in millimeters of mercury, are the two essential factors for carrying out the next step in the calculation, the reduction of the "observed volume" to the so-called "corrected volume," which is the volume it would have at 760 mm. of mercury, and 0 C.

Instead of making this correction by logarithms, as heretofore advised, a table has been constructed, covering the most usual ranges of barometric pressure and temperature. Table 1 indicates that percentage of the "observed volume" which corresponds to the "corrected volume." It is, therefore, necessary only to multiply the "observed volume," either with or without logarithms, by that percentage in the table (which corre-

7. Benedict, F. G., and Collins, W. E.: A Clinical Apparatus for Measuring Basal Metabolism, Boston M. & S. J. **183**: 449 (Oct. 14) 1920.

8. Benedict, Miles, Roth and Smith: Pub. 280, Carnegie Inst., 1919, quoted by Benedict and Collins, Footnote 7.

9. Hendry, M. F.; Carpenter, T. M., and Emmes, L. E.: Gaseous Exchange with Unpracticed Subjects and Two Respiration Apparatus Employing Three Breathing Appliances, Boston M. & S. J. **181**: 285, 334, 368 (Sept. 4, 11 and 18) 1919.

sponds to the two factors of temperature and pressure just indicated) and all necessary corrections are made.

This table has been computed from data obtained from a work on chemical calculations.[10] The range selected is from 700 to 760 mm. of mercury, barometric pressure, and from 15 to 30 C. These percentages are obtained by means of the formula for the reduction of gas volume to 0 C. and 760 mm., using logarithms in the working out of Charles' law for this reduction. The correction for vapor tension has been ignored. It is so small that it is ridiculous in a clinical calculation with normal fluctuations as wide as those found in basal metabolism. Benedict [11] says that the air passing from the soda lime to the mouthpiece is only 5 per cent. saturated, because of the very rapid "ventilation rate," all of the contents of the spirometer bell being driven through the soda lime about three times a minute.

By common consent the metabolic rate is expressed in calories per hour per square meter of body surface. From the data already obtained, we deduce the total oxygen consumption per hour. While this can be done in several ways, perhaps as good a way as any is to divide the corrected volume of oxygen consumed by the number of seconds in the period of observation, and to multiply this by 3,600, the number of seconds in an hour, and divide by 1,000, the result being the volume of oxygen expressed in liters. Multiplying this by 4.825 gives the total calories of heat production during one hour, or the "metabolic rate." From this the "rate" per square meter is easily obtained by dividing by the body surface expressed in square meters as obtained from the "height-weight" chart of Du Bois [12] and the percentage, if any, above or below the assumed normal standards can be quickly calculated.

Perhaps it may be best illustrated by an actual case record:

CASE 2200.—A woman, aged 46; weight, 38.4 kg.; height, 165 cm.; body surface, obtained from Du Bois' chart, 1.38 square meters, was the subject. The observed volume of oxygen consumed was 2,100 c.c. in 500 seconds. The temperature of the spirometer bell at the beginning of the observation was 20 C., at the close, 24 C. The mean temperature was 22 C.; the rise during observation, 4 C., and the corrected barometric reading, 745 mm. of mercury. For rise of temperature, according to Benedict, 7 c.c. was added, making the total volume 2,107 c.c.

Now, we find on consulting the table that at a temperature of 22 C. and barometric pressure of 745, the corrected volume would be 90.7 per cent. of the observed volume, which equals 1,911 c.c. Dividing this amount by 500, the number of seconds, and carrying the result to two decimals, we find the oxygen consumption to be 3.82 c.c. per second. This must be multiplied by 3,600, which gives the number of cubic centimeters per hour, and the result divided by 1,000 gives the number of liters per hour, which is 13.75. To get the number of calories per hour, we must multiply by 4.825, the caloric value of a liter of oxygen at the accepted respiratory quotient of 0.82. This gives 66.34 calories per hour. Dividing this by the body surface, expressed in square meters, 1.38, we obtain 48.0 calories per square meter per hour. The normal for her age (Table 2) is 36; and we find that 48 calories is 33⅓ per cent. above the normal, or + 33⅓ per cent., which is the final result.

In order to simplify still further, a constant has been determined for a hypothetical case in which exactly 1 c.c. of oxygen was consumed per second, and in which the body surface was exactly 1 square meter. Such a person would have a metabolic rate of 17.37 calories per square meter per hour. The reason for determining this constant, 17.37, was to make the calculation from a basis of unity in regard to both oxygen consumption per second and square meters of body surface. This furnishes a sort of mental check of the entire procedure, as it is only necessary to multiply this constant by the number of cubic centimeters of oxygen consumed per second and dividing this by the body surface. We may now condense the entire calculation in the case heretofore cited to this:

$$\frac{2107 \times 0.907 \times 17.37}{500 \times 1.38} = 48,$$

the number of calories per square meter per hour, which is found to be as heretofore indicated, 33⅓ per cent. above normal for the individual.

As already stated, logarithms can be used with this percentage table, if so desired. The calculation by logarithms in the case just cited would be made thus:

Log. of 2107	3.32366	
Log. of 90.7%	—1.95761	
Log. of 17.37	1.23980	
Sum of these logs	4.52107	
Log. of 500	2.69897	
Log. of 1.38	.13988	2.83885
		1.68222 difference, or 48.1 calories

TABLE 2.—AVERAGE NORMAL CALORIES PER SQUARE METER PER HOUR FOR DIFFERENT AGES AND SEXES*

Age, Years	Calories	
	Males	Females
14-16	46.0	43.0
16-18	43.0	40.0
18-20	41.0	38.0
20-30	39.5	37.0
30-40	39.5	36.5
40-50	38.5	36.0
50-60	37.5	35.0
60-70	36.5	34.0
70-80	35.5	33.0

* Published by Aub and Du Bois and given in the manual by Boothby and Sandiford.[4]

4. CRITICISMS OF THE BENEDICT APPARATUS

In a recent brochure, Boothby and Sandiford,[4] in discussing the "closed circuit" method, of course, with the Benedict apparatus especially in mind, made the following statement: "The chief objection to the apparatus for clinical work is the fact that it cannot be cleaned, and the patient is exposed to the serious danger of infection by rebreathing contaminated air." Such a statement, coming from what is undoubtedly the largest basal metabolism clinic in the world, demands full consideration. If it is well founded, it raises a fair question as to whether or not we are justified in subjecting our patients to such risks. What are the facts?

In regard to the rebreathing of air remaining in the apparatus from previous patients, it can be said at once that such a thing can easily be made impossible. The spirometer bell has a capacity of 9,000 c.c when emptied as completely as possible by pushing out the residue of gas remaining at the close of an observation; it can be refilled with room air by closing the valves in the breathing tubes and opening the cock through which the oxygen gas is introduced. If then, the valves are opened and the oxygen cock closed, and the bell forced down, 7,000 c.c. of air is forced through the breathing tubes, sweeping out all the air in the spirometer bell and breathing tubes. This can be done twice, although it is probably entirely unnecessary. It is, therefore, perfectly obvious that in a few minutes,

10. Van Nostrand's Chemical Annual, New York, D. Van Nostrand Company, 1907.

11. Benedict, F. G.: Notes on the Use of the Portable Respiration Apparatus, Boston M. & S. J. **182**: 243 (March 4) 1920.

12. Du Bois, Delafield, and Du Bois, E. F.: A Formula to Estimate the Approximate Surface Area if Height and Weight Be Known, Arch. Int. Med. **17**: 863 (June) 1916.

every vestige of residual air left in the apparatus by a previous patient can be completely removed. It, therefore, cannot be rebreathed.

It is impossible for the patient to expire directly back into the tube carrying the purified air from the soda lime to the mouthpiece because of the strong ventilation current forced through by the motor. This is more than 20 liters per minute and is, therefore, many times greater than the tidal volume of respiration. This "ventilation current," excepting that which is inspired by the patient, is returned to the spirometer bell, completing the circuit again through the soda lime. As just indicated, the volume of this current each minute is from three to four times the contents (which are 7 liters) of the spirometer bell. The patient cannot, therefore, rebreathe even his own air until it has passed through this "circuit."

In view of these facts, it would seem that the only possible source of danger to subsequent patients would be the deposit of infectious material by an explosive expiration or cough in some part of the expiratory circuit leading to the spirometer bell. That part of the tube leading from the mouthpiece to the right angle bend just beyond the valve, and, of course, including the latter, can be quickly cleaned by suitable brushes and an antiseptic alkaline solution. The possibility of carrying particulate germ-laden material beyond this point is questionable; and its conversion, under the prevailing conditions of moisture, into "floating matter" which might be carried around the circuit through the spirometer bell and through the filtering mass of soda lime, may be fairly said to be impossible. So far as the part coming in direct contact with the patient is concerned, that is, the mouthpiece or the mask, it would seem that the mouthpiece which is used in the Benedict apparatus, although the mask can be used, can be more completely sterilized by boiling than can the mask by washing. We may, therefore, eliminate the mouthpiece itself as a possible source of danger. Finally, it seems perfectly obvious in view of these facts that with the same precautions that are obligatory under all similar technical conditions there is perfect safety from accidental infection.

Taking everything into consideration, it seems to me that the small portable closed-circuit apparatus is the only practical thing for the clinician to use, especially if basal metabolism determinations are to have the wide clinical application that their importance demands. This choice can be made without regret, in view of the fact that its accuracy, especially in determining the oxygen consumption, according to the unqualified statement of Benedict and Collins,[7] compares favorably with that of the larger apparatus requiring gas analysis, and, in view of the further fact, that with suitable precaution it is absolutely free from the danger of communicating infection from one individual to another. In fact, for most clinicians, this type of apparatus alone is possible. No one doubts the somewhat greater accuracy of gas analysis, but after all, even the latter is not absolutely accurate. The margin of error is presumably somewhat smaller, but Boothby and Sandiford[4] ignore an error up to 0.06 per cent. for oxygen in check observations. The same comparison may be made between an ordinary fever thermometer which will register temperature within 0.1 degree F. and an electrothermal apparatus which will give readings of 0.01 degree or less. However interesting or even necessary such minute accuracy may be in certain scientific investigations, it has not sufficient value in clinical diagnosis to justify the "handicap" which such methods would impose.

Basal metabolism, like most other physiologic processes, has normal variations which concern the physiologist more than the clinician, although the latter must recognize them in order not to be misled by them. If a clinical method gives results which are reliably well within the range of these normal variations, it meets the requirements of clinical diagnosis.

The case is a little different with a large investigative clinic like that of the Mayos, with practically unlimited facilities. The foundation of the future exact science of endocrinology, for which we are hoping, is being laid on an unprecedented scale. This is a great contribution to medical science, and Boothby and Sandiford have done wisely in making the data of this enormous clinical material (at present about 10,000 observations a year) as accurate as the present state of applied science makes possible. While these minute variations must be regarded as at present clinically negligible, there are two reasons why they should be made as small as possible within the practical limits of clinical methods. The first reason is that there is a real danger, as already pointed out,[4] that in the widespread application of basal metabolism determinations enough grossly careless or incompetent work may be done to discredit this diagnostic method. The second reason is that in dealing with borderline cases, the importance of which will probably greatly increase with increasing knowledge and experience, small errors will play an apparently large and certainly confusing rôle.

We cannot, at present, interpret these smaller variations because of the individual variations of the "norm" of the basal metabolic rate. This is quite constant for each normal individual, changing with age, and possibly seasonal and climatic conditions. By common consent, this variation of individual "norms" of the basal metabolic rate extends 10 per cent. above and 10 per cent. below the assumed "standards," which are only averages for the different decades of life.

SUMMARY

The value of basal metabolism determinations in proving the pathogenic rôle of thyroid hyperactivity has been confirmed by additional experience. Probably more than 90 per cent. of all cases showing marked increase in metabolic rate are due to hyperthyroidism.[6] Other endocrine glands play a small, subordinate rôle.

There is necessity for a warning against "subconsciously commercializing" the impressiveness of the method and the foisting on the profession of crude and inaccurate methods, by commercial "enterprise," which would inevitably bring discredit on this means of diagnosis.[4]

The accuracy of the Benedict apparatus has been proved, by ample tests, to be substantially the same as the more complicated apparatus requiring gas analysis.[13]

A new and simplified method of calculation is offered involving the use of a percentage table with which logarithms can be used if so desired, and the determination of a "constant," which materially shortens the process.

Certain criticisms relative to the dangers of infection in the use of such an apparatus are considered. It is shown that by taking certain precautions which are obvious and obligatory in all medical and surgical work involving such questions there is no danger whatever from this source.

407 West Main Street.

13. Footnotes 7 and 9.

RURAL HEALTH CENTERS AS AIDS TO GENERAL PRACTITIONERS*

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As the nineteenth century drew toward its close, ethods of diagnosis gradually changed; and with ese changes there came both advantages and disadntages to the medical profession. If one goes over e advances made by the profession in this country ring the first three quarters of the nineteenth century, will be struck by the great number of valuable ntributions made by physicians living in rural and olated communities. I shall recall only a few of the ost striking of these.

EARLY ACHIEVEMENTS OF RURAL PHYSICIANS

In 1806, Mann and Danielson, at Medfield, Mass., ving under their care cases the diagnosis of which as doubtful, had the wisdom to make necropsies. This rocedure led to the recognition of the fact that these ses were not typhus fever, as the necropsies showed purulent inflammatory condition of the meninges, sions which are not present in typhus fever. In this ay it happened that one year after the first observaons on cerebrospinal meningitis made in Geneva, witzerland, and with no knowledge of the Swiss eport, two village doctors in Massachusetts demonrated beyond a doubt that there exists a disease whose ssential and characteristic lesions are located in the eninges.

The report of observations and necropsies made at Medfield was published and evidently read and studied y the country doctors throughout the land. In 1807, ish reported a similar epidemic at Hartford, Conn., d this was followed in the next year by a report by rnell, of Orange County, New York. By 1810 the isease was so widely distributed and so plainly recogzed throughout New England that the Massachusetts tate Medical Society appointed a commission to invesgate and report. The result of the labors of this mmittee, however, added but little of value to what e country doctors had already recorded. In 1811, orth gathered together all the literature on the subject d published his now classical monograph on "spotted ver," in which he included all the literature up to that me.

Mann, the medical historian of the War of 1812, ves a vivid picture of the diseases that existed in e cantonments of that time, dwelling especially upon onchopneumonia and spotted fever. One who reads ese interesting and valuable records will recognize e fact that the medical condition of the cantonments 1812 were but miniature pictures of what occurred our larger camps in 1917-1918, with bronchopneuonia most prevalent, and cerebrospinal meningitis using the greatest case mortality. Year by year, ports came from country doctors located in every ate in the union. Some of the most notable of these ntributions came from Dunbar of Winchester, Va.; Vilson of New Hampshire; Utley of Lyme, Conn.; ercheval of Bardstown, Ky.; Bascome of Granville, Y.; Vaughan of Hallowel, Maine; Hereford of iddlebury, Va.; Davis of Columbia, S. C.; Davis of illedgeville, Ga.; Kerr of Natchez, Miss.; Gallup Vermont; Miner of Middletown, Conn.; McCoy of Clark County, Illinois; Love of Louisiana; Ames of Montgomery, Ala., and various other widely scattered village doctors. I have gone quite thoroughly through the literature of cerebrospinal meningitis in this country during the first half of the nineteenth century, and if there was a contribution made to this subject by a physician living in a town of more than 10,000 inhabitants I have failed to find it. It is worthy of note that McCoy of Clark County, Illinois, made necropsies of his cases and suggested that the disease be designated "cerebrospinal arachnitis," a name quite appropriate.

The early history of poliomyelitis in this country runs almost parallel to that of cerebrospinal meningitis. The first suggestion of its existence within the limits of the United States came from Colmer of the Parish of West Feliciana in Louisiana, and from that time up to the close of the nineteenth century, or near its close, this disease was regarded as existing only in rural communities. It is not found in the vital statistics of the city of New York until 1907, and metropolitan physicians are inclined to state that it did not exist in that city up to or near that time. However, I find that the records of the New York Orthopedic Hospital show that patients with deformities from this disease had been admitted to that institution for at least ten years prior to that time.

The splendid, painstaking and scientific work done by William Beaumont on the Island of Mackinac in the then wilderness of the territory of Michigan has been ever since a striking instance of what an energetic man may do under adverse conditions. I have been permitted by the Surgeon-General to read all the correspondence between his office and Beaumont during that time. These letters are full of repeated requests for books and facilities with which to carry on the work. Fortunately, the Surgeon-General at that time appreciated Beaumont and his researches and supplied him from time to time with books not only in English but also in foreign languages, and by some means Beaumont was able to read or have read to him these volumes. The stories of Ephraim McDowell and the first ovariotomy, of Marion Sims, in Montgomery, Ala., and his solution of the riddle of vesicovaginal fistula, of Long of Georgia, and his operation under anesthesia, and many others who might be mentioned, are tributes to the isolated doctor of the first half of the nineteenth century; indeed, were we to take from the history of medicine in the first half of the nineteenth century in this country the contributions made by village doctors we would rob it of half its honor and glory.

FACILITIES FOR DIAGNOSIS AND TREATMENT

I have recalled the foregoing instances to your memory, not for the purpose of unduly lauding the village doctor or unduly decrying his metropolitan confrères, but for the purpose of placing before you the clear distinction between the diagnostic facilities of that time and those of the present. We may speak of the old and the new eras. In the old, every physician carried within himself his whole armamentarium. The use of the test tube, the microscope and the roentgen ray, as aids to diagnosis, at that time lay in the future. Medical books were rare, but they could be obtained, and evidently were read as intelligently by the country doctor as by his urban brother. The great medical men of that era were those who were posted in the literature of medicine, were clear thinkers, and skilful practitioners, it mattered not whether they lived in small or densely populated communities. About thirty or forty years ago all this was changed, and the change was largely

* Read before the Annual Congress on Medical Education, Licensure, ospitals and Public Health, Chicago, March 10, 1921.

due to the labors, researches and discoveries of the village doctor of the past. In the new era, the recent medical graduate needs a library which he cannot purchase, a laboratory which he cannot build, an equipment which is beyond his power of acquiring; consequently, he must attach himself to some medical school, city hospital, become an assistant in some research institution, or serve as an underling in some diagnostic laboratory. I have not had the time to go through the medical directory and ascertain the exact figures, but I am quite sure it is safe to say that the average age of practitioners in cities and villages of less than 25,000 inhabitants is past the meridian of life. This condition certainly is unfortunte for both the physician and the patient.

Having seen how the rural physician in the new era is handicapped by lack of diagnostic and treatment facilities, we now turn to the effect that this has had upon his patients. A volume of statistical evidence might be written to show that within the last twenty years the death rate from all causes in the rural districts has not materially decreased, while that in urban centers has greatly diminished. It is impossible to obtain any accurate figures concerning the death rates in rural communities before the year 1900. At that time the registration area in this country included Connecticut, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, Vermont and the District of Columbia. In the year 1900 the annual death rate in the cities in these states was 17.4 per thousand, while in the rural districts it was 14.1; in other words, residence in cities at that time was more hazardous to life than residence in rural communities. For every thousand inhabitants, 3.3 more died in the city compared with the country. By 1917 the annual death rate in the cities in the original registration states had fallen 2.3 per thousand, while the death rate in the rural districts had increased by 0.6 per thousand.

These figures are conservative, and it should be noted that among the cities included in this list is Washington with its very large proportion of negro inhabitants. In New York City from 1900 to 1917 the annual death rate per thousand fell 5.3, while in the state of New York, including New York City, it fell only 2.4. The greater decrease in the death rate in urban communities may be shown by comparison of the death rates in the different boroughs in the city of New York. In 1901 the death rate in Richmond Borough was 19 per thousand, while in 1917 it was 17.7, a decrease of 1.3; in 1901 the death rate in Manhattan was 19.5 and in 1917 it was 13.3; a decrease of 6.2. To those who believe that rural districts are to be brought on a par with urban communities, so far as life saving is concerned, by securing for the former health officers, I desire to call attention to these figures. Richmond Borough and Manhattan are under the same health commissioner. In the rural borough from 1900 to 1917 the reduction in death rate was 1.3, while in densely crowded Manhattan the reduction was 6.2

Were I inclined to go into the comparative death rates in city and in country from specific diseases, I could present more telling figures. The death rate from diphtheria has been greatly reduced in the last twenty years in our larger cities, while from time to time in many country places, villages and small cities the death rate has been higher than it was in preantitoxin days. I do not think it desirable to collect a great mass of figures on this point. Any one who desires to do so may study the vital statistics of our country, and it will be plainly patent that within the last twenty years the line representing rural death rate, which started below that representing urban death rate, has ascended and, in many localities at least, has crossed and now stands above the line representing the urban death rate. There is, therefore, ample justification for both the rural physician and his patient to demand for themselves better facilities for diagnosis and treatment.

NEEDS OF PHYSICIAN AND PATIENT

In order to be as brief and as clear as possible, and at the same time to make statements which may be discussed, I shall formulate my ideas as to the present needs of the medical profession in this country as follows:

1. Every legally qualified physician in the United States, so far as possible, should have at his service every scientific facility essential to make a correct diagnosis. This is desirable not only for the physician, but for every patient he treats. It is therefore, a matter in which both the profession and the public are interested.

2. Every practicing physician needs, in order that he may render the most efficient service to his clientele, a large well-selected library, including books of reference and current journals. His needs in this direction are so large and so costly that no recent graduate can afford to secure them from his own resources. They, therefore, must be made available in some other way.

3. Every physician needs the aid of the chemist, the bacteriologist, and the roentgen-ray operator in his diagnostic work. These facilities can be supplied the young practitioner from his own resources only when he has private wealth or when he is fortunate enough to have a large and wealthy patronage. This can happen only in exceptional cases, and the average practitioner cannot hope to be so fortunately situated.

4. There must be a minimum of interference with the relation which has so long existed between the physician and his patient and which, on the whole, has been so satisfactory to both. The patient must have the right to select his physician, and the physician must have the right to study and prescribe for his patient as he sees fit. The pecuniary reward that comes to the physician must be determined between himself and the patient. There must be no state regulation in these matters. The panel system, as employed in England, is good for neither physician nor patient. There must be no state appointed doctors to administer to the needs of those who are able to pay medical fees.

5. In armies it is necessary to have medical officers, and those over whom they are placed must accept the service of such medical officers whether they like it or not. We admit that this is essential in military organizations, but we believe that such a practice would be harmful in civil life and would lead to deterioration on the part of medical men and to discontent on the part of those whom they would serve.

6. I believe that any unnecessary interference with the voluntary and private relations existing between physician and patient would be detrimental to both.

HOW THESE DESIDERATA MAY BEST BE SERVED

Having stated my views in regard to the needs of the profession and the best interests of the patient as clearly and as briefly as I possibly can, I now proceed to present, in like condensed form, my ideas as to how

ese desiderata can best be secured. In order not to onfuse the statements bearing on these two points, I all continue to number the paragraphs.

7. Every community, the boundaries of which may r may not be determined by state, county, municipal r township lines, should have the authority, on a ajority vote of its citizens, to build, equip and main- in a community hospital.

8. This community hospital may or may not be cated in close proximity to the tuberculosis hospital, hich each county in most of the states is now author- ed to build. I think that the tuberculosis hospital nd the general hospital should be under the same anagement, but there may be differences of opinion oncerning this, and at any rate it is not a matter of reat importance.

9. Authority to build and maintain such community ospitals may be secured by an enabling act, just as e authority to build and maintain tuberculosis hos- itals has been obtained. Sixteen states have already acted some kind of an enabling act, modeled largely n the Iowa law.[1] Dr. Sampson will tell you how the w has worked in that state. Instead of a general nabling act covering the whole state, any community ight present a bill to the legislature, calling for such n act, applicable to that community only. I am told at in certain states the boards of supervisors have, ithout any such law, gone ahead and built community ospitals of this kind.

10. The community hospital should start with at ast one bed for every 500 inhabitants of the district erved. In my opinion, it would be best to have a eneral hospital consisting solely of single rooms, ough small wards might be deemed best. In addition the general hospital and as part of the same build- g, there should be an operating room, a lying-in om, and bacteriologic, chemical and roentgen-ray aboratories; also quarters for nurses, matron and ther administrative officers, and by all means a library, ith ample reading room.

11. The community hospital should be managed by board of from three to five, preferably elected by e people, though this board might be selected by the unty supervisors or appointed by some other local uthority. Such community hospitals might receive me support from state funds. This may be neces- ary in sparsely settled districts, but I think it should e avoided whenever possible. I believe most heartily local self-government so far as it can be secured— at each community should pay for and control its wn institutions. The hospital board would, of course, ave the right to buy or rent property and accept onations.

12. Every legally qualified physician in the com- unity should have the right to utilize this hospital, its aboratories and its library. He could bring to the ospital and there treat any of his patients, maintain- g at all times between himself and the patient the rivileges, rights and amenities that exist between a rivate practitioner and his patient. The hospital hould make charge to the patient for such use as he as made of the hospital and its laboratories, but ould have no concern with the pecuniary affairs etween physician and patient.

13. The community hospital should be a place where ach physician in the community can find all the acilities necessary to keep himself in the front ranks of the profession. He may spend his spare time in work in the bacteriologic or chemical laboratories, in the roentgen-ray department, in the library, and in acquainting himself with all new diagnostic methods.

14. The library of the community hospital should contain all valuable current medical journals, and it should be able to secure the loan of rare and valuable books from the Surgeon-General's library and from other great medical libraries; in other words, any book or journal needed by the local physician could be obtained.

15. The community hospital would serve as a graduate school; specialists could be called to the laboratories and to the diagnostic rooms and give instruction on all recent advances. For instance, the application of the Schick test, and the inferences to be drawn from the reactions obtained, could be demonstrated.

16. In my opinion the organized medical profession, the American Medical Association, through its House of Delegates, should take hold of this matter, work out the details, and all interested in the welfare of the profession should pull together for its development.

17. In my opinion, preventive and curative medicine should be combined in the community hospital. Increasing the number of health officers or securing for each county a health officer, as is now being attempted by more than one state, will not serve the purpose I have in mind. As we have already seen, the death rates in rural districts have not been materially lessened in the last twenty years, while they have been reduced in the large cities. This difference is not wholly, nor do I believe even largely, due to the better or more complete prevention of the communicable diseases, but is largely due to the better facilities for diagnosis and treatment possessed by the profession at large.

18. The plan which I have in mind would enable the profession to collect within a few years most valuable and reliable morbidity statistics, something which has never been done in any country except in military organizations, and on account of age, sex, occupational and social differences, the records obtained in military camps are not applicable to civil life. We could soon secure valuable data on the influence of locality, race, manner of living, season, occupation, diet, age, etc., on the prevalence and modifications of disease.

19. The inauguration of some such plan as this would forestall all attempts to force on the profession undesirable forms of state medicine, and would retain for each and every physician his individuality and self-respect and keep him from the necessity of becoming a mere cog in a great political wheel.

20. It would in the best possible way place all physicians on the same level so far as opportunity is concerned, and it would give to all citizens the benefit of scientific medicine, both preventive and curative. It would give to the rural doctor the same chance to grow in knowledge and skill possessed by his brother in the metropolis, and it would do much to relieve the great urban congestion from which our nation now suffers and which in the past has wrecked more than one civilization.

CONCLUSION

I have presented my ideas to you and ask that you consider and discuss them: I have but one purpose in view, and that is to secure, so far as possible, for

1. Abstracted, this issue, p. 1034.

every physician in this country, such aids in diagnosis and in treatment as scientific medicine demands. I believe that, by some such arrangement, both the profession and the laity would be greatly benefited. I dare say that some such plan as this, with many diverse modifications, will be attempted within the next few years. It is fortunate that our form of government permits each community to make experiments for itself. I would not, if I could, lay down any cast-iron, inflexible plan, and say that it should be imposed on all the people. I believe that advances, those that are really worth while, are most effectively made along educational lines.

CULTIVATION OF A FILTRABLE ORGANISM FROM THE NASOPHARYNGEAL WASHINGS IN INFLUENZA *

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During the influenza epidemics of the spring and fall of 1919, we succeeded in cultivating a minute filtrable organism from the nasopharyngeal washings of early cases of uncomplicated influenza. As investigations were being carried on at the time concerning the etiology of epidemic encephalitis, it was important for us to make studies in influenza to determine whether there was any relationship between the etiologic agent in epidemic encephalitis and in influenza. In February, 1920, in reporting [1] the results of the investigations concerning epidemic encephalitis, a brief note of our findings in influenza was incorporated. It was stated that "in three cases we have isolated, from filtrates of nasopharyngeal washings, organisms in pure culture which closely resemble morphologically the organism found in our encephalitis series. This work is now being prosecuted vigorously, to establish a possible etiologic relationship. Thus far no encephalitis has been produced in rabbits with these strains." Since that time we have continued these studies, and are prepared to make the report herewith submitted.

Nasal washings and pharyngeal swabs were obtained according to the technic described in previous publications on epidemic encephalitis.[2] The nasal washings were filtered directly, unless the presence of an excessive amount of mucus made necessary a preliminary shaking with glass beads. For the most part, pharyngeal swabs were used. These were washed in several changes of physiologic sodium chlorid solution, care being observed to use small quantities of the fluid. The slightly turbid fluid thus obtained was then filtered. The filters employed were of the Mandler type, which were found to be satisfactory as regards their ability to hold back the usual test organisms under the same conditions obtaining in the experimental filtrations. The filtrates were cultivated aerobically on ordinary laboratory mediums, including blood agar, and also anaerobically, in the tissue-ascitic fluid medium of Noguchi.

The preparation of the anaerobic medium is, briefly:

Fragments of sterile rabbit kidney are transferred to tubes 20 by 1.25 cm., covered with from 3 to 4 c.c. of sterile ascitic fluid, and incubated for twenty-four hours. At the end of this time the grossly contaminated tubes are detected and discarded. The tubes containing sterile kidney tissue and ascitic fluid are inoculated, and ascitic fluid added to form a column about 10 cm. high. As in all our other work, we have found that the choice of a suitable ascitic fluid is of prime importance. Ascitic fluid stored for any length of time has a tendency to become too alkaline. When the alkalinity is beyond a p_H of 8.0, dilution with 2 per cent. glucose broth having a p_H of 6.8 or titration with tenth normal hydrochloric acid has been of service in reducing the alkalinity to the proper range. Anaerobiosis is perfected by the addition of a layer of melted sterile petrolatum.

A semisolid medium is also employed. The optimum solid medium is of a gelatinous consistency, made so by the addition of one part of 2 per cent. glucose agar to from four to five parts of ascitic fluid, the kidney tissue being added as usual. The necessary controls on each of the ingredients constituting the culture medium are made in every case.

A successful growth in the anaerobic fluid cultures is recognized on the fourth to the sixth day, or later, by clouding of the medium, commencing about the kidney tissue, the outline of which becomes hazy and irregular. The clouding extends upward in the ascitic fluid column. The organisms are not held in suspension long, settling to the bottom within a period of from two to three weeks, and leaving the supernatant fluid clear. Occasionally one finds numerous organisms in the material taken from the bottom of relatively clear tubes. It should be emphasized that the organism at all times is a strict anaerobe.

Transfer to semisolid mediums has been obtained thus far only with the subcultures of the organism. Certain strains are apparently more adaptable to this type of culture medium. Growth is indicated by diffuse clouding of the medium, the initial and most intense clouding taking place in the region of the kidney tissue. Individual colonies can be made out with a magnifying glass.

Material for smears and transplants is taken from the dependent portion of the fluid cultures. The smears are fixed in methyl alcohol and then stained with Loeffler's alkaline methylene blue (old), dilute Giemsa solution or polychrome methylene blue. Prolonged contact is necessary in order to bring out the organisms. We have adopted the Gram method of Sterling, counterstaining with steaming 10 per cent. safranin.

In stained smears with magnification of 1,200 diameters, the organisms appear mostly as minute globular bodies which are arranged singly, in diplo-form, in short chains and in clusters. Most reliance has been placed on Loeffler's alkaline methylene blue and Gram stains. With the former stain the organisms take on a color which varies from violaceous to deep blue. They are decolorized by Gram. The individual organisms have an average diameter of 0.25 micron as measured by the ocular micrometer.

The organism has been obtained consistently from the filtered nasopharyngeal washings of uncomplicated influenza patients in the early stages. Most of our positive cultures have been obtained in the first twenty-four hours of the disease. The organisms have been subcultivated for several generations.

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* From the Pathological Department, Mount Sinai Hospital.
* This work was done under the tenure of a Moses Heineman Fellowship.

1. Loewe and Strauss: Proc. New York Path. Soc. **20**: 27 (Jan.-May) 1920.
2. Loewe, Leo, and Strauss, Israel: The Diagnosis of Epidemic Encephalitis, **74**: 1373 (May 15) 1920.

Aside from obvious contaminations, cultures on the dinary laboratory mediums have remained sterile. his organism has never been encountered in similar ltures of nasopharyngeal washings of patients suffer- g from conditions other than influenza.

Characteristic lesions have been produced in lungs rabbits by the intratracheal inoculation of initial cul- res and of transplants. With the same technic, sim- r lesions were produced in rabbits by initial cultures eserved at 37 C. under strict anaerobic conditions for urteen months. The organism was recovered from e lungs of animals injected with these cultures.

Rabbits showing these lesions manifested, within venty-four hours after inoculation, apathy, rhinitis, yspnea, ruffling of the fur, conjunctivitis and elevation temperature. In rabbits with stertorous breathing, iscultation of the chest revealed numerous moist râles d sibilant and sonorous breathing. Depression of the tal leukocyte count was a constant finding in animals ccumbing to the experimental disease, sometimes mounting to 50 per cent. or more.

The lesions in the experimental animals are being xamined by Dr. George Baehr, who will subsequently port his studies in full. The changes which he has und in the lungs of animals which have been killed ithin from twenty-four to forty-eight hours after the set of the disease present very unusual features. r. Baehr thus summarizes them:

The lungs are usually voluminous, and present a riking example of acute emphysema. Sometimes one ng or part of a lung is more markedly involved by e process. The normal pale yellowish gray surface f the organ is mottled with deep pink in large diffuse eas. Here and there in these pink areas are often nall hemorrhagic foci, usually diffuse in outline and arying from pin-point size to that of a lentil.

On section of the lung, no areas of firm consolidation e discoverable. The cut surface drips a blood-stained uid, and frothy edema fluid is sometimes present in e lumen of the trachea and bronchi. The mucous embrane of the latter shows intense congestion, and often stippled with minute hemorrhagic points. In ldition to emphysema and perhaps some edema, the volved lung parenchyma is pinkish red at the periph- y, shading to a darker red at the hilum. In these red eas, some small dark hemorrhages, pin-point to pin- ead in size, are frequently discernible.

On microscopic examination, the salient features of e pathologic process are: (1) emphysematous over- istention of alveolar air spaces; (2) small hemor- hages into the walls of bronchi and the presence of d blood cells in the bronchial lumen; (3) congestion nd sometimes edema of areas of lung parenchyma; 4) hemorrhagic extravasations into the interstitial ssue of the alveolar spaces, filling smaller or larger roups of them with red blood cells; (5) absence of rdinary inflammatory exudate; (8) occlusion of umerous interalveolar and interstitial capillary loops ith blood platelet thrombi.

These minute intracapillary thrombi constitute a sig- ificant and conspicuous feature of most of the patho- gic material that has thus far been studied. They ave been found in the lungs of animals that have been illed shortly after the development of the first evi- ences of illness, and probably precede and are respon- ble for the other five features of the pathologic icture previously described by MacCallum, Winternitz, oeronsen, Olitsky and Gates, and others, both in uman and in experimental influenza. The occluded capillary loops are always dilated, the lining endothelium is swollen and often shows beginning proliferation, and the lumen is occupied by a mass of blood platelets scattered through which is usually a fair number of polymorphonuclear leukocytes. In the vicinity of such an obstructed capillary, interstitial and intra-alveolar hemorrhages are usually present. But similar changes can sometimes be seen in capillaries in areas of lung parenchyma which show as yet merely some interstitial congestion and emphysema. The lesion has not been observed by us as an essential feature of any other type of intrapulmonary disease, either in human beings or in experimental animals.

Emulsions and filtrates of the lungs of animals showing the lesions described by Dr. Baehr have induced the experimental disease when injected into the trachea of other animals. The virus has thus been passed in series through several transmissions.

The organism has been grown in pure culture from filtrates of lung tissue and from the lung tissue itself, of animals in whom the disease had been originally produced by filtrates of, or cultures made from, pharyngeal washings. It has also been cultivated in virulent form from the lungs of rabbits in which the disease had been produced by virus (filtrates of lungs) that had been passed through a series of animals.

In a few instances, the organism has been recovered in pure culture from the blood of rabbits injected intratracheally. There is apparently no relation between the degree of the lesions in the lung and the occurrence of the organism in the blood stream. These animals have shown the usual clinical manifestations of the disease.

In the absence of secondary invaders, aerobic cultures on ordinary laboratory mediums, including blood agar, have proved negative. The presence of secondary invaders is frequently shown by the production of more extensive pathologic processes, such as pneumonic consolidation, empyema and pericarditis. Such complications appeared in animals allowed to live beyond the customary thirty-six to forty-eight hours, and were usually accompanied by a secondary rise in the total leukocyte count.

The pathologic lesions and the clinical picture which we have described have not been produced by the intratracheal injection of any control materials. One series of animals was inoculated intratracheally with the contents of a control tube containing kidney tissue and ascitic fluid which had been kept at incubator temperature for the same length of time as our original positive cultivations—fourteen months.

CONCLUSIONS

1. A minute, filtrable, gram-negative organism has been isolated in pure culture from the nasopharyngeal washings of early cases of uncomplicated influenza.

2. A typical clinical picture and characteristic pathologic changes have been produced in rabbits by the intratracheal inoculation of these cultures. Both initial cultures and subcultures have proved pathogenic for animals.

3. The same clinical and pathologic manifestations were produced in a series of rabbits by the intratracheal inoculation of a culture kept at incubator temperature for fourteen months.

4. The infectious agent has been carried through several animal passages.

5. The organism has been recovered in pure culture from the lungs of animals suffering from the experi-

mental disease, and has been proved to be again virulent.

6. All control studies have been negative.

A full report of the studies detailed above, as well as further studies on the nature of the organism and the lesions produced by it, will subsequently be published.

NOTE.—In THE JOURNAL, March 5, 1921, Olitsky and Gates described an organism cultivated from cases of influenza. The organism which we have recovered does not appear to differ from the organism which they have isolated.

DIAGNOSIS AND SIGNIFICANCE OF TRACHEOBRONCHIAL ADENOPATHY

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The difficulty in obtaining good histories and the lack of clear-cut symptoms and signs account for the comparatively infrequent diagnosis of a tuberculous infection or clinical tuberculosis in children. In civilized countries the tubercle bacilli are omnipresent. Clinical pathology and necropsy findings have proved that a tuberculous infection or active tuberculosis is present in from 85 to 95 per cent. of all children under 16 years of age. It is believed by many that any child who has been closely associated with a person having open tuberculosis is potentially tuberculous, the disease manifesting itself later in childhood or in adult life. Today the phthisiologists are few who do not believe that clinical tuberculosis in adult life, in civilized countries, is with rare exceptions only a recrudescence of the infection acquired in childhood.

In determining the possibilities of a child's having active tuberculosis later in life, many factors must be taken into consideration. The influence of the constitutional factor has been pointed out by Pearl.[1] In taking the histories of several children in the same family who have lived under practically the same environment, it is interesting to note that they often vary widely in the resistance they offer toward diseases in general. Again, the resistance offered by children of one family to diseases, compared with the resistance offered by the children of another family who are living under practically the same environment, is much different. With such observations it seems reasonable to believe that the inherited constitution of the individual plays a part in determining whether or not a child who is infected with the tubercle bacillus will develop active tuberculosis in childhood or adult life.

The influence of environment in the cause of clinical tuberculosis has been pointed out by many writers, and recently discussed in detail by Krause.[2] In the first place, environment determines whether or not a child will receive a tuberculous infection. It determines whether the infection will be a light, medium or massive one. It has much to do with increasing or decreasing the resistance of the individual. So, after all, environment is the chief factor in determining the degree of the initial or subsequent infection, and the quiescence or activity of the infection. The degree or extent of the infection in early life is a factor which deserves careful consideration, and it is to this one that I wish especially to call attention.

Since it is generally believed that with rare exceptions clinical tuberculosis of adult life is only an awakening of a tuberculous infection contracted in childhood, then how important it must be to know something about the extent of the childhood infection so that one's environment may be changed if need be to protect the child from the consequence of the infection. The individual should be treated as soon as the presence of the infection in childhood can be determined, and all possible means should be used to increase resistance at an early age, by improving home conditions and personal and school hygiene. The treatment is chiefly that of teaching them how to live. It is important that such children be impressed with the fact that they have a tuberculous infection and taught not only about right living but also concerning the signs and symptoms of an early active tuberculosis so that they will present themselves for examination and management while the infection is in the incipient stage.

It is interesting to note how, under proper guidance, the activity of many cases of moderately advanced pulmonary tuberculosis will become arrested; but it frequently takes months or years to obtain such results. It is also interesting to observe how much shorter period it usually takes and how much surer one can feel that the arrested condition may be permanent if they are placed on management early in the disease. One who examines many chests frequently sees a patient with advanced pulmonary tuberculosis whose history and chest findings indicate that the present activity has extended over a period of years and the patient is just awakening to the cause of his trouble. In all probability, if these patients had been examined in childhood evidence of a massive tuberculous infection would have been found. It is also reasonable to believe that if they had been told of the degree of their infection and the possibilities of the inactive process becoming active and instructed in the signs and symptoms of early activity they would have presented themselves at such a time that the disease would have been amenable to treatment.

It is true that a large percentage of the children whose chests show a massive tuberculous infection have a history of contact with an open case of pulmonary tuberculosis, either familial or otherwise; but, knowing that the tubercle bacilli are omnipresent and that father's shoes are frequently leaving on the cleanest rugs myriads of active tubercle bacilli that are accessible to baby's fingers, and knowing that baby's milk is frequently from cows with tuberculous udders or is handled by men with open pulmonary tuberculosis, we understand better the finding of a heavy tuberculous infection in the chest of a child who gives no history of contact with an open case.

Surely it is of vital importance to examine the chest of every child before he reaches young adult life with an idea of determining if possible the presence of a tuberculous infection and if so, how heavy. If this were done and he were advised properly concerning the findings, the number of advanced cases of pulmonary tuberculosis would in all probability become markedly reduced.

At the Oklahoma City Tuberculosis Dispensary we have studied the chests of 449 children under 16 years of age. Believing that the degree of infection is a large factor in determining whether or not a child will develop active tuberculosis some time in life, we have

1. Pearl, Raymond: The Relative Influence of the Constitutional Factor in the Etiology of Tuberculosis, Am. Rev. Tuberc. **4**: 668 (Nov.) 1920.

2. Krause, A. K.: Environmental Factors in Tuberculosis, Am. Rev. Tuberc. **4**: 713 (Nov.) 1920.

ed to determine the importance of certain physical ns and roentgen-ray findings as indicators of the gree of the infection. In our study we have paid cial attention to the significance of the D'Espine n as an indicator of tracheobronchial adenopathy d the appearance of the hilum shadows in the roentnogram as a means of differentiating tuberculous m nontuberculous glands.

THE D'ESPINE SIGN

There has been considerable difference of opinion to what constitutes the D'Espine sign. In 1907 and in in 1910, D'Espine [3] called attention to a sign ich he had observed for several years and which he st thought was diagnostic of tuberculous glands at root of the lungs but which he finally concluded s diagnostic of enlarged tracheobronchial glands e to any one of several causes. He stated that in ung children the tracheal voice normally ceases at level of the seventh cervical spine. In those cases which the lymph nodes are enlarged at the root of lungs, the tracheal voice will be heard over the per thoracic spine when the patient whispers thirty-ee.

In 1907, Stoll [4] made a study of the D'Espine sign. checked a limited number of his cases with the stmortem findings. He thus summarizes his views: positive D'Espine sign is indicative of a pathologic ocess at the root of the lungs. This may be due to larged glands, the results of malignancy, leukemia, dgkin's disease, syphilis or any infectious disease of lungs. A positive D'Espine sign in undernourished ldren is exceedingly suspicious of a tuberculous volvement of the tracheobronchial glands.

Howell [5] studied a large number of children with ference to the significance of the D'Espine sign. entgenograms of most of his cases were made. actically all revealed a hilum shadow abnormal in size d density.

In 1916, Morse [6] published the results of his study the D'Espine sign. He concluded that D'Espine s correct in finding the tracheal voice normally nging at the seventh cervical vertebra. He was led believe that when the D'Espine sign was found posie it indicated a tuberculous infection in about 50 per nt. of the cases. His findings, however, were not ecked by the roentgen ray or by postmortem examtion.

In 1919, Moorman [7] reported a series of cases in ich he made special mention of the value of the Espine sign in the study of tuberculosis in children. concluded that it was of considerable value in differentiating tuberculous and nontuberculous infections the chest in children.

In our study we have considered the D'Espine sign sitive if the tracheal voice is heard below the seventh vical vertebra in children under 3 years of age, or low the first dorsal in children between 3 and 5 years age, or below the third dorsal in children over 5 ars of age. We have not considered the sign positive less the voice sounds are distinctly tracheal in char-er.

ANALYSIS OF CASES

In the analysis of the cases we have studied I will mention the symptoms, physical signs and roentgen-ray findings which are important in the diagnosis of a tuberculous infection and tuberculosis in children.

Of the 449 cases studied, 164 (36.5 per cent.) gave a history of contact with an open case of tuberculosis; 132 (29 per cent.) had been exposed to suspected cases of tuberculosis, and 153 (34.5 per cent.) gave no history of exposure. There was a history of whooping cough in 316 (70 per cent.) and measles in 357 (79 per cent.). Pneumonia, either lobar or bronchial, had occurred in 116 (26 per cent.). Pleurisy had occurred in fifty-four (12 per cent.). At the time of the examination, 116 patients (26 per cent.) complained of cough, while only seventy-four (15 per cent.) gave a history of expectoration. There was a history of hemorrhage in thirteen (3 per cent.), but the majority of the hemorrhages occurred during attacks of influenza. Pain in the chest was a symptom complained of by seventy-one (16 per cent.). Fever was found either at the time of the initial examination, at subsequent examinations, or by the nurse during her visits at the home of sixty-seven (15 per cent.). A history of loss of weight was obtained in fifty-four (12 per cent.). Hoarseness had been noticed by forty-five (10 per cent.). Disturbed appetite or digestion was complained of by seventy-five (16 per cent.).

Of all the patients examined, 304 (68 per cent.) were found below standard in weight. Enlarged cervical glands were palpable in 224 (50 per cent.). Enlarged tonsils were found in 211 (42 per cent.). D'Espine sign was elicited in 116 (37 per cent.). Râles were elicited in fifty-seven (12 per cent.).

Two hundred and thirteen (about 50 per cent.) of the patients were roentgenographed. Practically all patients on whom was elicited a positive D'Espine sign or from whom a history of contact was obtained were roentgenographed. In our roentgenographic study of the hilum shadows and the surrounding lung tissue we have considered the small calcified areas evidence of an old tuberculous process. Krause, Wolbauch and Reynolds believe that practically all calcified areas seen in the roentgenograms of the chests of children are evidence of a calcified tubercle. The roentgen-ray diagnosis, made independently of the clinical diagnosis, was: tuberculous infection of the tracheobronchial glands alone, thirty-eight; tuberculous infection of the tracheobronchial glands plus peribronchial tuberculosis, 124; tuberculous infection of the tracheobronchial glands plus peribronchial tuberculosis plus parenchymal changes, twenty-two.

A clinical diagnosis of a tuberculous infection of the tracheobronchial glands was made in 154 (30 per cent.); pulmonary tuberculosis Stage I, in seventy-six (17 per cent.); Stage II, in eight (2 per cent.); Stage III, in two cases.

There has been considerable difference of opinion as to the cause of enlarged glands at the root of the lungs. From our observation we have been led to believe that they are the results of malignancy, leukemia, Hodgkin's disease, syphilis or any infection of the lungs. As a rule, by means of history, physical examination and clinical pathology one can determine fairly definitely whether malignancy, leukemia, Hodgkin's disease or syphilis is present. The most common cause of enlarged tracheobronchial glands is respiratory infections. Some have contended that measles and whooping cough will cause an enlargement of these glands.

3. D'Espine, Adolphe: Diagnosis of Tuberculosis of the Bronchial nds in Children, Brit. M. J. **2**: 1136, 1910.
4. Stoll, H. F.: The Diagnostic Significance of D'Espine's Sign, . J. Dis. Child. **10**: 183 (Sept.) 1915.
5. Howell, W. W.: Studies in Bronchial Glands, Am. J. Dis. Child. : 90 (July) 1915.
6. Morse, J. L.: D'Espine's Sign in Childhood, Am. J. Dis. Child. : 276 (April) 1916.
7. Moorman, L. J.: Tuberculosis in Children with Special Reference the Tracheobronchial Glands, J. Oklahoma M. A. **12**: 123 (May) 9.

In the cases we have studied, 70 per cent. of the patients had had whooping cough, and 79 per cent. gave a history of measles; yet we found a positive D'Espine sign in only 37 per cent. We found no definite relation existing between enlarged tonsils or attacks of tonsillitis and the enlarged glands at the root of the lungs. Our study of bronchitis in children has led us to believe that it will cause a tracheobronchial adenopathy; but as a rule the glands will not be large, and the D'Espine sign in these cases is not so marked as found in tuberculous glands. However, the only way by which a tuberculous hilum can be differentiated from a nontuberculous one is by the roentgenogram. The enlarged hilum due to a nontuberculous infection is usually only moderately enlarged and not very dense. It is smooth in appearance, while the tuberculous hilum is usually larger and of a greater density, with irregular borders and granular in appearance, owing to its infiltration with calcified tubercles. The hilum shadow due to a nontuberculous infection can be compared in appearance and significance with a hyaline cast found in urine, while the tuberculous hilum can be compared with the granular cast.

CONCLUSIONS

1. A positive D'Espine sign is indicative of enlarged glands at the root of the lungs.

2. Enlarged tracheobronchial glands may be due to any one of several causes, the chief of which is an infection by the tubercle bacillus.

3. If tonsillitis, whooping cough or measles causes enlarged tracheobronchial glands, they are usually not of sufficient size or density to give a positive D'Espine sign.

4. Chronic bronchitis will produce enlarged tracheobronchial glands which can be differentiated from a tuberculous hilum by means of the roentgenogram.

5. A positive D'Espine sign found in a poorly nourished child usually is evidence of a tuberculous infection of the hilum.

6. The degree of the infection can be determined by the roentgenogram.

7. Weight below standard is very common in children with a chronic tuberculous infection.

8. A child with a massive chronic tuberculous infection is a candidate for active tuberculosis, and should be watched carefully for early signs and symptoms.

9. In chronic tuberculous infections in children, few signs can be elicited by physical examination.

10. The degree of the infection in childhood is an important factor in determining whether or not a child will develop active tuberculosis in adult life.

11. Every child should have a thorough physical examination with the idea of determining if possible whether or not there is a tuberculous infection of the chest, and if so, how heavy.

12. Those with evidence of massive infections should be taught how to live and should be instructed in the signs and symptoms of early tuberculous activity. If this were done, the number of advanced cases of pulmonary tuberculosis would be greatly reduced.

Pain as a Symptom.—A very significant point about pain as a symptom is that although much has been learned by physiologists and physicians, practically nothing has been added to our knowledge by the numerous and busy healers whose practice is largely devoted to diseases in which pain is the prevailing feature.—G. Dock, *J. Missouri M. A.* **18**:80, 1921.

THE SURGICAL TREATMENT OF SO-CALLED ELUSIVE ULCER OF THE BLADDER*

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This paper is based on a series of five cases that have been under observation during the last ten months. The diagnosis was verified by operation and histologic examination of specimens obtained by operation.

To Hunner [1] of Baltimore must be given credit not only for having aroused the interest of urologists in a closer study of a group of cases that have not generally been recognized before, but also for having suggested a definite line of treatment which has given excellent results.

NOMENCLATURE

There seems to be some doubt or some confusion regarding an exact nomenclature for the lesion under discussion. Hunner, acting on the suggestion of Cullen, accepted the term "exclusive ulcer," and "this comprehends satisfactorily the difficulties in locating the ulcer, part of the lesion and its changing characters while under observation and treatment; but in common with any simple term, it fails to describe adequately the widespread character of the chronic inflammatory involvement of the bladder walls."

Geraghty suggested the term "paracystitis," and recently Keene suggested the term "circumscribed panmural ulcerative cystitis."

From these few citations it is evident that each author has felt it his duty to suggest a new name for the disease. As this only adds confusion, I have refrained from offering any further suggestions.

A discussion of the nomenclature would not be complete without reference to the term used by Nitze [2] in 1907 for a condition that appears to be identical with the ulcer described by Hunner. Nitze says:

> In rare cases the catarrhal process does not remain limited to the outer surface of the mucosa, but also attacks the deeper layers of the bladder wall at isolated spots. Such cases of *"cystitis parenchymatosa"* show the bladder wall altered by small celled infiltration and cicatricial formation, and this will cause the patient to suffer well known and severe disturbances the slightest distention beyond a certain degree producing most intense suffering. In these cases, if coexisting, diffuse, superficial catarrh is also present, the cystoscopic picture is usually only slightly characteristic, and involvement of the deeper sheaths of the bladder wall may be surmised only on consideration of all other symptoms.
>
> Quite different are those cases in which the superficial catarrh is mild or has completely healed, and in which there remains only that circumscribed, deep-seated process extending throughout the entire bladder wall. In these patients the slight turbidity of the urine offers a striking contrast to the severity of the symptoms present. On cystoscopic examination of such a bladder, one observes a circumscribed, irregular area, usually of uniform deep red, surrounded by normal or but slightly inflamed mucous membrane. This area has a distinctly smooth, mirror-like or varnished surface, on which are seen one or more small ridgelike elevations of a deep red or pink. Shreds of whitish membrane are found projecting from the edges of these ridgelike prominences. On gradually

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* Read before the New York Academy of Medicine (Section on Genito-Urinary Surgery), Nov. 17, 1920.

1. Hunner: Boston M. & S. J. **172**: 660, 1915.
2. Nitze: Lehrbuch der Cystoskopie, 1907, p. 208.

distending the bladder by means of an irrigating cystoscope, until the distention has reached a certain degree, there may be observed the process by which this slimy, deep red area ruptures at a given point for a short distance in its long axis and the hemorrhage which occurs at the site of the tear, causing intense suffering to the patient. At this moment one must naturally desist from further introduction of fluid.

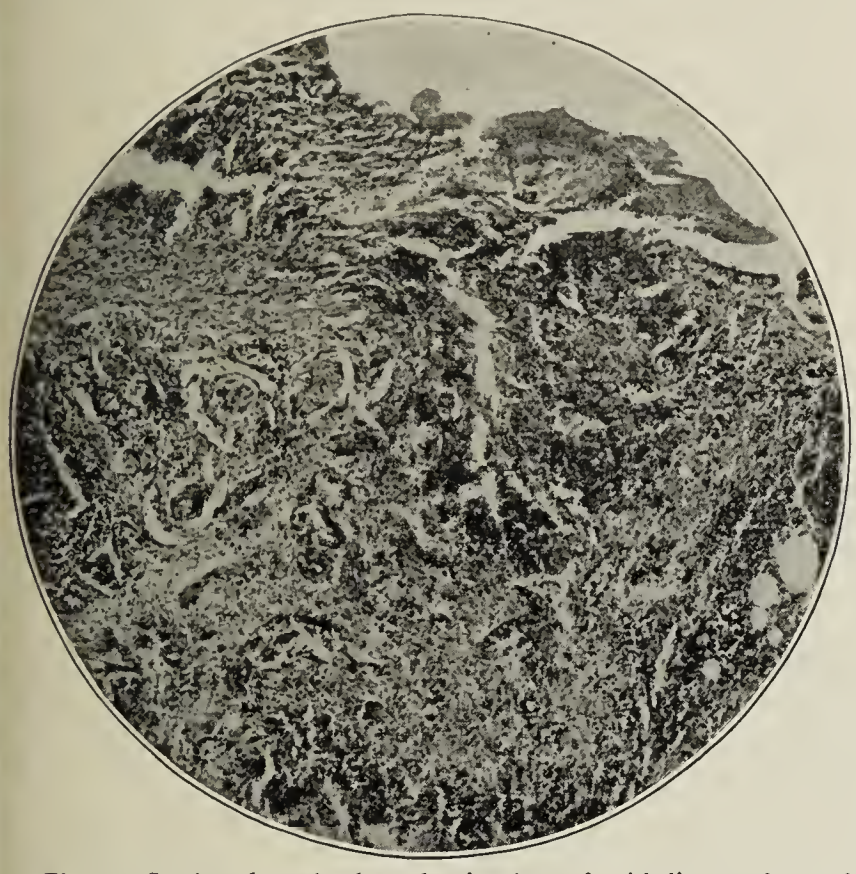


Fig. 1.—Section through ulcer showing loss of epithelium and round-cell infiltration.

This lesion is not so rare as one might suppose. Hunner in his third paper reported twenty-five cases.

The five cases which form the basis of my report were seen and recognized during a period of six months, from May, 1920, to October, 1920. One is justified in stating that this condition is relatively common, its apparent rarity being due to failure as to recognition. Often this failure can be attributed to the insignificant size and appearance of the ulcer, which at times may be only a pinpoint in size. At other times its presence may be overlooked for the reason that we are not familiar with this type of bladder disease, although, as previously mentioned, this lesion is undoubtedly identical with the lesion described by Nitze thirteen years ago.

While the total number of cases reported is small (forty-eight), a matter which should not be overlooked is the fact that only six years have elapsed since Hunner's first paper was published. Hunner has reported twenty-five of these cases; Keene,[3] ten; Fowler,[4] three; Reed,[5] five, and myself five.

The difficulty of interpreting the cystoscopic findings in these cases is correctly illustrated in one of the cases included in this report. The patient had suffered from this condition for many years and had been operated on for ailments other than the correct one. I saw the patient and operated on her without giving the desired relief. It was not until I discovered that she had "elusive ulcer" that I was able to clear up her symptoms. A discussion of her history will be given later.

Doubtless many women who are suffering from bladder distress and whose condition is diagnosed and treated as neurasthenia will be found, on closer study, to have some organic basis for the presence of their bladder symptoms. Intensive study of renal infection has led to the general knowledge that a large number of the many women suffering from symptoms of cystitis are really suffering from pyelitis, and that when pyelitis is treated the cystitis disappears. So close study of this type of bladder ulcer has shown repeatedly that women who are being treated for irritable bladders, cystitis, neurasthenia, etc., are suffering from an elusive ulcer, and that the bladder condition is cured after proper surgical treatment is instituted.

After the diagnosis in the first case was made and verified by operation, it was difficult to understand why the lesion was not recognized during the patient's first period of hospital observation. This was probably due to the fact that some of the findings in her case did not tally with the findings as mentioned by Hunner. In the first three, pus and bacteria were found in the urine; and in two of the cases, infection was present in both kidneys. From one of Hunner's articles I received the impression that the urine is "macroscopically clear" and that the urine contains only a few leukocytes or erythrocytes or both.

ETIOLOGY

There is nothing known concerning the etiology of this condition. All the patients were examined for the presence of foci of infection in organs such as the teeth, tonsils and sinuses. As a result of examinations it was found that one patient had enlarged tonsils; two patients had severely infected tonsils as well as infected teeth and pyorrhea; one patient had tonsillar tissue in each fossa and one patient had a chronic discharge from the urethra and Skene's glands.

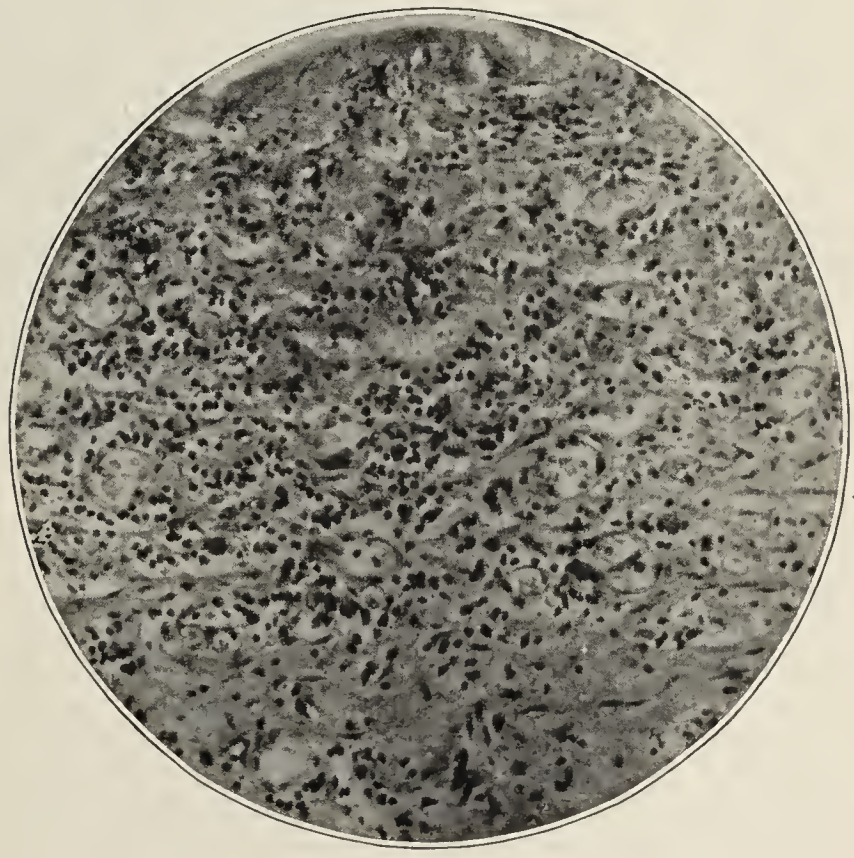


Fig. 2.—Round-cell infiltration; blood vessels full of red cells.

Pelvic Examination.—In order to exclude the possibility of lesions of the internal genitalia, vaginal examinations were carried out in all these cases with negative results.

Sex.—These five cases occurred in women.

Age.—The ages were 28, 42, 46, 32 and 32.

Pregnancy.—The bearing of children does not seem to have any influence on the causation of the condition.

3. Keene, F. E.: Ann. Surg. **71**: 479 (April) 1920.
4. Fowler, H. A.: Ulcer of the Bladder (Hunner Type), J. A. M. A. **75**: 1480 (Nov. 27) 1920.
5. Reed, C. A. L.: Irritable Bladder in Women, J. A. M. A. **72**: 332 (Feb. 1) 1919.

Three of the five women were married. One had one child; the remaining two had never been pregnant.

PATHOLOGY

All the specimens removed at operation were subjected to careful histologic examination. The microscopic picture was almost uniform. While the changes varied somewhat in extent and in minor details, the same general picture was found, as a rule, in all five cases. The ulcer-bearing area showed a loss of the epithelium. In several instances there appeared to be a flattening of the epithelium, so that, as the edge of the ulcer was approached, the epithelium was much flattened and formed a very thin layer. In one case the epithelium appeared to have changed to the flat, squamous type of cell. Some of these cells seemed to be hydropic. Occasionally the surface of the ulcer was covered with fibrin, and many red blood cells were noted in some of these fibrin masses. The fibrin was not limited to the surface of the ulcer but extended beyond the edge and over and on to the mucosa. At times, red blood cells were seen, adhering to the surface of the ulcer.

The most extensive changes were those found in the submucosa. The submucosa showed many new formed blood vessels, and these were packed full of blood cells. Round-cell infiltration was seen in the submucosa. There were areas in which the collections of round cells were very small; and in others, large masses of round cells were noted. Some of the sections showed these small, round cells closely crowded together and with the border rather sharply defined, and these areas resembled somewhat the collections of cells seen in so-called cystitis follicularis:[6] rather dense and visible to the naked eye.



Fig. 3.—Newly formed connective tissue and loss of surface epithelium.

Round-cell infiltration was also seen occasionally between the muscle bundles. In several of the sections there were newly formed connective tissue cells in the submucosa, and here and there the submucosa appeared definitely edematous. In two of the five sections, gland tubules were seen; and these differed in no way from the gland tubules in cases of so-called cystitis glandularis.[6] In one of the sections the cells forming the tubules showed the presence of secretion within the cell, so that they had the appearance of typical goblet-cells. A combination of follicle formation and gland formation was not found in the same specimen.

The changes in the muscular coat were not so extensive as the changes in the submucosa. Occasionally, areas of round-cell infiltration were noted, which however were not very extensive. In several of the sections the muscle bundles were apparently separated by edema.

A very striking change was that found at operation, the bladder wall showing an enormous thickening entirely out of proportion to the size of the ulcer or ulcers. This was so well marked that in three of the cases it was possible to foretell the exact location of the ulcer or ulcers before opening the bladder.

As a rule, the peritoneal coat showed decided thickening.

The specimen obtained by operation in Case 5 was turned over to Dr. George F. Dick for special bacteriologic examination, and he attempted to grow organisms from the ulcers. The technic employed was maceration of the excised ulcer-bearing areas of the bladder. This experiment showed the presence of *B. coli* only.

PREVIOUS OPERATIONS

Patients suffering from urinary distress are often operated on without being relieved of their symptoms. In this series, four patients, or 80 per cent., gave a history of previous operations for relief of urinary symptoms without obtaining the desired relief. The operations that had been performed on these four women were (1) appendectomy, resection of the ovary, and shortening of the round ligaments; (2) tumor of the bladder; (3) resection of the ovary, and (4) nephrectomy.

The fourth patient (on whom nephrectomy had been performed) was one on whom I had operated, having made a diagnosis of early renal tuberculosis of the left kidney. Careful examination of the kidney, both gross and microscopic, as well as several subsequent guinea-pig inoculations, failed to prove the presence of tuberculosis. This operation failed to relieve her of her urinary symptoms.

Two years later the patient returned to the hospital, at which time a diagnosis of "elusive ulcer" was made and operation (resection of the ulcer-bearing area) advised and carried out. This resulted in prompt relief of all urinary symptoms, with no recurrence up to the present.

SYMPTOMS

From an analysis of the records of these cases it was evident that frequency and painful urination were the most urgent of all symptoms. Frequency was present in every case, and had been present for periods varying from one to eight years. All the patients complained of great frequency of urination, and all volunteered the statement that they were obliged to void every ten or fifteen minutes. In every case the fre-

6. Kretschmer, H. L.: Surg., Gynec. & Obst., November, 1908, p. 510.

quency was present both day and night. In several, the frequency bore some relation to menstruation, since there was an increase of frequency just prior to or during the menstrual period.

Pain was generally described as severe in character and was present during urination. In one instance it was described as a smarting sensation, but in the other cases the pain was almost excruciating. The location of the pain was variable, patients complaining of pain radiating toward the kidney; pain in the back; severe pain after urination; pain in the neck of the bladder that often became sharp and piercing and spread all over the bladder region; severe cramplike pain in the back, side and bladder; toothache-like pain at the neck of the bladder, present during urination and severe spasms at the end of urination; and stabbing pain in the bladder region. None of the patients complained of pain in, or radiating toward, the rectum.

Hematuria. — The presence of macroscopic blood was noted in four of the five cases. This varied in amount from slight bleeding, just enough to stain the linen, to the passing of bloody urine. Two patients stated that they had passed clots of blood with the urine, and one said she had voided bloody urine only after bladder irrigations. Nitze and Hunner both called attention to the fact that overdistention of the bladder would cause the ulcers to bleed. In only one of the five cases was it impossible to elicit a history of hematuria.

Urinalysis. — Pus was present in the urine in each of the five cases. The amount of pus found was variable. Leukocyte counts of the urine were made in each case in order to have a more or less accurate record of the amount of pus present. The leukocyte counts obtained were: Case 1, 7,290 and 200 cells; Case 2, 1,080 and 2,170; Case 3, 150 and 2,000; Case 4, 70 cells (two specimens), and Case 5, 105 and 700 cells.



Fig. 4.—Section near edge of ulcer; the surface is covered with fibrin and red blood cells; epithelium flattened; large amount of newly formed connective tissue in the submucosa.

RESULTS OF URETERAL CATHETERIZATIONS

		Leukocyte Counts	Cultures
Case 1.....	Right kidney.....	40 cells.....	B. coli
	Left kidney.....	50 cells.....	B. coli
Case 2.....	Right kidney.....	1,420 cells.....	Sterile
	Left kidney.....	160 cells.....	Sterile
Case 3.....	Right kidney.....	6 cells.....	Sterile
	Left kidney.....	No specimen.....	
Case 4.....	Ureters not catheterized		
Case 5.....	Right kidney.....	74 cells.....	B. coli
	Left kidney.....	34 cells.....	Sterile

Cultures of the urine were made as a routine in each case. In several cases more than one culture was made, four sets being made in one case.

Examinations of the catheterized bladder urines disclosed *B. coli* in two cases; *B. coli* and staphylococci in one case, and sterile cultures in two cases. The cultures in one case were sterile before the operation, but showed *B. coli* after the operation. Erythrocytes were found in five cases.

Ureteral catheterizations were performed in four cases. The findings are recorded in the accompanying table.

This examination shows that pus was found in both kidneys in three cases; that positive cultures were obtained in two cases: one case, bilateral, the other unilateral. In one case the cultures were sterile, although pus was present in the urine from both kidneys.

In all these cases with the exception of Case 1, guinea-pig inoculations were made prior to the operation; in Case 1, guinea-pigs were inoculated after nephrectomy. With the possible exception of Case 1, none of these cases showed evidences of tuberculosis in the urine, either in the examination of the direct smears or in the guinea-pigs and in Case 1 the guinea-pigs were negative.

Roentgen-Ray Examination.—All these patients were roentgenographed for the presence of stone in the kidneys, ureters and bladder, and in each case the plates were negative.

Wassermann Reaction.—This test was made in two of the cases, and in each case the result was negative.

CYSTOSCOPY

The one prominent feature in this group of cases is that cystoscopic examination was painful and the bladder capacity very limited. Cystoscopically the ulcers varied in size from a pinpoint to 2 cm. in diameter. The area of ulceration was surrounded by a zone of hyperemia, which was sharply circumscribed, and by the bladder mucosa, which appeared normal. The surface of the ulcer may be covered with mocopus. Areas of edema around the areas of ulceration were not seen. Overdistention of the bladder was the cause of pain and of starting hemorrhage, the hemorrhage at times being so profuse as to interfere with the cystoscopic examination.

Location.—The locations of the ulcers were: Case 1, posterior wall; Case 2, junction of the anterior wall with the superior wall; Case 3, left lateral wall; Case 4, anterior wall; case 5, posterior wall. In one case there were areas of ulcers near the right ureteral orifice, in addition to the ulcers at the apex.

Diagnosis.—Once the condition was recognized, it was not difficult to diagnose it in the subsequent cases. Because of the history of long standing distress, the extreme pain in introducing the cystoscope, which in

several instances necessitated the use of anesthesia, the limited bladder capacity and the presence of areas of ulceration in the bladder, my concern was chiefly as regards the exclusion of tuberculosis. This was effected



Fig. 5.—Large area of round-cell infiltration.

by diligent search for tubercle bacilli in the stained specimens as well as by repeated guinea-pig inoculations.

PROGNOSIS

The prognosis, as regards a cure, is very good, provided the patients are operated on and the ulcers resected. Local treatment is of no avail in giving relief. As a matter of fact, bladder irrigations tend only to aggravate the symptoms. The use of vaccines was nil. On the other hand, the results in resecting these ulcers were so uniformly good that immediate relief from pain, as well as rapid improvement in the frequency of urination, can be vouchsafed these patients. The rapidity with which the frequency disappears depends on the extent of the ulcers and the amount of bladder that must of necessity be resected. In operating in these cases, I have endeavored to do a very wide resection on the ulcer-bearing area. In one or two instances in which a coexisting edema was found, I attempted to include the area of edema in the resected part of the bladder.

TREATMENT

The treatment of this condition is surgical and calls for a wide resection of the ulcer or ulcers. Hunner has suggested not only an extensive resection of the ulcers, but also a resection which should include the area of edema which sometimes surrounds the ulcers.

Many of these patients had been treated by other than operative methods before coming under observation. Bladder irrigations with various drugs, such as silver nitrate and potassium permanganate, had been used as well as solutions of argyrol. Several of the patients had been put on courses of vaccine injections. All these nonoperative measures failed to improve the bladder condition, and in most cases the local medication only served to aggravate it. In Case 1 it was necessary to give the patient gas anesthesia every time the bladder was irrigated.

OPERATIVE TECHNIC

Ether anesthesia was used in all five cases, the patient being placed in the Trendelenburg position. The bladder was distended with water as fully as possible. In the more advanced cases, the distention was very limited, even with the patient under deep anesthesia.

The usual suprapubic midline incision was made and carried up to the umbilicus. The rectus sheath was divided in the usual manner and the fibers separated by blunt dissection.

Separation of the peritoneum, as a rule, was not very simple, owing to the fact that the peritoneum was firmly adherent to the bladder at the site of the ulcer areas. This thickened area could be easily felt and demonstrated before the peritoneal dissection was started, or even before the bladder was opened. Because of these local changes, the peritoneal cavity was opened up during the course of the separation, but immediately closed. It should be remarked here that the accidental opening of the peritoneum did not influence convalescence, and that no complications arose because of this fact. The dissection may be carried out with scissors or the scalpel.

Instead of beginning the peritoneal dissection at the apex of the bladder in the median line, Hunner has advised beginning well to the sides or on the posterior aspect and then working forward. This has been a very helpful procedure.



Fig. 6.—Section through area showing presence of glands.

The bladder is opened in the median line, and the ulcer-bearing area located and excised. This, it seems to me, is the all important part of the operation; hence the excision I made was extensive, so that after the operation, when the bladder is closed, the bladder cavity

s not much larger than a plum or small peach. In one of the instances the resection just skirted the ureter. Had it been necessary to resect the ureter, I should not have hesitated to do so. Incisions in the bladder are closed in the usual way with catgut, and a drain is placed in the bladder. In some cases an indwelling catheter was placed in the bladder. Iodoform gauze strips were placed above and below, these being

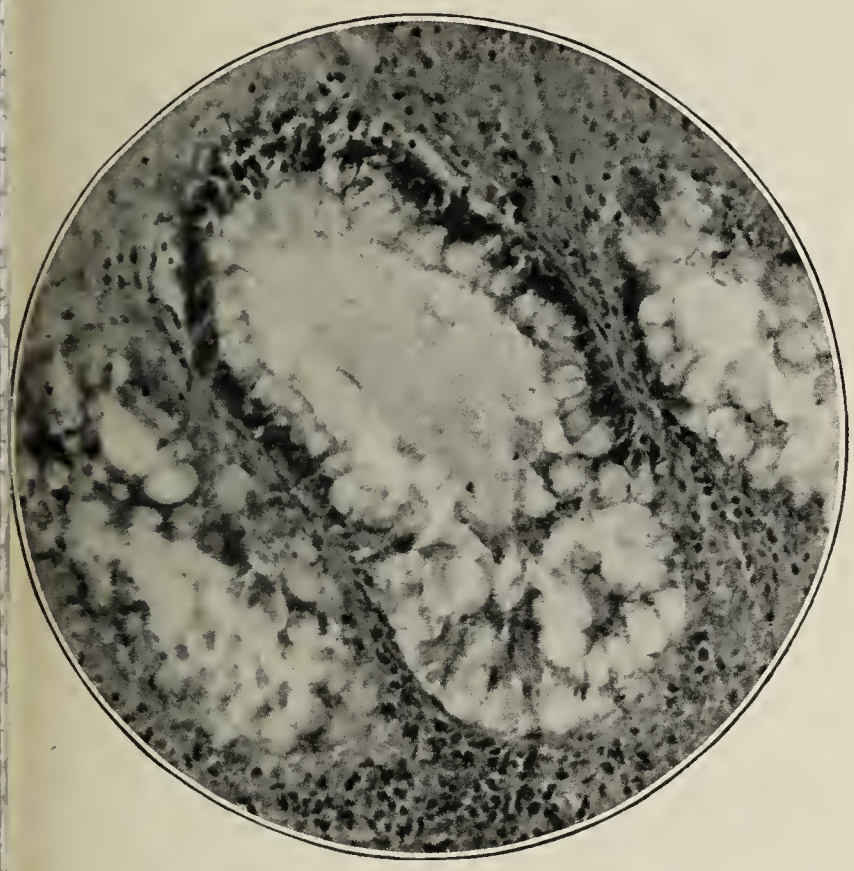


Fig. 7.—High power magnification of some of the glands, showing goblet cells.

removed at the end of forty-eight hours. After the fourth or fifth day, the suprapubic tube was removed, and bladder irrigations of potassium permanganate were carried out daily.

The results in all five cases have been uniformly gratifying. The distressing pain has disappeared, so that at the time of dismissal from the hospital, every one of these patients was free of pain. There remained, however, a certain amount of frequency of urination, and this, I believe, was due to the diminished bladder capacity as a result of the very wide resection. That this supposition was correct was proved by the subsequent course. All the patients have volunteered the statement that frequency of urination has become less and less, the intervals between urinations being longer, and that the amount voided each time has greatly increased.

122 South Michigan Avenue.

A Cripple Earns Annual Income of $7,000—At the head of the Michigan Hospital School, at Farmington, is a man 29 years old, with one arm and one leg paralyzed by infantile paralysis when he was 4 years old. In spite of this handicap and through his own efforts he has gained an education, has been mayor of a town and editor and proprietor of a newspaper before he became a teacher in the Van Leuven Browne Hospital School, at Detroit, for crippled children. His annual income is now $7,000. The new building for the hospital school will cost $750,000 with an endowment of half a million, and will be largely on one floor. There will be ramps instead of stairs and where necessary there will be elevators. The number of crippled children of school age in the country is estimated at 300,000, yet in only five cities has provision been made for taking them to and from school.

ROENTGEN OBSERVATION OF A VOLVULUS AT THE DUODENOJEJUNAL ANGLE

CHARLES WINFIELD PERKINS, M.D.
NEW YORK

In a survey of the literature, the only given abnormalities of the duodenum and jejunum at its juncture are those due to such causes as adhesions, malignancy in the surrounding tissues, and the results of tuberculosis, either in the form of enteritis or subsequent peritonitis. In consideration of the age of the patient whose case is reported below, the type of obstruction and the precision by which the roentgen ray illuminated the pathology, it seems at least to be unique and worthy of recording.

Carman and Miller [1] reported a case in which there was duodenojejunal obstruction due to caseation of the surrounding tuberculous glands. The transverse and ascending arm of the duodenum was found to be greatly distended.

Guérin [2] has reported an interesting case of stenosis at the duodenojejunal angle in association with a gastric ulcer, which had perforated and had adhered to the pancreas and mesocolon, with extension to the duodenal jejunal angle, thereby causing stenosis in that part.

REPORT OF CASE

T. C., a man, aged 18, entered the hospital, Nov. 6, 1920, because of general pain all over the abdomen associated with distention. The pain was more acute in the lower right quadrant. There was right rectus rigidity especially high up in the abdomen. There were attacks of nausea and vomiting. There had been constipation of years' standing. Otherwise the history was negative. Leukocytes numbered 16,000, with normal polymorphonuclear leukocytes. A tentative diagnosis of possible appendicitis was made. Dr. W. F. Honan removed the appendix, which appeared normal. The duodenal bulb and transverse duodenum were dilated, and adhesions were present between the stomach, pylorus and descending duodenum. These were divided. A small, engorged area was seen on the pylorus, but there were no evidences of ulcer. The gallbladder was distended with bile and was emptied with difficulty. The jejunum appeared normal. The intestines were distended, but as no other pathologic condition was present the abdomen was closed.

After the operation the patient was given a little food by mouth, but the distention continued and there was no improvement in his general condition. On the sixth day after the operation a roentgenologic examination was made under rather difficult circumstances.

The roentgenographic and fluoroscopic examination of the stomach after a full meal disclosed a very highly placed stomach, with the greater curvature situated in the region of the first lumbar vertebra. The stomach evacuated its contents with difficulty. There was marked distention of the small and large intestines owing to the presence of gas, which pressed the stomach high up in the abdomen.

Examination at two, two and one-half and six hours revealed a large stomach residue, with residue in the duodenal bulb, descending duodenum and transverse duodenum to the duodenojejunal angle. At the twenty-four hour examination there was a residue in the stomach, duodenal bulb and a large residue at the juncture of the duodenum with the jejunum at the angle. At the distal end of the ascending duodenum there was marked distention. Not any of the original meal had passed this point.

All these findings pointed to the presence of obstruction at the duodenojejunal angle. The remaining residue in the

1. Carman, R. D., and Miller, Albert: The Roentgen Diagnosis of Diseases of the Alimentary Canal, Philadelphia, W. B. Saunders Company, 1917.
2. Guérin, J.: Lyon chir. **16**: 627 (Nov.-Dec.) 1919.

stomach and the coils of the duodenum appeared to be the result of a damming back of the meal as the result of the obstruction at the duodenojejunal angle.

The patient was operated on on the following day by Dr. Honan, and a volvulus was found at the proximal portion of the jejunum. This was unwound. The intestine was engorged and markedly devitalized. A small rubber tube was inserted in the jejunum, and the abdominal wound was closed. Feedings were given for several days through the tube, after which the patient was able to take liquid food through the normal channels. He has made a complete recovery.

180 West Fifty-Ninth Street.

CICATRICIAL LARYNGOPHARYNGEAL DIAPHRAGM *

G. B. NEW, M.D.
AND
P. P. VINSON, M.D.
ROCHESTER, MINN.

Pharyngeal strictures are of three types: (1) the nasopharynx closed off from the pharynx and mouth by adhesions from the soft palate to the posterior pharyngeal wall; (2) the soft palate scarred down to the base of the tongue, leaving a small opening laterally for respiration and the passage of air, a much smaller group, and (3) a cicatricial diaphragm in the laryngopharynx which joins the base of the tongue at about the level of the epiglottis to the posterior pharyngeal wall; there is a very small opening for the passage of food and for respiration. The cases in Group 3 are

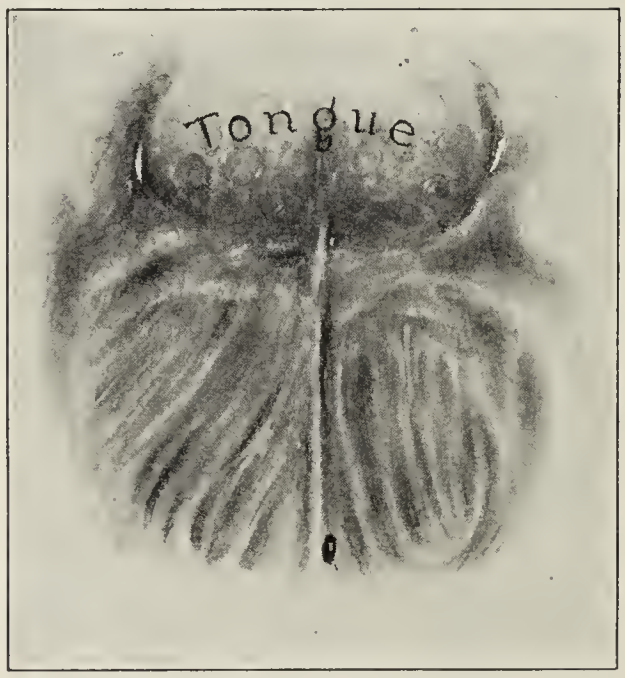


Fig. 1.—Cicatricial diaphragm of the laryngopharynx as seen by suspension laryngoscopy.

practically all syphilitic in origin, although Fleischmann and Borchard [1] have advanced the possibility that they may sometimes be due to diphtheria, lupus or other nonsyphilitic ulcers. They report a case of a boy, aged 16, who had a nasopharyngeal and laryngopharyngeal stricture following diphtheria. There were no signs of congenital or acquired syphilis in the patient or his parents, and as the scars were not typical of syphilis it was concluded that the stricture might be postdiphtheric. In the case reported herewith the cicatricial pharyngeal diaphragm of the laryngopharynx with strictures of the esophagus was caused by swallowing lye. In our review of the literature we were unable to find a similar condition caused by swallowing caustics.

* From the Section on Laryngology, Oral and Plastic Surgery, and the Section on Medicine, Mayo Clinic.

1. Fleischmann and Borchard: Ueber Pharynxstricturen, Arch. f. Laryngol. u. Rhinol. **2**: 345-354, 1894-1895.

REPORT OF CASE

P. N. (A 293223), a man, aged 28, came to the clinic, Oct. 17, 1919, complaining of inability to swallow or to breathe through the pharynx; he was wearing a tracheotomy tube and a gastrostomy tube. He asserted that he had been perfectly well until the night of Oct. 6, 1917, at which time while walking in his sleep he drank a solution of lye. He woke up immediately and believed that he had been able to empty most of the solution out of his mouth without swallowing. A physician was called who gave olive oil and lard in milk. The tongue and mouth swelled, and for twenty-four hours he could not eat or drink; the following day, however, he was able to eat soft foods. His mouth and throat were quite sore for five or six weeks, but he was confined to bed for only four or five days. Within ten days he began having trouble swallowing solid food, but he swallowed fluids very well and had no difficulty in breathing. Nov. 15, 1917, following instrumentation in an attempt to dilate the esophagus, he had a marked subcutaneous hemorrhage into the tissues of his neck, increasing its circumference to 20½ inches three hours after treatment. The esophagus closed completely and he began to have diffculty in breathing, which become progressively worse. The patient was fed by bowel and lost weight from 138 pounds to 75 pounds. Dec. 17, 1917, a tracheotomy and a gastrostomy were performed. At first the food was put directly into the stomach through the gastrostomy tube, and the patient improved very little. Very soon he found that by chewing the food and then putting it into his stomach through the tube his nutrition improved and he gained in weight. He stated that he had been working for the last two years as instructor of manual training in a high school.



Fig. 2.—Postoperative appearance.

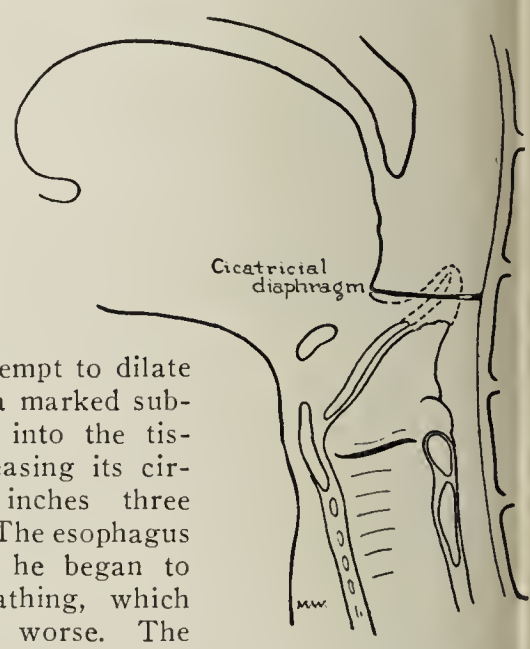


Fig. 3.—Diagram showing location of cicatricial diaphragm of laryngopharynx.

When examined, the patient weighed 124 pounds. He wore a tracheotomy tube and a gastrostomy tube. Examination of his mouth and posterior pharyngeal wall did not reveal scars

of any kind. By means of a laryngeal mirror a scarred diaphragm was found joining the base of the tongue around the region of the epiglottis to the posterior pharyngeal wall; there was a small opening just to the right of the middle line, close to the posterior pharyngeal wall, which admitted a very small probe. By closing the tracheotomy opening and exhaling, a few bubbles of air could be forced through the opening. The patient stated that milk taken into the stomach through the gastrostomy tube sometimes regurgitated into the mouth through the opening. The diaphragm was quite thin; a bent probe could be passed in all directions from the small opening. The general examination was negative.

Oct. 28, 1919, by means of laryngeal suspension under ether, a further examination was made (Figs. 1, 2 and 3), and a circular piece was removed from the diaphragm with a knife. There was practically no bleeding on account of the thinness of the scar. The opening into the larynx and esophagus could be seen quite readily. The following morning the patient was able to eat oatmeal, the first food he had eaten since the gastrostomy; and he could cork the tracheotomy tube. During the next few days the opening showed a tendency to close, and the patient swallowed a silk thread which was drawn out through the gastrostomy tube. The patient was getting along so well with his nourishment that he did not wish to have anything further done. However, a sound was passed into the esophagus with the thread as a guide, and a stricture was located 20 cm. from the incisor teeth. On passing dilating olives, a second stricture was located just below the first. After the first dilatation, which was carried to 29 French, the patient was able to take any type of food, and by repeated dilatations the lumen of the esophagus was gradually brought to 37 French. With the first two or three dilatations, rather profuse bleeding occurred; but with further treatments the bleeding stopped.

Jan. 15, 1920, the patient developed influenza, followed by bronchopneumonia and a right empyema. This effusion was aspirated several times and finally it was necessary to make



Fig. 4.—Tracheotomy, gastrostomy, and empyema tubes in place.

a stab wound in the chest and insert a tube for permanent drainage (Fig. 4). Although at this time the patient was able to take food, it was thought best to leave the gastrostomy tube in place, since his illness was quite severe and esophageal dilatations were postponed. As he convalesced from the empyema, the tracheotomy tube was removed, then the gastrostomy tube, and finally the empyema cleared up completely (Fig. 5).

The patient was dismissed from our care, July 23, 1920, feeling perfectly well. The pharyngeal opening was about 1.8 cm. in diameter.

The patient is treating the pharyngeal stricture by dilating it with his index finger; the esophageal strictures are being dilated from time to time by sounds, using a previously swallowed silk thread as a guide.



Fig. 5.—Patient at time of dismissal.

COMMENT

Most authors believe that, in the treatment of laryngopharyngeal cicatricial diaphragms, dilatations and small cuts into the scarred opening in different directions give the most satisfactory results. Axhausen [2] has treated two cases by means of a pharyngotomy and plastic operation, in order to replace the scar tissue in the pharynx. He reports very satisfactory results from this treatment, and believes that it is better than the continuous dilatation which is necessary to prevent a recurrence of the stricture.

The interesting points in our case are that (1) the laryngopharyngeal stricture was the result of swallowing lye; (2) the patient earned his living for two years while he wore a tracheotomy tube and a gastrostomy tube, feeding himself by means of chewing food and spitting it into the gastrostomy tube funnel, and (3) at one time he carried three tubes, tracheotomy, gastrostomy and empyema, and ultimately was able to get along without any of them and is now following his vocation.

2. Axhausen, G.: Die operative Behandlung der supralaryngealen Pharynxstenose durch Pharyngotomia externa und Lappenplastik, Arch. f. klin. Chir. **107**: 533-550, 1916.

Diagnosis of Intestinal Obstruction.—The diagnosis of intestinal obstruction is based on a trinity of signs: (1) severe spasmodic pain, (2) evidence (visible, audible or palpable) of increased peristalsis, (3) inability to pass flatus per anum. In acute cases persistent and frequent vomiting is valuable additional evidence. When these symptoms are present the first thing to do is to examine the hernial sites with the greatest care, because a strangulated hernia is the most common cause of intestinal obstruction. It is one still too often neglected, if the patient has overlooked the presence of a hernia, or has attached no importance to the swelling.—R. Morison, *Brit. M. J.*, March 27, 1920.

NUTRITIONAL WORK IN PUBLIC SCHOOLS

FINAL REPORT OF EXPERIMENTAL WORK DONE UNDER THE SUPERVISION OF THE BOARD OF EDUCATION IN THE PUBLIC SCHOOLS OF CHICAGO

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CHICAGO

A preliminary report [1] was published in THE JOURNAL in July 1920, of an experiment in five of the Chicago public schools, under the supervision of the Chicago Board of Education. This experiment was instituted with the idea of determining the practicability of putting nutritional work into the schools for children of preindustrial age: to determine whether or not the per capita expense would be prohibitive.

A further report was made in THE JOURNAL in November,[2] giving tabulations and the results of the work done during 1919 and 1920. The gains in height and weight, in excess of normal, were, respectively, 41 and 40 per cent.

The accompanying tabulations of the work done in eight of the public schools for the half-year period 1920-1921 are presented in the hope that the increased percentage of gains and the conclusions drawn may be of value to other communities also seeking a rational solution of the problem of undernourishment in children of the preindustrial age. Approximately 500 children have been included in these nutritional classes, and in the half-year period they have gained 121 per cent. in weight and 64 per cent. in height, in excess of the normal gain.

From the gross percentages of gains in weight and height have been deducted the normal increase, though we recognize the fact that, being all the way from 10 t 30 per cent. below normal, these children could nc possibly have gained even that amount had they bee left to themselves.

In this age when children have so little of the old fashioned childhood, and are allowed to decide thing for themselves long before their judgment is mature one solution of the problem would seem to be to giv them a keen sense of their own responsibility and t teach them to think and act accordingly.

TABLE 1.—HEIGHT AND WEIGHT RECORD OF FOUR HUNDRED AND NINETY-FOUR CHILDREN IN EIGHT CHICAGO PUBLIC SCHOOLS *

		Height Record						Weight Record						
School		Normal Increase, In.	Excess of Normal, In.	Less Than Normal, In.	Net Increase, In.	Gross Increase, %	Excess of Normal, %	Normal Increase, Lbs.	Excess of Normal, Lbs.	Less Than Normal, Lbs.	Net Increase, Lbs.	Gross Increase, %	Excess of Normal, %	Period
Hamline:														
22 Girls	I	9.0	7.9	0.1	15.8	176	76	51.7	85.9	1.5	136.9	265	165	4 Mos.
21 Boys	II	14.6	6.0	0.6	20.0	137	37	59.5	54.1	0.6	113.0	190	90	
18 Boys	III	12.8	4.7	1.6	15.9	124	24	50.7	30.9	12.2	69.4	136	36	
61		36.4	18.6	2.3	51.7	142	42	161.9	170.9	14.3	319.3	198	98	
Mitchell:														
23 Boys	I	16.6	7.7	1.6	22.7	137	37	65.1	46.9	4.3	107.7	165	65	4 Mos.
21 Girls	II	10.3	7.1	0.6	16.8	163	63	45.0	65.5	0.9	109.6	243	143	
14 Girls	III	9.2	4.8	1.3	12.7	138	38	34.8	33.8	0.1	68.5	197	97	
13 Boys	IV	9.5	3.0	0.3	12.2	129	29	39.0	18.6	1.4	56.2	144	44	
71		45.6	22.6	3.8	64.4	141	41	183.9	164.8	6.7	342.0	184	84	
Wells:														
18 Boys	I	12.3	6.8	1.3	17.8	145	45	61.6	51.0	3.6	109.0	177	77	4 Mos.
20 Girls	II	5.5	11.4	0.4	16.5	300	200	45.3	66.4	0.3	111.4	246	146	
38		17.8	18.2	1.7	34.3	192	92	106.9	116.4	3.9	220.4	206	106	
Montefiore and Washington:														
19 Boys	I	10.4	18.3	0.2	28.5	274	174	60.4	43.4	0.9	102.9	170	70	4 Mos.
19 Girls	II	6.1	5.5	2.0	9.6	157	57	48.5	68.5	0.3	116.7	241	141	
38		16.5	23.8	2.2	38.1	231	131	108.9	111.9	1.2	219.6	202	102	
Haines:														
14 Boys	I	9.3	4.6	0.9	13.0	140	40	38.1	46.8	2.8	82.1	215	115	4 Mos.
14 Girls	II	5.4	5.2	0.0	10.6	196	96	33.5	44.7	2.1	76.1	227	127	
28		14.7	9.8	0.9	23.6	160	60	71.6	91.5	4.9	158.2	221	121	
Dante:														
13 Boys	I	10.2	5.4	0.1	15.5	152	52	42.4	37.2	5.7	73.9	174	74	4 Mos.
8 Girls	II	3.6	3.7	1.0	6.3	175	75	22.4	21.1	0.8	42.7	190	90	
21		13.8	9.1	1.1	21.8	158	58	64.8	58.3	6.5	116.6	179	79	
Franklin:														
24 Boys	I	18.7	12.5	0.9	30.3	162	62	86.7	67.1	7.5	146.3	169	66	4½ Mos.
26 Girls	II	9.5	14.4	0.3	23.6	248	148	63.7	53.3	3.6	113.3	178	78	
50		28.2	26.9	1.2	53.9	191	91	150.4	120.4	11.1	259.6	172	72	
Lindblom H. S.														
40 Girls	I	9.2	8.5	4.0	13.7	149	49	72.8	140.1	2.8	210.1	288	188	4 Mos.
37 Girls	II	8.7	8.2	2.1	16.9	194	94	87.6	138.7	4.9	221.4	253	153	
39 Girls	III	7.6	7.5	3.2	12.0	158	58	67.7	144.4	3.9	208.2	308	208	
36 Girls	IV	8.4	6.3	3.3	11.4	136	36	68.2	129.4	5.7	191.9	284	184	
35 Girls	V	7.4	5.0	2.4	10.0	132	32	72.1	143.0	2.3	212.8	295	195	
187		41.3	35.5	14.9	64.0	155	55	368.4	695.6	19.6	1,044.4	284	184	
Summary:														
Boys	163 9	114.4	69.0	7.5	175.9	154	54	503.5	396.0	39.0	860.5	171	71	
Girls G.	144 8	58.6	60.0	5.7	111.9	191	91	344.9	439.2	9.6	775.2	225	125	
Girls H. S.	187 5	41.3	35.5	14.9	64.0	155	55	368.4	695.6	19.6	1,044.4	284	184	
	494 22	214.3	164.5	28.1	351.8	164	64	1,216.8	1,530.8	68.2	2,680.1	221	121	

Total enrolment of classes	507
Total enrolment tabulation	494
Withdrawals	13

* G., grade school; H. S., high school.

1. Rich, Katharine B.: Study of Nutrition and Mental Development in Childhood, J. A. M. A. **75**: 226 (July 24) 1920.
2. Rich, Katharine B.: Nutritional Work in Public Schools, J. A. M. A. **75**: 1492 (Nov. 27) 1920.

Our teaching, consequently, has been along this line primarily, putting the responsibility of their gains squarely on their own shoulders and teaching them how to assume it. They have also been given simple but definite ideas of food values—but not caloric values—of growth stimulants, of personal hygiene, of rest, of regularity of habits, and the like, and it has been their business to carry out and apply what has been taught them. They have also had to get the cooperation of their parents themselves, or go without it unless they have asked the help of the nutritional worker in explaining their needs to the people at home. It has been their business, too, to see that any defects of teeth, tonsils or eyes were attended to and corrected unless, again, they asked for help in making the arrangements.

The results obtained in weight and height are not really indicative of what might be done under favorable conditions, for all nutritional workers that we have had have been employed in other capacities, doing our work as it could best be done without too greatly interfering with their regular duties, to which they had to give their best efforts and strength.

CONCLUSIONS

The conclusions drawn from the experiment are these:

1. It is entirely possible to carry on nutritional work in the public schools without rest periods or free milk, and obtain appreciable gains in weight and height.

2. It is also possible to place the responsibility for their gains on the children, to their great advantage and with a saving of the nutritional worker's time.

3. It can be done without seriously interfering with studies or classes, and both mental and physical gains more than compensate for the small amount of time lost.

4. One efficient nutritional worker can, at a minimum, teach and care for, and do clerical work necessary for 400 children each week. (This is allowing for less than thirty children to a class, and a well-trained worker can easily handle thirty-five.)

5. It is not an expensive per capita proposition, handled along the lines of instruction as outlined.

6. The percentage of gains can be greatly increased over what we have obtained if all-time workers are employed, and if the work has the unqualified backing and support of the school authorities, thus dignifying it as being part of the regular school program.

COMMENT

Fifty per cent. of the schoolchildren that were weighed and measured were found to be below normal in height and weight for age, or in weight for height, and that would approximate the findings in other localities, in all probability.

The country-wide interest that has been aroused in the subject of undernourishment has come none too soon; but unless that interest is wisely directed, it will do as much harm as good. It should, primarily and justly, be the problem of the medical profession, of the pediatrician, and particularly of the family physician. For the benefit of the coming generations it might very wisely be given great emphasis in the teaching of the pediatric departments of our medical schools.

31 North State Street.

TABLE 2.—DISPENSARY RECORD, SEPT. 15, 1920, TO JAN. 28, 1921

	Vision	Chronic Otitis Media	Special Nose Examination	Dental Complete	Dental Care	Tonsillectomy	Goiter Treatment	Special Tuberculosis Examination	Urinalysis	Special Orthopedic Examination	Wassermann Test	Pediculosis	Miscellaneous	Total
Dante	..	..	..	6	8	3	..	..	..	..	..	4	..	21
Franklin	1	1	..	2	2	2	..	..	..	..	..	..	..	8
Haines	2	..	1	8	14	1	1	1	..	..	..	..	..	28
Hamline	6	..	..	5	3	18	..	..	1	..	1	..	..	34
Mitchell	2	..	..	17	5	2	2	..	..	..	..	..	..	28
Montefiore and Washington	..	..	..	1	..	1	..	..	..	1	..	..	..	3
Wells	9	..	..	7	7	5	..	..	1	..	..	2	..	31
Lindblom High School	7	..	..	15	12	4	..	..	..	..	..	..	6	44
Total	27	1	1	61	51	36	3	1	2	1	1	6	6	197

THE QUINOTOXIN MYTH *

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Some writers, especially in chemical and pharmaceutical journals, have attributed the toxic effects of quinin to the formation of a more toxic substance, "quinotoxin," or quinicin, as it is more properly called. This may be formed from quinin under suitable conditions, especially in the presence of free organic acids. It has been assumed that these conditions would arise in the stomach, and, also, that prescriptions containing quinin and an organic acid would be dangerously incompatible.

An examination of the data on which these assumptions were based reveals that these fears are not justified by the facts; that at most insignificant traces of quinotoxin could be formed in the body or be present in such prescriptions, and that the formation of considerable quantities would not be dangerous.

The error arose originally from exaggerated conceptions of the toxity of quinotoxin, and was fostered by unproved assumptions as to the amounts that might be formed under practical conditions.

"QUINOTOXIN" A MISNOMER

The name "quinotoxin" is probably in part responsible for the misconceptions. It is incorrect historically, suggests false theories, and leads to confusion with another, quite different, substance. It should be abandoned, and displaced by the perfectly good name bestowed on it by its original discoverer. Pasteur, in 1853, first prepared this substance and a corresponding derivative of cinchonin, and named them chinicine and cinchonicine. The terms chinotoxin and cinchotoxin (and chinatoxins, collectively) were applied forty years later by Miller and Rohde [1] who prepared these derivatives by a slightly different method. In this, they disregarded not only the fact that these substances had already received a name, but also the fact that the name chinatoxin had been applied eleven years previously by Ostermayer (1884) to an entirely different

* From the Department of Pharmacology, Western Reserve University School of Medicine.

1. Miller, W. von, and Rohde: Ber. d. chem. Gesellsch. **28**: 1056, 1895.

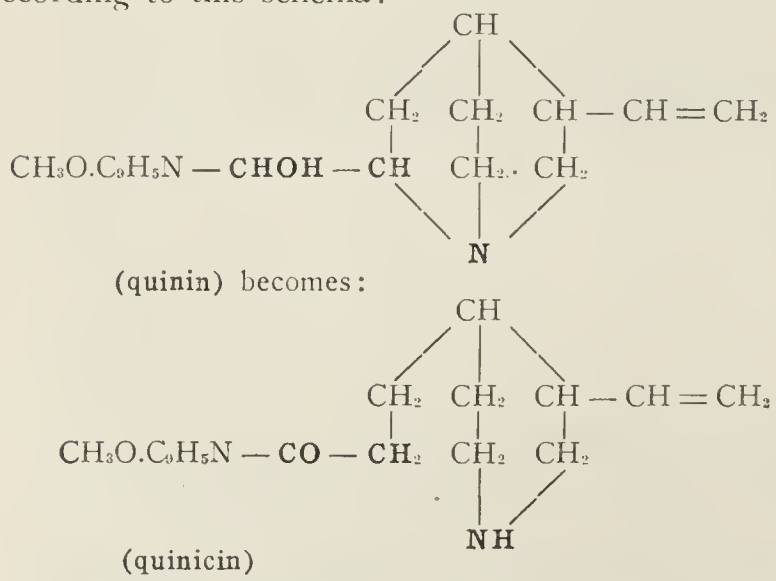
substance (diquinolin-dimethylsulphate). This is likely to lead to serious confusion. The anglicized terms of Pasteur will, therefore, be used exclusively in the following discussion.

CHEMICAL RELATION OF QUINICIN AND CINCHONICIN TO QUININ AND CINCHONIN

The structure of the cinchona alkaloids is not fully understood, as they have not been synthetized. It is fairly complex. That of quinin may be expressed as $\underset{(a)}{CH_3O}.\underset{(b)}{C_9H_5N}.\ \underset{(c)}{CHOH}.\ \underset{(d)}{C_9H_{14}N}$.

It includes a quinolin ring (*b*), to which are attached in the para positive a methoxyl (*a*), and a pyridin derivative ("loipon") (*d*), through a CHOH linkage (*c*). Replacement of the methoxyl by other alkyl groups does not destroy the action, but may even fortify it (Fränkel, Arzeneimittelsynthese). Omission of the group, however, greatly weakens the antimalarial efficiency, but increases the convulsive action. This is cinchonin, $\underset{(a)}{H}.\underset{(b)}{C_9H_5N}.\underset{(c)}{CHOH}.\underset{(d)}{C_9H_{14}N}$. Replacement of the CH_3OH by OH gives cuprein.

Quinicin and cinchonicin are formed when quinin or cinchonin are heated with acids. They have the same elementary formulas as quinin and cinchonin; but a rearrangement has occurred in the loipon and connecing link (*d*) and (*c*). It is generally believed that the linking CHOH in *c* is hyrolyzed to CO, the H being transferred to the adjacent C and N of the loipon, forming an imid group, and breaking the benzene ring, according to this schema:



Formation of Quinicin and Cinchonicin by Acids.—Pasteur prepared quinicin by heating quinin with dilute sulphuric acid at 120 C. At 100, however, Biddle [2] found that dilute mineral acids (to normal) convert only from 2 to 3 per cent. of the cinchonin, while weak organic acid (acetic, etc., ten thousandth normal) transform 95 per cent. The conversion is independent of the dilution or dissociation. Similar results were obtained independently by Rabe.[3]

At from 36 to 38 C. the conversion proceeds very slowly, even with organic acids, so that at most from 0.2 to 1 per cent. are converted in forty-eight hours. The concentration of cinchonicin probably does not increase with longer heating, for there is a parallel transformation of cinchonicin into an insoluble resin.

Some conversion into cinchonicin occurs also in sunlight, and more slowly in diffused light; but this also is converted into resin. The formation of cinchonicin or quinicin may be judged by the dark discoloration (Biddle). Quinin behaves in all these respects essentially like cinchonin.

2. Biddle, H. C.: J. Am. Chem. Soc. **34**: 500, 1912.
3. Rabe: Ber. d. chem. Gesellsch. **43**: 3308, 1910.

Amount of Quinicin Formed in the Stomach.—Only insignificant traces of quinicin could be formed in the stomach. The hydrolysis of quinin occurs, so far as known, only in acid mediums. This would confine its possible production in the body to the stomach. Kaufmann [4] found that traces of cinchonicin are formed by warming cinchonin with 0.1 per cent. hydrochloric acid. Biddle denies this, but suggests that the transformation would occur when organic acids are present in the stomach, as is not infrequently the case. Both writers overlook the time factor. They found only traces transformed after one or two days, whereas the quinin would remain in the stomach for only a few hours. They also overlook the fact that toxic effects of quinin occur at least as frequently if the quinin is given by channels other than the stomach.

Formation of Quinicin in Prescriptions.—Biddle's work leaves no doubt that this would occur if quinin were subjected to prolonged boiling with organic acid; but there would be no occasion for this in prescribing. It would also be formed at ordinary temperature, but only very slowly; and its parallel conversion into insoluble resin would prevent its accumulation.

There is no doubt that solutions of quinin containing excess of organic acids would very slowly lose their activity, and, for this reason, old, discolored or precipitated solutions should not be dispensed; but there is no reason to apprehend danger from them. Even the changes occurring after a long time in capsules of acetylsaliclic acid and quinin hydrochlorid, as reported by Scoville,[5] are more important by the liberation of salicylic acid than by the formation of quinicin.

Actions of Quinicin.—Hildebrandt [6] asserted that this is not convulsive, that it has a digitoxin effect on the frog heart and that it raises the blood pressure slightly. Biberfeld [7] found this toxicity for mammals quite low (lethal dose, 15 mg. per kilogram by vein; 200 mg. hypodermically, corresponding to about ½ ounce in man). In this large dose, it produced convulsions. It did not have a digitoxin effect on the exposed frog heart, but depressed it like quinin. It also depressed other smooth muscle; it produced local anesthesia similar to quinin, but was not antipyretic.

Actions of Cinchonicin.—The toxity of this is also low. Hildebrandt found the hypodermic lethal dose as 150 mg. per kilogram for mice (equivalent to 10 gm. for a man). The same dose of cinchonin was not toxic. Hunt [8] obtained about the same number for cinchotoxin (310 mg.) as for quinin (370 mg.). Rabbits seem considerably more susceptible. Biberfeld, minimum fatal dose, hypodermically, 10 mg. per kilogram; Fraenkel, fatal dose, hypodermically, 20 mg. per kilogram; Hildebrandt, cat, fatal dose, hypodermically, 20 mg. per kilogram. Death is preceded by violent convulsions.

Hildebrandt described a slight rise of blood pressure. Biberfeld found depression of the circulation. Fraenkel, in the exposed heart, observed first very strong contractions, then diastolic arrest.

CONCLUSIONS

There is no occasion to fear toxic effects from the transformation of quinin into "quinotoxin" (more properly, quinicin). This substance is not especially

4. Kaufmann, A.: Ber. d. chem. Gesellsch. **46**: 1823, 1913.
5. Scoville, W. L.: J. Am. Pharm. A. **4**: 590, 1915; Bull. Pharm. **28**: 527, 1915; ibid. **29**: 174, 1915.
6. Hildebrandt, H.: Arch. f. exper. Path. u. Pharmakol. **59**: 127, 1908.
7. Biberfeld, J.: Arch. f. exper. Path. u. Pharmakol. **79**: 361, 1916.
8. Hunt, Reid: Arch. internat. de pharmacod. **12**: 500, 1903.

oxic, and it could not be formed in significant quantities, if at all, in the body.

It may be formed in prescriptions containing quinin nd organic acids; but this would proceed very slowly, nd the quinicin would undergo further transformation nto inactive products. Such solutions are perfectly roper if used within a few days. They should not be sed after prolonged standing, when they become dislored and precipitated; not because they have become oxic, but because they have become inactive.

TWO SMALL OUTBREAKS OF TYPHOID FEVER PROBABLY DUE TO A CARRIER*

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AND
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In the winter of 1919-1920, one of us was consulted about an intermittent series of seven cases of yphoid fever, two of which terminated fatally, occurring among the students of a girls' school in a neighboring community.

FIRST SERIES

A survey disclosed the following conditions: The tudents of the school were housed in scattered cottages, where they obtained two meals. Their noonday meal vas eaten in the school cafeteria in the main building. The town water supply was used for the school and ottages, and in the main buildings was obtained hrough bubble fountains which practically eliminate he common drinking cup factor. The milk supply ame from a farm owned by the school which also at imes supplied others in the community. Foodstuffs vere purchased in the open markets and were also upplied in part by the school farm. No cases of yphoid had been reported in the locality, and at this ime there were no cases save in the school. Thus the ource of infection was apparently not common to community and school. The cafeteria was conducted by wo supervising teachers and by students assigned in rotary service as assistants, but in a rush period any of the students might be called on to assist for a few minutes or a longer period of time, and of these assistants no record was kept.

The seven patients lived in four different cottages, nd met only in certain classes and in the cafeteria for uncheon. Personal histories excluded out-of-town nfection with the possible exception of one home visit of one girl near the incubation period. The students vere not close associates, and had not been in any one place away from the school where infection might have been obtained.

A carrier was searched for, presumably an individual vho had recently joined the school and might have handled food. There were sixteen such students and eachers. Stool examinations were made from these persons, twelve in duplicate and four once only, with uniformly negative results. All students were inoculated against typhoid, and the school authorities did not desire the investigation to be carried further at this ime.

SECOND SERIES

In the fall of 1920, however, typhoid again appeared in the community. This series involved three students and two other persons connected indirectly with the school. The first patient was not a student but was the 4-year-old child of the farm dairyman. Three new and uninoculated students became ill with typhoid later, and about the same time a high school teacher, whose only contact was her noonday meal at the school cafeteria. The only other case in the community was that of a boy living in an outlying district and having no connection with the school.

Personal histories of the five patients showed that none had been out of town near the incubation period except the high school teacher, who had been in a neighboring city for one day and had eaten two meals there in the same restaurant. She denied having eaten at any other place besides her home and the school in the same period. The three students were not close associates and came from different cottages, and there was no evidence that any of them had been where there was a typhoid case or an infected water or food supply.

Our attention was directed to a source common to the farm and the cafeteria, as the 4-year-old child had not visited the latter place; and the high school teacher had contact with this school only through the luncheon period. Specimens of stools were obtained from the eight men employed by the school, all of whom might have handled food, and also from four teachers and from 106 students who might have handled food in the cafeteria. Two specimens were obtained from each on different occasions, except in the cases of ten students and one teacher from whom only one specimen could be obtained. All were negative except the two specimens of one farm laborer. Nineteen urine examinations from nineteen individuals, including the farm laborer, were negative.

Unless the stool is received shortly after being passed, there is a marked increase of the colon organisms but practically none of the typhoid and, as the laboratory was some 18 miles distant from the school, this presented a serious difficulty. We therefore decided to reverse matters and to bring the medium to the stool rather than the stool to the medium, so that inhibitory action might begin at once. According to the technic employed, test tubes of brilliant green peptone water,[1] in a dilution of 1:200,000, which had been found experimentally to give the best results, were taken to the school and inoculated with a small loopful of fresh feces by the school nurse. The tubes were then brought to the laboratory within four hours, giving us the specimen with the colon growth inhibited. The tubes were incubated for twenty hours at 37 C. and plates made on eosin methylene blue agar.[2] These were incubated twenty-four hours and suspicious colonies transferred to tubes of Russell's medium and incubated for twenty-four hours. A second reading of the plates was made in forty-eight hours, and any additional suspicious colonies were likewise placed on Russell's medium. Those cultures showing typical typhoid reactions in Russell's medium were examined morphologically, and, if still suggestive, were tested for agglutination. One of us (E. R. M.) paralleled the eosin methylene blue plates with Endo medium plates.

That the farm laborer was responsible for the two outbreaks of typhoid could not, of course, be proved;

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1. Browning: Applied Bacteriology, Chapter VI.
2. Teague, O.: J. Infect. Dis. **18**: 596 (June) 1916.

but the evidence is fairly conclusive: 1. He had been employed by the school for a period of only three years, and typhoid fever outbreaks had occurred in two of these years and not previously. 2. In his duties he must have handled foodstuffs which were served in the cafeteria uncooked. 3. While he denies having had typhoid fever, it was stated by others that during a previous epidemic he had a mild case of "walking typhoid." The dairyman claimed that the man in question had never handled milk, but it was well known that the men of the farm interchanged work frequently. The character of the outbreaks pointed either to an intermittent carrier or to a carrier who only occasionally had opportunity to infect food, as would be the case with the present carrier. It must also be kept in mind that at least half the school had received antityphoid inoculations within a year, and that all the cases in the second series occurred in the uninoculated.

SUMMARY

In investigation of two small intermittent outbreaks of typhoid fever, a carrier was found who could have been responsible for both.

A method of obtaining satisfactory specimens of stools for examination some distance from the laboratory was used with success.

ALKALI TOLERANCE IN PELLAGRA*

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In work with urine [1] in 1917 it was found that a considerable number of patients showed a tendency to an increase in the output of ammonia either relative to the total nitrogen or absolutely. The urinary findings suggested that in some cases, at least, there might be a greater or less depletion of the alkali reserve.

Accordingly, late in the summer of 1917, a study of the alkali reserve was started by means of the alveolar air method and by the estimation of the carbon dioxid bound by the blood plasma. The study of the alkali reserve by these two methods was continued during 1918 and 1919.

Of fifty-six patients tested by Sullivan and Stanton [2] for alkali reserve by the alveolar air method following the Plesch [3] technic as modified by Higgins,[4] and described in detail by Marriott,[5] and by the estimation of the carbon dioxid bound by the blood plasma according to the Van Slyke and Cullen [6] method, using the Van Slyke [7] carbon dioxid apparatus and with collection of the blood under oil without stagnation of blood or loss of carbon dioxid, none showed a marked depletion of the alkali reserve, about one third showed a slightly subnormal level, while the greater number were within normal limits. The patients as a whole, however, tended to minimum normal levels by both methods. Further, of those patients tested for the alkali reserve by the two methods spoken of, a number showed an increase in the output of urinary ammonia.

In view of the fact that the pellagra patients studied in 1918 and 1919 could be considered on the whole as but minimum normals with respect to the alkali reserve, and that in a number of cases there was an increase in urinary ammonia, it became of interest to test out the effect of administration of sodium bicarbonate on the reaction of the urine. It has long been known that large quantities of alkali are necessary to make the urine alkaline in diabetes. Sellards found that large amounts of sodium bicarbonate are necessary to make the urine alkaline in Asiatic cholera [8] and in nephritis.[9] Sellards calls this phenomenon "alkali tolerance," and concludes that it indicates a condition of acidosis. Palmer and Henderson [10] independently studied the relation between administration of sodium bicarbonate and the reaction of the urine. They suggest that a condition of acidosis may be assumed to exist when the administration of a quantity of alkali equivalent to 1 liter of tenth normal solution of sodium bicarbonate, approximately 8 gm. of sodium bicarbonate, fails to produce a diminution in the acidity of the urine. As put by Van Slyke and Cullen,[6] the extremely practical alkali retention test devised independently by Sellards and by Palmer and Henderson appears to be an indirect measure of the bicarbonate content of the body fluids as represented by the plasma.

In our work, Sellards' procedure, as given in his recent publication,[11] was followed. According to Sellards, it is quite sufficient to give 5 gm. of sodium bicarbonate by mouth every two or three hours until the urine becomes neutral or alkaline to litmus. Under normal conditions the ingestion of 5 gm. of sodium bicarbonate is promptly followed by the excretion of at least part of this amount in the urine, the reaction of the urine to litmus changing from acid to alkaline in the cold or on heating.

EXPERIMENTAL DATA

As soon as possible after the patient's admission to the hospital, a twenty-four hour sample of urine was collected for analysis with attention to the ammonia content.[12]

The the venous carbon dioxid tension was determined by the Plesch method. On a subsequent day the tolerance to alkali was tested by the administration by mouth of sodium bicarbonate dissolved in several hundred cubic centimeters of water. At 9 o'clock in the morning the urine was voided, and 5 gm. of sodium bicarbonate in water was given to each patient and then every two hours until the urine was at least faintly alkaline. Before each administration of the bicarbonate the urine was voided and tested. As judged primarily by the extent of the erythema and dermatitis, and secondarily by the state of malnutrition and general weakness, the patients, with a few exceptions, had mild cases of pellagra. The results of the alkali tolerance study are given in the accompanying table.

Of the fifteen pellagra patients mentioned in the table, when tested by the alveolar air method two (Cases 68 and 78) showed a marked acidosis, three (Cases 51, 59 and 67) showed a mild acidosis, while ten were within normal limits. As regards alkali tolerance,

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* From the Pellagra Hospital, U. S. Public Health Service.

1. Sullivan, M. X.; Stanton, R. E., and Dawson, P. R.: Metabolism in Pellagra: A Study of the Urine, Arch. Int. Med., to be published.
2. Sullivan, M. X., and Stanton, R. E.: The Alkali Reserve in Pellagra, Arch. Int. Med. **26**: 41 (July) 1920.
3. Plesch: Ztschr. f. exper. Path. u. Therap. **6**: 380, 1909.
4. Higgins: Pub. 203, Carnegie Institute of Washington, p. 168, 1915.
5. Marriott, W. M.: The Determination of Alveolar Carbon Dioxid Tension by a Simple Method, J. A. M. A. **66**: 1594 (May 20) 1916.
6. Van Slyke, D. D., and Cullen, G. E.: J. Biol. Chem. **30**: 289 (June) 1917.
7. Van Slyke, D. D.: J. Biol. Chem. **30**: 347 (June) 1917.
8. Sellards: Tolerance for Alkalis in Asiatic Cholera, Philippine J. Sc. B, Med. Sc. **5**: 363, 1910.
9. Sellards: Bull. Johns Hopkins Hosp. **23**: 289, 1912.
10. Palmer, W. W., and Henderson, L. J.: Clinical Studies on Acid Base Equilibrium and the Nature of Acidosis, Arch. Int. Med. **12**: 153 (Aug.) 1913.
11. Sellards, A. W.: The Principles of Acidosis and Clinical Methods for Its Study, Cambridge, Mass., Harvard University Press, 1917.
12. A report of this urine work will be published later by Sullivan and Dawson.

only four of these fifteen pellagra patients showed a tolerance to sodium bicarbonate (Cases 51, 59, 68 and 78). Of these four patients, one (Case 78) came to the hospital very weak, with diarrhea, unable to retain food in the stomach, and died within a few days. In this case, the urine was still acid after the administration of 20 gm. of bicarbonate, when on account of the patient's condition, which was not improved by sodium bicarbonate, the administration of the bicarbonate was stopped; one of the others (Case 68) was admitted in a precarious condition with heavy diarrhea for some time, but ultimately greatly improved and left the hospital in good condition. The urine in this case, as tested in the severe stage of the disease, was acid, even after the administration of 50 gm. of sodium bicarbonate. In Case 51, the patient on entrance was very weak with heavy diarrhea. The tolerance test was not made until the diarrhea had abated considerably. At the time for testing, it required 15 gm. of bicarbonate to make the urine slightly alkaline to litmus. In Case 59, without

VENOUS CARBON DIOXID TENSION AND ALKALI TOLERANCE IN PELLAGROUS AND IN NONPELLAGROUS INDIVIDUALS

Case Number	Venous Carbon Dioxid Tension	Grams of Bicarbonate to Render Urine Alkaline to Litmus	Total Nitrogen of Urine	Ammonia Nitrogen of Urine	Ammonia Nitrogen in per Cent. of Total Nitrogen	Status of Pellagra
47	40	5	15.5775	0.3651	2.34	Mild, complicated with gonorrhea
49	40	5	11.2761	0.3568	3.17	Mild
51	30-35	15	7.093	0.5407	7.62	Severe; complicated; intestinal parasites
53	35	5	4.8806	0.3332	6.83	Mild
55	40	5	9.6817	0.1316	1.36	Mild
56	35	5	4.1037	0.1531	3.73	Mild complicated
59	30	15	8.2875	0.2976	3.59	Mild
62	35	5	11.0419	0.4222	3.82	Mild
63	40	5	10.9626	0.7120	6.49	Mild
67	30	5	5.5800	0.2741	4.91	Moderate
68	20-25	More than 50	2.6933	0.5742	21.32	Severe; very weak
70	35	5	6.4407	0.3525	5.47	Mild
74	35	5	4.9448	0.4757	9.58	Severe dermal type
76	40	5	7.9899	0.2626	3.29	Mild
78	20	More than 20	.....	.....	....	Severe; died
Control 1	45	5	15.2126	0.8158	5.36	Nonpellagrin; excellent condition
Control 2	40	5	9.7710	0.3402	3.48	Nonpellagrin; excellent condition
Control 3	35	10	2.2420	0.2471	11.02	Undernourished; gonorrheal; nonpellagrous
Control 4	35	Alkaline before administering bicarbonate; alkaline 2 hours after giving 5 gr. $NaHCO_3$	4.2336	0.1841	4.35	Nonpellagrin; eczematous

diarrhea, the urine was slightly acid after 15 gm. of bicarbonate. Of the four patients showing a varying degree of tolerance to sodium bicarbonate, three had diarrhea, and one of these patients was unable to retain food. In the cases in which there was diarrhea and the case in which the patient was unable to retain food, it is possible that more or less of the bicarbonate was not absorbed. One patient with no diarrhea showed a mild tolerance to bicarbonate. None of the patients showed an absolute increase in the ammonia output, though two (Cases 68 and 74), with a small excretion of total urinary nitrogen, gave a relatively large ammonia nitrogen ratio.

With only a few exceptions, then, the pellagra patients tested showed no tolerance to sodium bicarbonate. It would seem, however, that with severe diarrhea a condition of acidosis may obtain, as evidenced by a lowered carbon dioxid tension in the alveolar air, and a tolerance to sodium bicarbonate administered by the mouth.

GENERAL CONCLUSIONS

The data on venous carbon dioxid tension and alkali tolerance of the pellagra patients at the Pellagra Hospital in 1920 support the findings obtained with more marked cases of pellagra in 1918 and 1919 by the venous carbon dioxid tension method and by the carbon dioxid bound by the blood plasma, that, as a rule, the alkali serve in pellagra, though tending somewhat downward, is within normal limits. Of fifteen patients tested, only four showed an increase in tolerance to sodium bicarbonate. Of these four patients, only two showed a marked tolerance, and these two patients had a severe diarrhea.

SO-CALLED PLEOMORPHIC STREPTOCOCCI FROM HUMAN RESPIRATORY TRACT *

JOHN F. NORTON, PH.D.

KATHERINE ROGERS, S.M.

AND

CONSTANTINE GEORGIEFF, S.M.

CHICAGO

Pleomorphism is not uncommon among bacteria. The classic example is the group of diphtheria bacilli. During the last few years a number of workers both in this country and abroad have noted the finding of streptococci in the nose and throat—particularly but not exclusively in influenza—having more or less varied morphologic characteristics. These have sometimes been designated as "diplostreptococci" and described as having flattened sides or as elongated, or they have shown a considerable variety of pleomorphism, with club-shaped organisms as well as elongated forms. Ribbert [1] described such organisms during the influenza epidemic of 1889-1890. In the 1918 epidemic, Little, Garofalo and Williams,[2] Averill, Young and Griffiths,[3] Whittingham and Sims,[4] and Donaldson [5] in England isolated pleomorphic streptococci. The latter investigator described a pleomorphic streptococcus which he designated as the "D" organism and suggested a possible connection between disease and the pleomorphic state. In the same year, Mathers [6] in this country isolated a pleomorphic streptococcus from influenza which produced flat, moist confluent colonies. Tunnicliff,[6] Jordan,[7] Zingher [8] and Rosenow [9] have also reported the Mathers coccus, while Keegan [10] and Synnott and Clark [11] found pleomorphic organisms but with a different colony appearance. Bernardt,[12] and

* Influenza Studies, V, from the Department of Hygiene and Bacteriology, the University of Chicago.

1. Ribbert: Centralbl. f. Bakteriol. **7**: 700, 1890.
2. Little, Garofalo and Williams: Lancet **2**: 34 (July 13) 1918.
3. Averill, Young and Griffiths: Brit. M. J. **2**: 111 (Aug. 3) 1918.
4. Whittingham and Sims: Lancet **2**: 865 (Dec. 28) 1918.
5. Donaldson: Lancet **2**: 723, 1918; Brit. M. J. **2**: 701, 1918.
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7. Jordan, E. O.: J. Infect. Dis. **25**: 28 (July) 1919; Pub. Health Rep. **34**: 1413, 1528, 1919.
8. Zingher, Abraham: Atypical Form of Streptococcus Viridans, J. A. M. A. **72**: 1020 (April 5) 1919.
9. Rosenow, E. C.: Prophylactic Inoculation Against Respiratory Infections, J. A. M. A. **72**: 31 (Jan. 4) 1919; Studies in Influenza and Pneumonia, ibid. **72**: 1604 (May 31) 1919.
10. Keegan, J. J.: The Prevailing Pandemic of Influenza, J. A. M. A. **71**: 1051 (Sept. 28) 1918.
11. Synnott, M. J., and Clark, Elbert: The Influenza Epidemic at Camp Dix, N. J., J. A. M. A. **71**: 1816 (Nov. 30) 1918.
12. Bernardt: Lancet **2**: 234, 1919; Med. Klin. **15**: 683, 1918.

Meyer and Kolle,[13] Segale[14] in Germany, and Ciauri[15] in Italy have studied organisms which appear to belong to this group. Findley[16] isolated diplostreptococci during the influenza epidemic in Egypt.

In 1919, Crookshank[17] reported pleomorphic streptococci which resembled those isolated by Rosenow from poliomyelitis in 1916-1917. Fry[18] and Beaumont[19] have isolated organisms similar to those described by Donaldson. Beaumont obtained them in a variety of morphologic states from sputum, feces, urine and pleural effusions of influenza patients. Sherwood and Downs[20] found pleomorphic streptococci in 25 per cent. of normal throats examined, and obtained agglutination with the serum of such persons in 1:100 dilution. Davis[21] has studied opsonins for pleomorphic streptococci in poliomyelitis, as has Tunnicliff in influenza.

In 1920, Clawson[22] isolated these cocci from peritonitis, pneumonia and from normal persons, and Oppenheim[23] found instances among fecal streptococci. We have continually found pleomorphic streptococci on blood agar plates made from nasopharyngeal swabs in influenza and colds and from normal persons.

In view of the interest recently aroused in regard to these organisms, we deemed it worth while to make a series of careful morphologic, cultural and serologic observations to determine whether or not any significance could be attached to them in connection with infections of the upper respiratory tract. For this purpose we chose from our stock twenty strains, fifteen of which showed unmistakable pleomorphism while five were nonpleomorphic. Seven of the twenty were hemolytic streptococci and the remainder green producers. Six strains were from influenza cases, eight from acute rhinitis, three from pharyngitis and three from tonsillitis. To these twenty strains we later added others from the throats of normal individuals. All our strains were gram positive (Sterling method), although in the preparations gram negative organisms were invariably present with the positive. All fermented milk, with the formation of acid and coagulation of the casein. The carbohydrate fermentations were varied. All fermented dextrose, lactose, saccharose, maltose, levulose, galactose and mannose. Eleven fermented raffinose, seven fermented dextrin, six fermented salacin, five fermented arabinose, three fermented xylose and three inulin, and two fermented mannite. Dulcite was not attacked by any strains. There was no correlation between carbohydrate fermentations and source of organisms, action on blood or pleomorphism. Both solid and liquid mediums were used in studying these fermentation reactions. We obtained indication of acid formation in a shorter time on the solid mediums, but the final results did not differ. The same was true of the two indicators used—bromcresol purple and Andrade's. The latter is slightly more sensitive.

The final hydrogen-ion concentrations attained in ten carbohydrates for sixteen of our strains were also determined, but yielded nothing capable of correlation with other properties.

Complete serologic tests on our series of organisms were not made, but sufficient work was done to show that we were dealing with a heterogeneous group.

The strains which we termed "pleomorphic" were those showing, in a preparation stained according to Gram's method (Sterling modification), organisms with a variety of shapes and sizes. These shapes ranged from strict coccus to bacillary forms, and included principally elongated and oval or flattened cocci. Rarely were club or spindle shapes observed, and we never encountered the more fantastic forms recorded by some of the English workers. The stock strains were kept on blood agar slants and transferred every ten days.

Comparative observations of pleomorphism were made from growths in blood agar, milk and dextrose, lactose and inulin broths. Stained preparations were made after fifteen and forty-eight hours and daily for six days. After the second or third day, débris (probably from dead cells and material precipitated from the medium on account of the increased acidity) appeared in increasing amount, and the stains ceased to be of interest. No striking differences were found except when the H-ion concentration of the medium was varied. A p_H of 7.2 gave more pleomorphism than a p_H of 7.6. The latter has usually been regarded as a more favorable reaction for streptococci. Pleomorphism also developed more quickly in inulin broth (not fermented by most of our strains) than in dextrose broth.

The work of Clark and Ruehl[24] suggested hourly observations. These were made in dextrose broth. During the first few hours the cells were small, although sometimes long chains were seen. The size and tendency to chain formation increased up to nine or ten hours, and then the size decreased. This is in agreement with Clark and Ruehl's records. Pleomorphism was observed as early as the second hour, and never disappeared.

During the study, some of our nonpleomorphic strains began to show pleomorphism. This was followed up by obtaining records of all our strains over a long period, transfers to blood agar slants (p_H 7.6) being made every ten days. At the end of fourteen weeks all of our originally nonpleomorphic strains showed evidence of pleomorphism, and morphologically could not be distinguished from the others. We obtained freshly isolated nonpleomorphic strains, but in every case pleomorphism was observed after the organisms had been carried for some time on blood agar slants. Blood agar plates were used with the same result.

It was thought that possibly some enzyme or toxin was secreted during growth of the cells which would influence the production of the various forms. Portions of a filtrate from a broth culture of a very pleomorphic strain were added to sterile broth tubes and these inoculated, together with a series of controls. No difference in development of pleomorphism was observed, showing that if a toxin is produced it is not of a diffusible character.

CONCLUSIONS

The pleomorphic streptococci are not a homogeneous group. Both hemolytic and green producing types developed pleomorphism. The indications are that any strain of mouth streptococci may show pleomorphism if grown for a sufficient length of time on artificial mediums. It is probable that the development of pleomorphism is connected with relatively unfavorable conditions for growth. These, of course, may exist in the mouth under normal or pathologic conditions as well as on laboratory mediums.

13. Influenza, abstr. J. A. M. A. **71**: 1573 (Nov. 9) 1918.
14. Segale: Patholog., Genoa **11**: 1, 1918, from Lancet **2**: 234, 1919.
15. Ciauri, R.: Policlinico **25**: 924 (Sept. 29) 1918; abstr. J. A. M. A. **71**: 1700 (Nov. 16) 1918.
16. Findley: Lancet **1**: 1113, 1919.
17. Crookshank: Lancet **1**: 313, 1919.
18. Fry: Lancet **2**: 51 (July 12) 1919.
19. Beaumont: Lancet **2**: 234 (Aug. 9) 1919.
20. Sherwood and Downs: J. Infect. Dis. **24**: 133 (Feb.) 1919.
21. Davis, W. M.: J. Infect. Dis. **24**: 176 (Feb.) 1919.
22. Clawson: J. Infect. Dis. **26**: 93 (Feb.) 1920.
23. Oppenheim: J. Infect. Dis. **26**: 117 (Feb.) 1920.
24. Clark and Ruehl: J. Bacteriol. **4**: 615, 1919.

Clinical Notes, Suggestions, and New Instruments

HYPOCHLORHYDRIA, A POSSIBLE CAUSE OF PERSISTENT ERYTHEMA MULTIFORME

ALFRED SCHALEK, OMAHA

Erythema multiforme is a comparatively common condition representing 1 per cent. of all skin diseases. Little is known about its etiology; theories of micro-organisms, hematogenous and intestinal toxins and anaphylaxis all have their supporters. The eruption is usually of short duration, and clears up with simple treatments. It is in the exceptional cases, which are persistent and have greatly weakened the general health of the patient, at times assuming the character of a systemic disease, that the physician realizes his helplessness.

Two severe, persistent cases of erythema multiforme came under my observation recently. The patients had gone through the hands of several physicians, and the disease had resisted all treatment. After having tried the usual treatments for a time with indifferent results, I was fortunate enough to control the eruption in a remarkably short time by finding the presence of hypochlorhydria and correcting this condition. The limited experience allows no definite conclusions, but the results are sufficiently striking to justify further investigations along this line. The first case was typical, while the second might have suggested pemphigus, though the characteristic location, the multiformity, the subjective symptoms, and the recovery after correction of the underlying condition excluded it.

REPORT OF CASES

CASE 1.—Mrs. O. V. J., aged 28, whom I saw, Feb. 20, 1920, had had frequent eruptions of erythema multiforme during the last year with lesions of erythematous and vesicular types, distributed over the forearms, hands and legs. The itching was severe, causing considerable distress. The general health was normal, except for chronic indigestion. The attacks came in crops, following each other closely, especially after indiscretions in eating. Dieting and local applications gave only temporary relief. The last attack had persisted for two months, new lesions appearing continually. In several analyses of the stomach contents, hydrochloric acid was found to be very much reduced. Administration of 20 drops of dilute hydrochloric acid, three times daily after meals, with no change of the local applications, cleared the skin completely in a week. No recurrence has been reported at the present date, one year later.

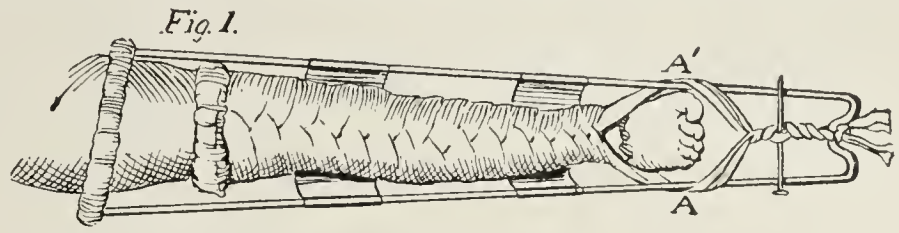
CASE 2.—Mrs. H. H., aged 26, whom I saw, Feb. 11, 1921, had given birth to a child three years before. One year later the present eruption appeared and had continued up to the time of consulting me, with periods of exacerbations and remissions, irrespectively of seasons. Her general health was good, except that she suffered from constipation and had several bad teeth, which were extracted. She had lost about 15 pounds in weight during the last year. The eruption was extensive over the forearms and hands, and the inner sides of the thighs. The lesions were of urticarial and bullous type, many being dried in the center, forming iris-like rings and varying in size from ¼ to ½ inch. The buccal mucous membranes were involved, several lesions on the lips causing considerable edema and interfering with the opening of the mouth. Broken down bullae were present on the palate and around the uvula, which were very painful and interfered with swallowing. The itching was severe, making rest and sleep impossible. The patient was nervous, depressed and weakened from lack of food and sleep. On the assumption that the trouble was of intestinal origin, the patient had been kept on a strictly limited diet for a long period of time without any improvement. A stomach analysis, made by Dr. George P. Pratt, revealed a considerably reduced amount of hydrochloric acid after test meals. The patient was given 20 drops of diluted hydrochloric acid, three times a day, and the bowels were regulated. Improvement of the skin condition followed rapidly. The old lesions were dried up three days later, and no new lesions have appeared since. At the present date, the patient is free from the eruption, the itching has subsided, and the lesions in the mouth are healed, permitting the swallowing of solid food without trouble.

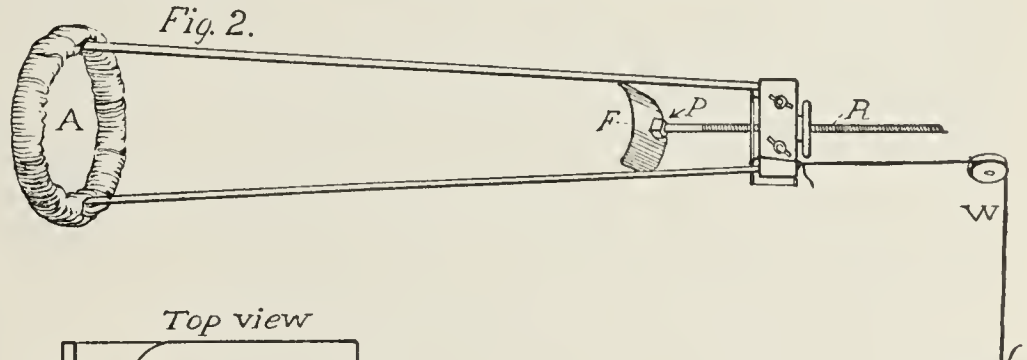
TRACTION DEVICE FOR USE WITH THOMAS SPLINT*

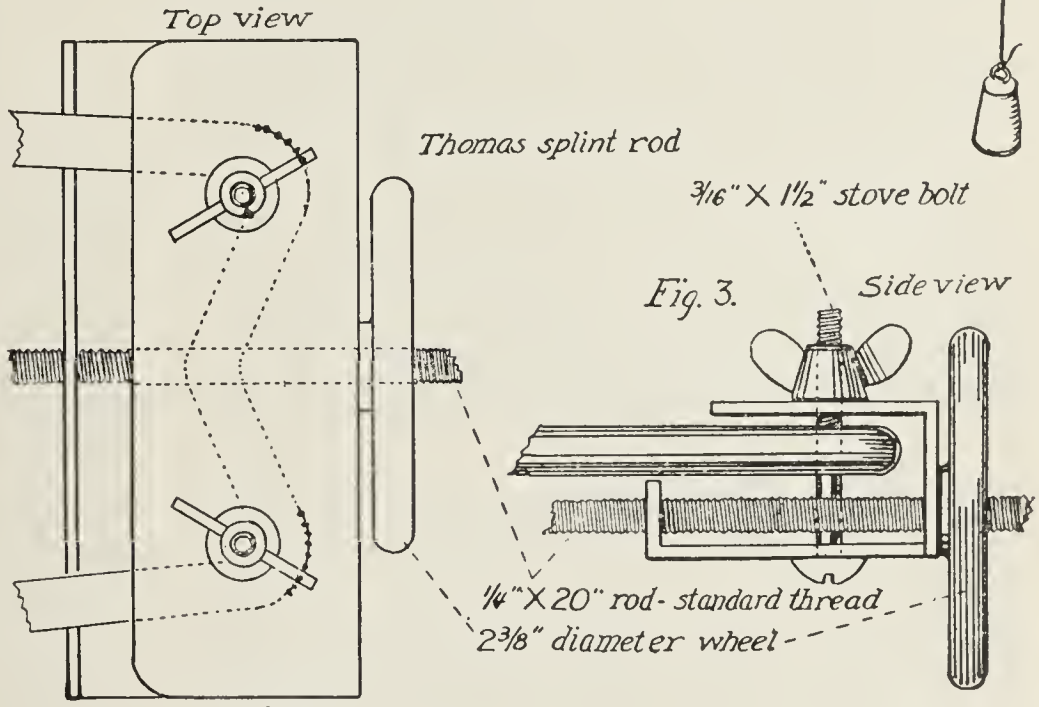
HARRY L. SCHURMEIER, M.D., SANTA BARBARA, CALIF.

During my service abroad as orthopedic surgeon of a base hospital I came in daily contact with the Thomas splint, as these splints were used almost exclusively and in large numbers in our wards. It seemed that, with the exception of some difficulties with the method of obtaining traction, this type of splint was as near perfection as possible. Extension was obtained in the usual manner of fastening the traction strips to the end of the splint and obtaining tension by twisting a piece of nail or stiff wire inserted between the strips just above the lower end of the splint (Fig. 1). Objections to this method can be raised only with regard to its applicability in private institutions. For transportation from first aid stations to the rear it was excellent, but for the more permanent use in private practice it would seem that my device is an improvement.

In the former method, as may be seen in Figure 1, we found it necessary continually to replace frayed-out ropes and







Traction device for use with Thomas splint.

* From the clinic of Santa Barbara Cottage Hospital.

sometimes adhesive traction strips; furthermore, continual readjustment was necessary, owing to the stretching of the material used for obtaining traction. I tested with a spring balance the amount of tension obtained (Fig. 1) by one complete twist of the nail, and found this to be equal to from 3 to 5 pounds. This represents too much pull. Finer gradations of traction are essential both for the comfort of the patient and for successful union of the fracture. Many times the patient complains of discomfort from pressure of the ring on the buttocks, necessitating loosening of the tension bands by untwisting the nail through an arc of 180 degrees. As the nail cannot be held at any intermediate point, this means from 3 to 5 pounds' loss of weight. It may readily be seen that such sudden fluctuations in tension, necessitated by frequent readjustments, tend to pull the plaster from the leg and to mobilize the site of fracture, the latter being a factor in nonunion. Furthermore, at least 50 per cent. of the entire amount of traction is neutralized by the friction at points *A, A'*. This means that when a 15 pound pull is exerted on the leg there would be a 30 pound stress on the rope and on the hands of the person twisting the nail. This is rather a difficult job for a nurse; furthermore, the lateral stress tends to approximate the splint at points *A, A'*.

Figure 2 shows the traction device ready to function.

Figures 3 and 4 illustrate the mechanism involved.

The foot piece (Fig. 2 *F*) is removed by unscrewing a wing nut from the rod on the concave side of the foot piece. Adhesive tape is then applied over the convex side of the foot piece and to the patient's leg. The rod *R* (Fig. 2) is then inserted through the adhesive tape and into the foot piece at *P* and made fast with the wing nut. A few turns of the wheel will now exert the necessary tension.

One revolution of the wheel exerts exactly 1 pound of traction. The leverage exerted by this type of mechanism is such that at 50 pounds the wheel is easily revolved with two fingers. Obviously, this is of advantage in enabling a nurse to manipulate it under orders from the physician. Then, too, any amount of tension is possible and easy to obtain through gradual stages of accurately gaged pull.

In using this means of obtaining tension it is suggested (Fig. 2 *W*) that a rope be extended from the end of the splint over a pulley and the desired weight applied. Traction is then obtained gradually by turning the wheel until the ring portion of the splint is felt to impinge on the tuberosity of the ischium and over the ramus of the pubis (Fig. 2 *A*). This means that the weight is just neutralized and that there is pull on the leg equal in amount to the utilized weight.

ADVANTAGES

The mechanism may be applied to any type of Thomas leg or arm splint, irrespective of the length of the limb or the length of the splint.

The apparatus is easy to make, the material costing about one dollar.

Traction may be finely, slowly and accurately adjusted, eliminating the breaking of traction strips and their loosening from the leg.

That lateral tension on the splint, the expenditure of unnecessary muscular effort by the attendant, and sudden deviations in tension are done away with, thus giving the patient less pain and discomfort with greater chances for successful union.

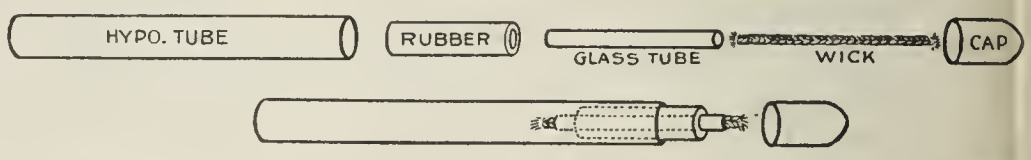
Illiteracy of Children.—That many American born children are growing up illiterate is shown by figures given in the seventh annual report of the chief of the Children's Bureau of the U. S. Department of Labor. Of 19,696 children between 14 and 16 years old, to whom certificates were issued, more than one fourth could not write their names legibly. Nearly 10 per cent. had never gone beyond the first grade and considerably more than half were in the fourth grade or lower when they left school. Only about 3 per cent. were in eighth grade and about one in a hundred had reached high school. These children were native Americans. Of the whole number, only twenty-four were foreign born.

IODIN SWAB FOR STERILIZING SITE OF HYPODERMIC PUNCTURE

Cyril J. Marshall, M.D., Sanford, Fla.

Having frequently had difficulty in finding alcohol or iodin, and a cotton swab for sterilizing the site before giving a hypodermic injection, I have devised an iodin swab which fits nicely in the case alongside the syringe, and is always present with the latter.

The only material necessary to make the swab consists of two empty hypodermic tablet tubes, a bit of small rubber catheter, three-fourth inch long, of a size to slip inside the tube, 1 inch of very small glass tubing, and a little thread for a wick. The thread is loosely twisted, about eight strands, and pulled inside the small glass tubing. This, in turn, is put in the section of rubber tubing, one of the tablet tubes is half filled with iodin, and the assembled glass, rubber and wick are slipped in the end of the iodin tube, making a tight fit. About one-eighth inch of the wick is left protruding beyond the end of the glass tube; this becomes saturated with the iodin, and is used as a swab. A cap for the outfit is made by heating the other empty tube in the flame, about half an inch from the open end, melting and drawing it in two, thus closing the open section, and forming a tight cap which fits over the wick. The whole may now be carried with perfect safety in the hypodermic case.



Contrivance for sterilizing the site for a hypodermic puncture. It may be carried in the hypodermic case.

A CASE OF LOCALIZED ARGYRIA

B. Barker Beeson, M.D., Chicago

W. B., a white man, aged 46, a book-packer, consulted me at the Chicago Policlinic because of a discolored nose. In 1914 he noticed a number of pimples on his nose which he was induced to treat by boring a silver nitrate crayon into each lesion. This was done once a month for about a year. Following each treatment a blackish crust would form and be cast off in a week or ten days. Several months after he had apparently removed all of the pimples from his nose he noticed that the lower half of that organ, to which the silver had been applied, was darker than the surrounding skin; and it grew darker until, when seen, it was of a bluish-black hue. It was tolerably uniform over the lower half of the nose, a darker spot here and there apparently showing where the crayon had been bored into the skin. Save for its color the affected area did not differ from the adjacent skin, since it did not exhibit thickening, scaling or sensory disturbance. An examination did not detect any other evidence of argyria.

Consent to a biopsy was refused after the patient had been informed of the hopelessness of his case, so that I was not able to ascertain just how far the silver had penetrated into the skin. Unna says that it is not found in the epidermis but is limited to the corium, being especially abundant in the elastic fibers.

A review of the literature and the leading works on dermatology seems to indicate that cases of this character are unusual. This is indeed of interest in view of the extensive use of silver salts. Kaposi stated in his work on skin diseases that it is remarkable that argyria has not been observed even locally after the countless cauterizations of the skin with silver nitrate in cases of lupus vulgaris.

Lewin and Blaschko have observed localized argyria in silver workers. In them minute particles of the metal became detached during the various processes, such as filing, turning and polishing, to which it had been subjected. These tiny foreign bodies apparently penetrated the epidermis lodged in the corium. It was believed that in these cases, just as in those due to ingestion, the silver was first changed into a soluble salt from which it was reduced and then deposited.

At no time has my patient been a worker in silver, nor has he used any such preparation except as already mentioned. His trouble was due solely to his ill-advised self-tattooing. This case may well serve as a warning against the local use of silver preparations save by those who are familiar with their action.

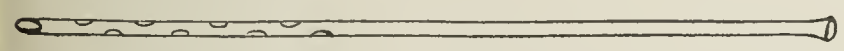
32 North State Street.

A NEW GASTRODUODENAL CATHETER

A. L. LEVIN, M.D., NEW ORLEANS

The secrets of the duodenal sanctum sanctorum, the meeting place of bile and pancreatic juice, are being investigated and studied more and more every day. There are great hopes that the analysis of duodenal contents will eventually bring forth a new method, by the aid of which diseases of the gallbladder and pancreas will be more easily recognized and diagnosed. A fractional duodenal analysis will probably be of as much value as a fractional gastric analysis, and become a daily laboratory routine in gastro-intestinal work. The reasons for it are: (1) the comparative ease and simplicity of method to enter the duodenum; (2) the comparatively short time consumed in its performance, and (3) the comparative freedom from discomfort to the patient. These three factors, in my opinion, will in the near future lead to a greater popularization of gastric and duodenal analyses than heretofore.

The large size stomach tube, undoubtedly, still has its place in a selected group of cases; but in the large run of gastro-intestinal cases, it should be looked on as a relic of medical and surgical clumsiness. With the appearance on the medical horizon of the new method of medical drainage of the gallbladder, the introduction of a new tube and the selection of an easier route will be an item of interest to the medical



Gastroduodenal catheter: length of tube, 45 inches or more; markings at 18, 22 and 26 inches.

profession. The old stomach tube, the Einhorn and Rehfuss buckets, and the Jutte tube have disadvantages which have been removed in this newly designed catheter. There is no metal bucket attachment; it has a velvet eye at its terminal end exactly like a urethral catheter; the side openings are oval and larger than in the Jutte tube; there is no division in the middle for the introduction of a stylet, as there is no need for one; it is one continuous long catheter, and can be made in three sizes, No. 16 and 14 French and a No. 10, or infantile. The thickness of the rubber is the same as that of a urethral catheter. I advocate for gastric analysis and duodenal intubation the nasal route instead of the oral which is being daily used. The advantages of the nasal route are: There is no tickling of the soft palate, no choking sensation, hardly any excessive production of pharyngeal mucus, and a great deal less discomfort. The fear and anxiety and struggle on the part of the patient is a thing of the past, especially if the patient is instructed to sip some water slowly. I have tried it hundreds of times with practically no struggle whatever on the part of the patient.

The advantages of the new catheter may be thus summarized:

1. The absence of metal at the tip and the quality of the rubber facilitate its introduction through the nose or mouth.
2. When suction is applied, the walls of the tube are not likely to collapse, as is the case with the Jutte tube.
3. The openings are less likely to become blocked by food or mucus on account of their large size and their velvet eye.
4. There is no need for a stylet.
5. It can easily be introduced through the nose even when the patient is under anesthesia. The surgeon, before closing the abdomen, can pull it through the gastro-enterostomy opening or pylorus, and in that way introduce fluids into the duodenum after an operation.
6. It is less likely to curl on itself in the stomach.
7. It is easier to withdraw the tube because there is no metal bucket at the end.
8. The tube is plainly visible fluoroscopically even without the metal tip.
9. The drainage of bile is easier than with the Jutte tube.

A little experience with this catheter will convince the medical profession of its great merits.

1222 Maison Blanche Building.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

ARSPHENAMINE (See New and Nonofficial Remedies, 1921, p. 41).

Arsphenamine-Squibb.—A brand of arsphenamine.

Manufactured by E. R. Squibb & Sons, New York, under U. S. patent Nos. 986,148 (March 7, 1911; expires 1928), 1,081,897 (Dec. 16, 1913; expires 1930), 1,081,592 (Dec. 16, 1913; expires 1930), and 1,116,398 (Nov. 10, 1914; expires 1931) by license of the U. S. Federal Trade Commission. Also licensed for interstate sale by the U. S. Treasury Department under the "act to regulate the sale of viruses, serums, toxins and analagous products" as conforming to the regulations for the control, sale and manufacture of arsphenamine; issued March 20, 1920.

Arsphenamine-Squibb 0.1 Gm. Tubes.—Each hermetically sealed tube contains arsphenamine 0.1 Gm.

Arsphenamine-Squibb 0.2 Gm. Tubes.—Each hermetically sealed tube contains arsphenamine 0.2 Gm.

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Arsphenamine-Squibb 0.4 Gm. Tubes.—Each hermetically sealed tube contains arsphenamine 0.4 Gm.

Arsphenamine-Squibb 0.5 Gm. Tubes.—Each hermetically sealed tube contains arsphenamine 0.5 Gm.

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NEOARSPHENAMINE (See New and Nonofficial Remedies, 1921, p. 45).

Neoarsphenamine-Squibb.—A brand of Neoarsphenamine.

Manufactured by E. R. Squibb & Sons, New York, under U. S. patent reissue No. 13,849 (Dec. 15, 1914; expires 1931) by license of the U. S. Federal Trade Commission. Also licensed for interstate sale by the U. S. Treasury Department under the "act to regulate the sale of viruses, serums, toxins and analagous products" as conforming to the regulations for the control, sale and manufacture of neoarsphenamine; issued March 20, 1920.

Neoarsphenamine-Squibb 0.15 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.15 Gm.

Neoarsphenamine-Squibb 0.3 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.3 Gm.

Neoarsphenamine-Squibb 0.45 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.45 Gm.

Neoarsphenamine-Squibb 0.6 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.6 Gm.

Neoarsphenamine-Squibb 0.75 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.75 Gm.

Neoarsphenamine-Squibb 0.9 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.9 Gm.

SODIUM ARSPHENAMINE (See New and Nonofficial Remedies, 1921, p. 48).

Sodium Arsphenamine-Squibb.—A brand of sodium arsphenamine.

Manufactured by E. R. Squibb & Sons, New York, under patents Nos. 1,059,983 and 1,078,135 by license of The Chemical Foundation, Inc. Also licensed for interstate sale by the U. S. Treasury Department under the "act to regulate the sale of viruses, serums, toxins and analagous products" as conforming to the regulations for the control, sale and manufacture of sodium arsphenamine; issued March 20, 1920.

Sodium Arsphenamine-Squibb 0.15 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.15 Gm.

Sodium Arsphenamine-Squibb 0.3 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.3 Gm.

Sodium Arsphenamine-Squibb 0.45 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.45 Gm.

Sodium Arsphenamine-Squibb 0.6 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.6 Gm.

Sodium Arsphenamine-Squibb 0.75 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.75 Gm.

Sodium Arsphenamine-Squibb 0.9 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.9 Gm.

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SATURDAY, APRIL 9, 1921

FLUKE INFECTIONS AND SNAILS

A number of different clinical classes of fluke infections or trematode disease have long been recognized to occur in man. According to the region most involved, the resulting malady is usually classed as pulmonary, hepatic, intestinal or venal. It would also be possible to differentiate them according to the particular invading organism present, for more than one species of trematode have been found to be concerned in the etiology of human fluke infections. Most readers of THE JOURNAL will doubtless think of trematode disease as of Asiatic or African incidence, classifying the cases among tropical or subtropical maladies. Nevertheless, fluke infections are by no means unknown in countries of temperate climate. When it is realized that there are endemic areas in Formosa, Japan and South Africa, for example, in which more than half the population is reputed to harbor flukes of some sort,[1] the importance of the problem of control of trematode infection looms up large.

A recent writer has pointed out that, like malaria and hookworm disease, fluke diseases are comparatively seldom fatal in themselves but are particularly injurious in causing loss of efficiency, reduced vitality, and lowered resistance to other diseases. The long duration and relative incurability of fluke infections are a very serious factor. In this respect fluke infections are far more to be feared than are infections with intestinal parasites, most of which are relatively easy to expel. No decisive progress in the management and eradication of other highly important parasitic invasions of the human body was accomplished until the life history and habits of the parasites were carefully worked out. In the case of human flukes, information in this direction has been rather meager and incomplete until recently. The work of Leiper[2] on *Schistosoma* in Egypt, of Kobayashi[1] on *Clonorchis* in Japan, and of Nakagawa[1] on *Paragonimus* in Formosa has brought much clarity and furnished a more definite basis for preventive measures against all these trematode parasitic invaders of man. According to Chandler,[3] in every case of fluke infection of man or domestic animals in which the life cycle of the parasite has been worked out, it has been shown that fresh-water snails act as necessary intermediate hosts. It appears, therefore, that if some efficient and practical method of destroying the snails could be found, this would furnish a logical point of attack in the control of all fluke diseases. Chandler states that other preventive measures are, of course, also valuable and could be used as supplementary measures—for example, the impounding of water before use for drinking or bathing as a preventive against *Schistosoma* infections, the discouragement of the habit of eating improperly cooked meat of crabs in the case of *Paragonimus* and of fish in the case of *Clonorchis,* and care in the disposal of feces and urine in all cases. The last, exclusive of individual mechanical protection against infection, is the only preventive measure that can be adopted against hookworm and many other intestinal parasites. To accomplish this in some warm countries where there has never existed anything approaching sanitation, and where the very idea of sanitation is so strange and foreign to the habits of life and thought of the natives, is well nigh impossible. The fact, therefore, that fluke infections may possibly be controlled by attack on an intermediate host instead of by reliance on the enforcement of sanitary regulations, Chandler asserts further, makes the ultimate eradication of these infections, in spite of their relative incurability, a matter of brighter prospect than is the case with many other verminous parasites.

The investigations of Chandler[3] conducted in Oregon and Texas in search of an inexpensive and harmless method of treating water to destroy snails have demonstrated that copper salts, even in high dilution, exert a powerful toxic effect on snails. In an experiment on eight species of six families, it was demonstrated that copper sulphate in proportions of 1 part to from 500,000 to 2,000,000 parts of water destroys snails of all these species within forty-eight hours; 50 per cent. or more are destroyed in dilutions up to 1 : 5,000,000. From the point of view of expense, harmlessness and convenience in use, copper sulphate is preferable, according to Chandler, to any other substance that has been tried or suggested for destroying snails. The eggs of the snails are not destroyed by the copper salts.

Copper sulphate has, of course, long been known as an effective algicide. It can be administered to bodies of water in ways already familiar through the procedures for destroying algae in water. The water thus treated is not rendered entirely unfit for drinking, bathing or irrigation purposes, although fish may be destroyed by the process. The value of any effective

1. Nakagawa, K.: Human Pulmonary Distomiasis Caused by Paragonimus Westermanni, J. Exper. Med. **26**: 297 (Sept.) 1917. Kobayashi, H.: On the Life-History and Morphology of Clonorchis Sinensis, Centralbl. f. Bakteriol. **75**: 299, 1915. Cawston, F. G.: Bilharziasis in South Africa, J. A. M. A. **70**: 429 (Feb. 16) 1918.

2. Leiper, R. T.: Report on the Results of the Bilharzia Mission in Egypt, J. Roy Army M. Corps **5**: 1, 147, 253, 1915; **27**: 171, 1916; **30**: 235, 1918.

3. Chandler, A. C.: Control of Fluke Diseases by Destruction of the Intermediate Host, J. Agric. Res. **20**: 193 (Nov.) 1920.

mode of eradicating the intermediate hosts of pathogenic flukes lies not only in the domain of human preventive medicine but also in the protection of valuable domestic animals which suffer so extensively from trematode diseases. And prophylaxis is the more to be welcomed at present, as no unquestionably effective remedy for lung or liver flukes has been found. Although the use of tartar emetic has been suggested in the treatment of bilharziasis, or infection with the blood fluke *Schistosoma,* the outlook from such therapy is not promising because, as Chandler has pointed out, the serious symptoms of the disease are caused by the eggs of the worms deposited in the tissues, and often continue to exist long after the worms are dead. It would be interesting to watch a test of the newly proposed prophylactic procedures in snail eradication applied where fluke diseases are endemic.

COD LIVER OIL

Until recently cod liver oil—the oleum morrhuae of the U. S. Pharmacopeia—was generally considered to be a food rather than a medicine. The epitome of the U. S. Pharmacopeia and National Formulary, published by the American Medical Association, remarked as late as 1916 that the value of cod liver oil depends probably entirely on its nutritive property, while "Useful Remedies" asserts that it is generally considered to be a "tonic and nutrient." For many years, however, this peculiar fat has been regarded almost as a specific in the treatment of rickets. Clinical observation has frequently substantiated the belief that cod liver oil exerts a favorable influence on the course of this disease. American pediatricians [1] have lately noted how in the last fifteen years the study of the metabolism of children suffering from rickets has made it reasonably certain that the administration of cod liver oil alters the calcium balance in such a manner that calcium will be retained in the body. They further allege that the natural inference from both clinical observation and metabolic investigation was that cod liver oil increased the capacity of the skeleton to take up or hold calcium.

A new interest in the rôle of cod liver oil has been promoted by the demonstration, first made by Osborne and Mendel [2] in 1914, that this fat includes a liberal portion of vitamin A, frequently described as the fat-soluble food accessory. The importance of the latter for nutritive well-being, particularly in the young, has been abundantly verified experimentally on animals, and doubtless applies also to the human species.[3] Mellanby,[4] whose views have been championed by the English Committee for the Study of Accessory Food Factors,[5] has brought into prominence the possible rôle of the fat-soluble vitamin as an antirachitic agency. Although he has debated the validity of Mellanby's hypotheses, Hess [6] of New York has recently paid a fitting tribute in THE JOURNAL to the therapeutic value of cod liver oil. We are reminded in his lecture before the Harvey Society that this product has been used therapeutically for almost 100 years, but even today it has not been accorded its proper place in therapy. It is recognized as a drug which benefits nutrition; but the fact that it has unequaled value in the prevention and cure of rickets is hardly realized. The marked success attending the use of cod liver oil in districts where rickets is rampant has convinced Hess that it would be feasible to rid a locality of the disease by the use of this oil. Thus, there are approximately 125,000 children in New York City between the ages of 3 and 15 months, the period of greatest susceptibility to rickets. If we estimate generously, Hess writes, that the families of from one quarter to one third of these children are unable to purchase cod liver oil, and if we agree that the development of rickets may be prevented by giving a teaspoonful three times a day, then, at the present cost, rickets could be practically abolished in that city by the expenditure of about $100,000 a year. This, Hess concludes, is merely one of many instances in which the community does not get the full benefit of our medical knowledge.

Without venturing at this time to argue the extent to which vitamin content and antirachitic potency may be allied or identical in cod liver oil, it is surely of medical interest to secure some more explicit conception of what is involved. Zilva and Miura [7] of the Lister Institute in London have demonstrated recently that crude, unrefined cod liver oil may be 250 times as rich as butter in vitamin A, measured by the biologic method of animal feeding tests. Samples of refined cod liver oil secured in London, although not so active as the crude oil, were also far superior to butter in their vitamin potency. The British investigators do not hesitate to offer the opinion that this superiority in potency of cod liver oil to other substances is responsible for the remarkable results achieved with it therapeutically. Unfortunately, they add, in order to satisfy the requirements of the public there is a great tendency to produce brands of cod liver oil which retain little of the characteristic taste and which appear almost colorless. In order to achieve this, drastic means may often be employed which conduce to the partial or even total destruction of the accessory factor.

A quart of milk will furnish approximately an ounce of butter fat, which has heretofore been regarded as a sufficient source of fat-soluble vitamin to safeguard the

1. Shipley, P. G.; Park, E. A.; McCollum, E. V.; Simmonds, N., and Parsons, H. T.: Studies on Experimental Rickets, II, The Effect of Cod Liver Oil Administered to Rats with Experimental Rickets, J. Biol. Chem. **45**: 343 (Jan.) 1921.

2. Osborne, T. B., and Mendel, L. B.: The Influence of Cod Liver Oil and Some Other Fats on Growth, J. Biol. Chem. **17**: 401 (April) 1914.

3. A review of the subject is given by Mendel, L. B.: The Fat-Soluble Vitamine, New York State J. Med. **20**: 212 (July) 1920.

4. Mellanby, E.: J. Physiol. **52**: 11, 1918; **52**: 103, 1919.

5. Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines), Nat. Health Insurance, Medical Research Committee, Special Report Series, No. 38, 1919.

6. Hess, A. F.: Newer Aspects of Some Nutritional Disorders, J. A. M. A. **76**: 693 (March 12) 1921.

7. Zilva, S. S., and Miura, M.: A Note on the Relative Activity of the Fat-Soluble Accessory Factor in Cod-Liver Oil and Butter, Lancet **1**: 323, 1921.

well-being of the young, so far as this factor is concerned. If we may believe cod liver oil to be only thirty times as rich, the effective daily dosage can almost be measured in drops rather than ounces. There is food for reflection in these observations; also, need for renewed investigation. Finally, these observations serve to make the various "refinements" of cod liver oil products sold as proprietary preparations even more reprehensible than they have seemed in the past.

IS LEFTHANDEDNESS A SIGN OF INFERIORITY?

The number of persons whose eyes do not possess normal color vision is larger than the untutored are likely to suppose. Among men, from two to four out of every hundred are color blind, the proportion being somewhat smaller among women. Although this imperfection is usually congenital, it has not been regarded as a sign of inferiority; in fact, the earliest profound student of the subject, the eminent English chemist Dalton, himself was afflicted with a sort of color blindness which was for a time designated as Daltonism. The distinguished anatomist Waldeyer also was color blind.

Even larger is the proportion of persons who exhibit another physiologic peculiarity, lefthandedness, found in at least 4 per cent. of our population. There is considerable evidence to show that sinistrality, or lefthandedness, also is hereditary. It will come as a surprise to most persons who continually encounter the condition among their associates in everyday life to learn that a suspicion of relative inferiority in the organization of the central nervous system has been attached to the lefthanded. Quinan,[1] who has lately been investigating the question, suggests that the relatively frequent occurrence of speech defects, such as stammering, among them in comparison with righthanded persons points to a disadvantage in the execution of finely coordinated movements. He states that sinistrality is exceptionally prevalent among the feebleminded. In a survey made of approximately 600 men between the ages of 44 and 89 and including 7 per cent. of lefthanded persons, it was observed not only that stammering occurred with a frequency from three to seven times greater in the "sinistrals" than the "dextrals," but also that high arterial tension was comparatively more common in the lefthanded.

It would be rash to accept Quinan's conclusion that because lefthandedness, a hereditary peculiarity, has been given a reputation of association with defective organization of the central nervous system, therefore hereditary predisposition is a definite factor in the etiology of high blood pressure, and that high arterial tension is suggestive of constitutional inferiority. We cannot condemn a large number of our population on such slender evidence. Moreover, have we not the counterbalancing biblical evidence of the efficiency of the lefthanded in Judges xx: 15, 16:

> And the children of Benjamin were numbered on that day out of the cities twenty and six thousand men that drew sword, besides the inhabitants of Gibeah, who were numbered seven hundred chosen men. Among all this people there were seven hundred chosen men lefthanded; every one could sling stones at a hair breadth, and not miss.

1. Quinan, Clarence: Sinistrality in Relation to High Blood Pressure and Defects of Speech, Arch. Int. Med. **27**: 255 (Feb.) 1921.

PHENOMENA OF ALLERGY IN DISEASES OF THE SKIN

The phenomena of anaphylaxis are in several striking instances apparently closely associated with the manifestations of familiar diseases that have in the past frequently baffled the physician. The existence of a state of allergy, that is, of altered reactivity of certain tissues of the body to specific proteins, has been postulated in a variety of conditions, notably in so-called serum disease, asthma and hay-fever. In many instances, systemic reactions are attended also with manifestations of cutaneous hypersensitiveness. In a comprehensive critical view of the present status of the problems of anaphylaxis, Wells [1] has remarked that the evidence with respect to the identity of these manifold indications of hypersensitiveness with true anaphylaxis is so contradictory as to defy positive conclusions. Some students go so far as to eliminate from the domain of anaphylaxis all the conditions manifested by cutaneous hypersensitivity, including the tuberculin reaction, hay-fever, and food and drug idiosyncrasies; whereas others, like Kolmer, believe that there are true anaphylactic skin reactions due to the interaction of a specific anaphylactic antibody and specific anaphylactogen largely within or without the cells, and with the formation of diffusible irritants capable of producing acute hyperemia, edema and leukocytic infiltration of the skin.

From the purely practical standpoint, the theory of the precise etiology of the cutaneous reactions, though important, is a matter of only secondary moment so long as the determination of specific sensitization can be made to afford diagnostic information or lead to remedial procedures. The results accomplished in the case of hay-fever, or pollinosis, have already been sufficiently encouraging to lead to extensive application of cutaneous tests with pollen solutions, and likewise of attempts at indicated protein therapy. In the domain of cutaneous disorders less progress has been made, although many unique instances of sensitization to particular foods have been brought to light, notably in the study of such allergy in infants and children.[2] Recently Engman and Wander [3] of the Washington University School of Medicine, St. Louis, have

1. Wells, H. G.: The Present Status of the Problems of Anaphylaxis, Physiol. Reviews **1**: 44 (Jan.) 1921.
2. Schloss, O. M.: Allergy in Infants and Children, Am. J. Dis. Child. **19**: 433 (June) 1920.
3. Engman, M. F., and Wander, W. G.: The Application or Cutaneous Sensitization to Diseases of the Skin, Arch. Dermat. & Syph. **3**: 223 (March) 1921.

reported a study of the relative cutaneous reactions to various proteins, such as are now commercially available for such tests, in the case of a number of skin diseases which might be assumed to have some relationship to so-called protein sensitization. Four fifths of the persons afflicted with urticaria, and an equal proportion of cases of infantile eczema, showed positive sensitization to some protein. Blackfan has had a comparable experience with infants. In "chronic generalized eczema" a response was observed in more than one third of the patients. The percentage was almost negligible in such diseases as dermatitis herpetiformis, erythema multiforme, lichen urticatus, pemphigus and purpura hemorrhagica, although one might say that a sufficient number of cases of the latter diseases had not been investigated.

There is danger of undue enthusiasm in the light of so many positive reactions. Allergy must not be made a fetish in present day medicine. But it cannot be denied that the diagnostic and therapeutic possibilities of cutaneous sensitization tests by dermal methods deserves further careful study in connection with several common diseases of the skin. Only when a large experience has been recorded and critically evaluated can final pronouncements be made.

Some excellent results have already been secured through the regulation of diet in the light of skin test information. In referring to one group of cases, in infantile eczema, for example, Engman and Wander assert that the success of future treatment depends, first, on the accuracy with which the cutaneous sensitization test is performed and interpreted; secondly, on the accuracy in following the therapeutic path which that interpretation directs, and thirdly, on repeating tests at intervals to determine the exact status of the case in relation to protein sensitization. We are reminded that the consideration of the cases must properly include those proteins with which the patient may come in contact in his daily life, an extremely laborious study and one that requires time and patience. Finally, in our enthusiasm for the new field of study, the well recognized existence of drug allergy or cutaneous hypersensitiveness to nonprotein compounds must not be forgotten. Numerous authentic instances are on record, the latest being cases of susceptibility of several dentists to procain, leading to an occupation dermatitis whenever the drug was employed by them in their practice.[4] The clinical observations, together with the confirmatory results from skin tests, indicated an individual susceptibility.

4. Lane, C. G.: Occupational Dermatitis in Dentists: Susceptibility to Procain, Arch. Dermat. & Syph. **3**: 235 (March) 1921.

Instruction in Tuberculosis in Undergraduate Schools.—Relative to its importance, comparatively little interest is taken in instruction in the prevention, diagnosis, and treatment of tuberculous disease in the medical schools. There is not a single professor of tuberculosis in any teaching school in England or Ireland, and only two, both recently appointed, in the United Kingdom,—H. Gauvain, *Brit. J. Tuberc.* **15**:3, 1921.

Current Comment

QUALIFICATIONS TO TREAT THE SICK?

During the last fifty years the fundamentals of medical science and medicine in its broadest aspects have been increased and advanced to a greater extent than in all the previous centuries. The perfecting of the high-power microscope, the discovery of bacteria, the resulting knowledge in regard to the causation of most of the common diseases and in regard to asepsis and antisepsis, the extensive study of the changes in anatomic structures as a result of disease, the discovery of anesthetics and the development of surgery—all this has broadened extensively the field of medicine and increased the definite knowledge in regard to the origin, prevention and treatment of diseases. In fact, medicine in certain of its aspects has become an exact science, and this scientific trend is advancing with accelerated speed. During the last two decades, the medical schools in the United States have been extensively developed in accordance with this greatly enlarged knowledge of the science and the art of curative and preventive medicine. Thus at the present time the medical schools are qualified to teach, and are training their students to utilize this scientific knowledge in the diagnosis, prevention and treatment of disease. Diagnosis is placed first because it is the most important factor. Furthermore, during the last eight or ten years, a large majority of the graduates of medical schools have been trained in accordance with this broader knowledge of medicine, and it has been hoped that with improved facilities of graduate medical education the entire medical profession would become familiar with the greatly improved methods of diagnosis and disease prevention. These facts are well known to all intelligent laymen, who appreciate that modern medicine is able to accomplish what would have been considered impossible a quarter of a century ago. This is true not only in the surgical field, but also in the broader field—preventive and curative medicine. And yet, what is happening? In the legislatures in a number of states bills have been introduced which would grant to sectarians — such as osteopaths, chiropractors, naprapaths and numerous other "paths" and "ists," who are not only not trained in, but who also ignore if they do not ridicule, modern medical science—authority to assume all the rights, privileges and responsibilities of the fully trained and legally qualified physician. Some of the bills provide that these sectarians—whose practice heretofore has been limited to their particular methods of treatment—shall have the right to practice minor and major surgery and obstetrics; the right to use antiseptics, germicides and parasiticides, anesthetics, narcotics and antidotes, and even the right to sign death certificates—there are no other privileges to be desired! It is quite clear to all intelligent people, whether laymen or not, that no one should be authorized to assume all these privileges—and responsibilities—who does not possess the educational and professional qualifications such as are now furnished in well-established medical schools.

MILK AND THE SUBTLE MENACE OF "PATENT MEDICINE"

Like other secretions in the body, the milk is likely to contain a variety of substances which happen to be adventitious or casual constituents of the blood from which, in ultimate analysis, the components of the mammary product must be derived. It has long been known that milk may accordingly include "foreign" substances in solution. Not only can it acquire a foreign taste from some peculiarity of the food of the lactating animal, but compounds which pass into the milk by this natural path of glandular secretion may be of a character liable to produce untoward effects in those who consume it. Alkaloids, such as those contained in opium, alcohol and small quantities of salts of metallic elements, for example, have been recorded to occur in the milk of woman after these substances have for some reason found entrance into the maternal organism. As infants are susceptible to far smaller doses of toxic agents than are adults, the danger of introducing injurious substances in milk into the organism of the nursing child is one that must be reckoned with. How real the menace may be is well illustrated by a case recently reported by Van Der Bogert.[1] The discovery of a painful papulopustular eruption in a nursling 6 months of age led to the suspicion of bromin poisoning, whereupon the element was actually discovered in samples of the mother's breast milk. The source of the danger to the child was not far to seek. The lactating mother, a person of exceedingly nervous temperament, had become addicted to the use of a widely advertised proprietary remedy, "Miles' Restorative Nervine." This nostrum was investigated in the A. M. A. Chemical Laboratory in 1916 and was found to be essentially a solution of bromids in sugar syrup, flavored with oil of lemon and cloves, and preserved with sodium benzoate.[2] We have rehearsed a familiar story of secrecy, self-medication—and suffering, on the part of the innocent. Further comment is unnecessary.

THE CAPILLARIES AND ACIDOSIS

Many of the products of incomplete combustion in the body are of the character of "fixed" or nonvolatile acids. When they find their way into the blood they displace carbonic acid by combining with the alkali present, and thus the alkali reserve is reduced. This is a now familiar type of acidosis which is considered an abnormal if not a relatively hazardous condition. Physiologists have often inquired where the preliminary process goes on. Is it in the liver, in the muscles, or in some other conspicuous tissue? Reasoning that a damage to the capillary walls with a resulting decrease in permeability might prevent the adjacent tissues from receiving an adequate blood and oxygen supply, Wallace and Pellini[3] have studied the effects of substances which are known to produce such harm. As a result of their experiments at the University and Bellevue Hospital Medical College, New York, they have found that uranium, cantharidin, arsenic, and diphtheria toxin, which cause widespread capillary damage, bring about a definite acidosis, as shown by a decreased concentration of bicarbonate in the blood plasma. Podophyllotoxin and emetin, which appear to have an action seemingly confined to the intestinal capillaries, do not cause acidosis. The same thing is true of hydrazin, a recognized "liver poison." If acidosis may thus be one of the effects of "capillary poisons" of the type that produce structural changes, it should follow, so the New York pharmacologists argue, that other agents which interfere with an adequate supply of oxygen to the tissues in other ways would also cause acidosis. This seems to be the case; for nitrites, which induce methemoglobin formation, and cyanids, which prevent the utilization of oxygen by the tissues, bring about a marked acidosis. As marked damage to the liver and intestine may fail to induce acidosis, and the kidney also is not a necessary factor, Wallace and Pellini believe at present that the essential condition is an injury to the capillaries of the muscles.

1. Van Der Bogert, Frank: Bromin Poisoning Through Mother's Milk, Am. J. Dis. Child. **21**: 167 (Feb.) 1921.
2. Propaganda Department, J. A. M. A. **67**: 827 (Sept. 9) 1916. Reprinted in pamphlet "Epilepsy Cures" published by the American Medical Association.
3. Wallace, G. B., and Pellini, E. J.: Acidosis from Capillary Poisons, Proc. Soc. Exper. Biol. & Med. **18**: 115 (Jan.) 1921.

THE PANDEMICITY OF ENCEPHALITIS

Encephalitis in its most recent exacerbation appeared first in Austria in 1917, and reached France and England in the spring of 1918, Italy and the eastern half of the United States toward the end of 1918, Portugal in February, 1919, the Pacific Coast of America in October, 1919, India in November, and Spain in the early part of 1920. While these facts as to the appearance of outbreaks of the disease are known, there are no accurate statistics as to the exact case incidence of the pandemic. Information published in the reports of the British Ministry of Health, of the Department of Hygiene of the French government and by the United States Public Health Service indicates that the disease is quite prevalent throughout the world. These reports, however, emphasize more than anything else the necessity for making the occurrence of this disease reportable. The collection of accurate statistics regarding the incidence of such a disease is fundamental to its prevention and control.

THE COST OF TYPHOID

The recent typhoid epidemic at Salem, Ohio, is estimated to have cost approximately $450,000, reckoned as follows:

State emergency appropriation	$ 5,000
Red Cross allowance	50,000
Municipal appropriation	15,000
Medical expenses ($50 for each of 850 patients)	42,500
Private nursing expenses (200 cases at $100 each)	20,000
Loss of time by wage earners (one third of patients at $5 a day for six weeks)	60,000
Funeral expenses (50 deaths at $150 each)	7,500
Value of lives lost on basis of $4,000 for each one	200,000
Business losses due to lowered earning power and to avoidance of city by persons from outside	50,000
Total	$450,000

The economic disproportion between cause and effect is clearly seen in this case. The water supply of the town became contaminated by a broken tile pipe used for transmission of the water. This tile pipe had been installed instead of an iron pipe, before the state regulation of water works systems, at a saving of $1,500!

Association News

THE BOSTON SESSION

Special Railway Fares

In addition to the fares announced by the Trunk Line Association (THE JOURNAL, March 12) and by the Central Passenger Association (THE JOURNAL, March 19), the Western Passenger Association has authorized a similar reduced fare. The Western Passenger Association announces round trip tickets to Boston from points within its territory, to be sold at the rate of a fare and one-half to the New England boundaries, plus double fare therefrom to Boston, on presentation of identification certificates to the ticket agents at the time of purchase of tickets.

These tickets will be on sale from June 1 to 5 inclusive, with final return limit of June 13 from points served by the Western Passenger Association in Illinois, Iowa, Minnesota, Missouri, Northern Michigan and Wisconsin.

From Kansas, Nebraska, North Dakota and South Dakota, the selling dates will be from May 31 to June 4 inclusive, with final return limit of June 14.

From Colorado, Idaho, Montana, Utah and Wyoming, the selling dates will be from May 29 to June 2, inclusive with final return limit of June 16.

The validating dates for return on all of these tickets will be from June 3 to June 11, inclusive.

Members who desire to take advantage of special railroad fares should mail requests for identification certificates, accompanied by addressed stamped envelops, to the Secretary of the Association, Dr. Alexander R. Craig, 535 North Dearborn Street, Chicago. These requests will not be acknowledged, but will be given attention as soon as the certificates are available.

Special Tours to Boston

The Chicago Medical Society, as previously announced (THE JOURNAL, March 5) through the Harlan-Spears Tours has arranged for a special train between Chicago and Boston. Those who use this special train going and returning by the same route, by taking advantage of the special rate from Chicago, will make a saving of $16 on the rate previously announced by the Harlan-Spears Tours Company.

ANNUAL CONFERENCE ON MEDICAL EDUCATION AND HOSPITALS, LICENSURE AND PUBLIC HEALTH

(Concluded from page 940)

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION OF THE AMERICAN MEDICAL ASSOCIATION

Annual Conference, held in Chicago, March 10, 1921

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., in the Chair

Rural Health Centers as an Aid to General Practitioners

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: This paper appears in this issue, p. 983.

DISCUSSION

DR. FRANK BILLINGS, Chicago: On the practitioner of medicine himself all reforms must be built if we are to make any headway in meeting the confusion and dissatisfaction that prevail in our own country. When I say practitioner, I mean the family physician, the one who made significant investigations in earlier days. He has not disappeared entirely. Occasionally one finds him in the country, rarely in the city. The training of the family physician in the old days was not equal to what it is today, yet he was a resourceful man. He met every emergency. He was the adviser of the family in all conditions relating to health, to morals, and to the education of the children in the family. He was a good therapeutist and depended on the use of a few simple drugs. Such men are born. The difficulties arising today are due primarily to specialism and to our medical colleges having gone wrong. The curriculum of the undergraduate medical school should be modified in order that we may again educate and have these resourceful men. When we can have such men, who are not looking for large fees in surgery or in any specialty, who will be attracted to other places than the large cities, it will be much better for the community.

Today our urban population is bigger than the country population. Every one is attracted to a city, including physicians. The competition and difficulties of living in a city are great. To meet the conditions of modern medicine, the country practitioner should be attracted to remain in a rural region, but not only should he have the facilities which he may need in modern practice, but social conditions should be made better. Any well qualified practitioner of medicine can deal with 75 per cent. of his patients without any other means of practice than his brain, his special senses, his hands, and a few simple instruments which are always at hand. The people themselves should pay for the facilities of hospitals and other facilities for their own care. Therefore, any measure for the improvement of health, including treatment, must be carried on in the community and by the community itself, and not outside. We shall not succeed in anything unless it is for the public good, and what is for the public good will be for our good, for we are a part of the public.

What We Have Done in Iowa

DR. F. E. SAMPSON, Creston, Iowa: We believe that the rural health center is a good thing, and we are urging it because it will promote medical practice in rural regions. The Iowa enabling act has been in force ten years. My own experience has been with the development of a hospital service in a city of less than 10,000 population, in the middle of a rural area containing upward of 100,000 people. From that has grown the idea that if one county does not contain enough people, to unite the people of several counties, having ultimately a county hospital in each county as a central institution. The rural health center is essentially a hospital, such as is provided under the county public hospital law of Iowa, plus certain specified departments of service and state supervision of local management. Enabling laws in a measure standardize the proposed service and legalize the purchase of the rural center plan in case the country and small town folk see fit to buy and tax themselves to pay for it.

While the rural health problem cannot be solved by methods considering it as a detached and isolated proposition, it can be solved by intelligent and sustained cooperation of the several organizations working on a definite program which recognizes the rural health problem as vitally and organically related to that of the great cities with their established teaching and training hospital.

A service bureau maintained by the American Medical Association, with a staff of competent field workers to help state medical societies develop their county medical societies into coordinated working units, a rural hospital service bureau from which a group of rural counties may obtain competent help in surveying the local situation, formulating and putting over suitable plans for establishing and maintaining hospital service, would be splendid things.

The institution we have organized was coddled along by a few individuals for nearly a quarter of a century, during which time it improved from a five bed affair in a rented cottage to a fifty bed institution, well equipped and housed in a modern fire-proof structure. The material value aggregates $200,000 and is clear of encumbrance. In preparation for weaning this 25 year old pet, a greater community association was organized in the early autumn of 1918. In scope it is coextensive with the horizon of patronage that had made survival and development of the institution possible.

Iowa has the rural population, the pecuniary wherewithal, the public intelligence, interest and attitude, the essential enabling legislation, the quantity, and I believe quality, of medical practitioners essential to providing and conducting an adequate number of rural health centers.

We must all do good, effective work. We want to get men in these centers who will maintain the issues we are striving for and maintain efficiency and develop into great centers in the vast far reaching fields of primary production, because if we do not get people with brains and character and vision, this country is headed for a fall.

DISCUSSION

Dr. E. E. Munger, Spencer, Iowa: There appears to be common agreement that the hospital is the nucleus around which the solution of the entire health problem must develop. Well persons are more and more becoming interested in how to keep well, but this interest is small compared to the eager desire and earnest hope manifested by sick persons who want to get well.

Rural hospitals are few indeed compared to the rual population, and many of these few have been established by individuals with due regard for the interests of the proprietors and little concern for either the public or the medical profession at large. The rural problem has the advantage of being virgin soil, and if due attention is paid to the foundation, an enduring superstructure should be erected thereon.

In 1910 the state of Iowa enacted a public county hospital law, which made it possible for any county in the state to build a public hospital by taxation or by donation. Since then sixteen states have enacted the same or similar laws. Quite a number of hospitals have been built or are building by virtue of these laws. A larger number of proposals to build hospitals have been defeated, and one fact in connection with success or defeat is worthy of note, namely, practically all of the successful issues were the result of a united effort on the part of the county medical society, whereas nearly all of the defeats followed through a divided or partially lukewarm county medical society, to ill conceived personal interests, to jealousy over the place selected for the location of the hospital, and to ulterior motives of one kind or another.

The United States of America is no larger than the sum total of its units; and the American Medical Association, fashioned after the government, is no larger than the sum total of its component parts which have made it the power for good it has been and is today. With a county public hospital and health system in each state, embracing existing worthy hospitals of all kinds, city, denominational and corporation, and especially those which are an integral part of the great city and medical colleges, all coordinated in the common cause, the solution of the health problem, with uniform state laws regulating the practice of medicine and surgery, with recognition of the interstate relations of intrastate hospitals and health system, all fashioned somewhat after the public school system, with a national public hospital and public health law in harmony with all these, a national department of health becomes a future possibility, the demand therefor having come up from the hearts of the people.

Dr. Guy L. Noyes, Columbia, Mo.: Missouri was encouraged and stimulated by the reports of the successful operation of the county hospitals in Iowa, and four years ago it passed an enabling act which made it possible for every county in Missouri to have a county hospital. Within the act, it is possible for each county to have a special election to vote bonds for the building of a hospital, and the act expressly provides not to exceed one fifth of the general revenue of the county which may thereafter be devoted to the maintenance of such a hospital. Four counties in Missouri have had elections, in three of which the elections carried, and the bonds were voted without opposition. In those counties the county medical society was a unit beyond question behind this movement.

In Missouri we have clearly in mind the project of building a state university, also a county hospital. We hope the legislature will grant us an appropriation that will enable us to establish within the center of these groups of hospitals already in progress one definite mother hospital from which we may be able to work out some of the trying problems of organization, such as those of furnishing nursing service, and investigations in work connected with the matter of evolution of county general hospitals with this mother hospital.

Dr. Augustus Wadsworth, Albany, N. Y.: A bill was introduced into our state legislature last year known as the Sage bill. There was a hearing held, and there was practically no opposition to it except by the medical profession. The bill did not pass because it carried a very large appropriation to put it into effect. This year it was thought wise to divorce the two main functions of the bill, namely, division of the rural districts into health districts, and the health center problem. Therefore, the health center bill this year has been modified. The act is to amend the public health law so as to provide for residents of rural districts, or industrial workers, and for all others who cannot secure such benefits, adequate and scientific medical and surgical treatment, with hospital and dispensary facilities and nursing care; to assist local medical practitioners by providing laboratory and consultation service, and in general to improve the health of the inhabitants of the state by authorizing the county or city to create and maintain one or more health centers to provide state aid, and make an appropriation therefor. This year the appropriation has been reduced to a minimum and may be eliminated in conference when several minor amendments to the bill are made. The bill provides for the erection of hospitals, clinics or outpatient departments, bacteriologic, pathologic, roentgen-ray and chemical laboratories as auxiliary to the state laboratory. It provides for a public health nursing service in cooperation with the state department of education, and so on, in securing medical supervision of the nurses. It provides for periodic examinations, for headquarters for all public health agencies, etc. The local profession has the entire management of the center. The board of managers appoint the medical staff, and the medical staff has entire jurisdiction over the professional work in the hospitals. The bill provides that the hospital shall be open to any reputable physician.

Dr. John A. Ferrell, New York: It is admirable to provide service of this kind so far as practicable, and in the denser populated centers where there is wealth, there will be no difficulty, I think, in establishing such centers; and after providing service for such areas we can learn by experience and by actual test to what extent such hospitals can be provided for the poorer sections that are more sparsely settled. I should like to know to what extent the specifications and general plans for maintenance have been worked out.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: I think in most of the laws that have been passed it is stated that the tax shall not exceed 5 per cent. of the total evaluation of property.

Dr. Guy L. Noyes, Columbia, Mo.: It allows for the use of 5 per cent. of the general revenue of the county for maintenance each year. The original cost is from $75,000 to $175,000 in the counties that have voted, the smallest sum being $75,000.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: Our idea is that the Council on Health and Public Instruction shall prepare a skeleton bill to be introduced into those states that have not already passed such a bill, leaving the details to be filled in by each state.

Dr. E. E. Munger, Spencer, Iowa: Washington County was the first county in the United States, I believe, to establish a public hospital. Fairfield built another county hospital at the same time. I saw Senator Fulton from Jefferson County in Des Moines a few weeks ago, and at the time this county hospital bill was introduced into the legislature he was an ardent supporter of it. The hospital was built the following year. It has been in existence now ten years. Dr. J. Frederick Clark organized the unit with 20,000 people in Jefferson County and got across with it. Senator Fulton said to me that he would sooner see the court house moved out of Jefferson County than to see the county hospital moved out of it. That gives you a fair idea of how useful it is and of how many people are taxed to support the county hospital.

Dr. J. N. McCormack, Louisville, Ky.: In the reorganization work of the American Medical Association with which I was associated for many years, I had the privilege of visiting almost every organized county in the United States. With myself and my associates the central idea that inspired us in this work was that this great national organization was not to be conducted so much for great cities like Chicago, New York and Boston, because they had a profession that was organized, that could take care of itself, but that the work should be so conducted as to reach the outlying population, the less fortunately located of the profession; and after a little while, when the organization was completed, as it was proposed, through this great central body with

its property accumulations, with funds that would be available, it would be able to reach not only every county and every medical man, but also every family in the United States, and by the benefactions of the modern knowledge now in possession of the leading members of our profession, every household in this country.

I believe that the Board of Trustees of the American Medical Association will supply the Council on Health and Public Instruction with the funds to send a man like Dr. Sampson and four or five like him, if you can get them, to do this work. They deserve to be well paid. It will pay 1,000 per cent. on the investment every year. It would be worth all the agencies that can be conducted, except THE JOURNAL and the purely scientific work of the American Medical Association. We have the energy, we have the knowledge, but we need to learn to apply this knowledge and energy in the establishment of similar county hospitals.

DR. S. A. MATTHEWS, Chicago: About six years ago a law was passed in Iowa allowing each county to vote $50,000 to put up a municipal hospital for taking care of the poor very largely, but the poor are scarce out in that country for that purpose. They put up a $50,000 hospital and got another $50,000 from the people and put up a modern building, with a capacity of from forty to fifty beds. The hospital was organized with a lay board. All reputable physicians of the county are allowed to take patients there. The patient gets service first if it can be given. If a patient has money, the physician can collect his own fee. If he has no money, the county board allows the usual fee paid for the treatment of disease, so that the physician does not have to do charity work unless he wishes to. The hospital is under the care of a managing nurse who looks after the welfare of the children of the county. This hospital is now a permanent fixture and a public utility.

The Organization of the Public for Health Work

In the absence of Dr. W. S. Rankin, Raleigh, N. C., who was to have read a paper on this subject, Dr. Vaughan said: The American Medical Association is not taking the interest in public health that it should, and the Council on Health and Public Instruction have so expressed themselves to the Board of Trustees. We have proposed that we frame a model bill to be presented to the different legislatures requesting that public health be taught in all schools in the states. Five states have already passed such a bill. I believe Michigan was the leader in this movement.

In 1895, through the Michigan State Board of Health, the legislature passed a bill, making it obligatory that the methods of communication of the infectious diseases be taught in every public school in the state of Michigan. In 1897 this bill was strengthened. For a number of years it was largely a dead law. It has been becoming more and more effective, and I believe that in Michigan today every boy and girl who has passed through the high school knows something about the avenues through which disease is communicated.

The second thing we are urging is that every teacher that receives a license to teach should have during the course necessary to get that license some instruction in public health. Hundreds and thousands of teachers today who graduate from our normal schools and from our universities in going out to teach do not know anything about the communicable diseases.

We find that the atmosphere of all our medical schools is not suited for the inculcation of facts concerning the prevention of disease. We have tried to induce medical schools to devote more time and more attention to preventive medicine.

The Obligation of Medical Organizations in Public Health Education

DR. FREDERICK C. WARNSHUIS, Grand Rapids, Mich.: What is the rôle our medical organizations must assume in the education of the public in health matters? We must strive for and bring about (*a*) a greater public confidence; (*b*) the establishment of unimpeachable motives and their recognition and acceptance by the public; (*c*) governmental recognition from Washington down to every township; (*d*) a determination of the needs and demands of the public to conserve and enhance the health of the individual; (*e*) the construction of a plan of applicable efficient medical services for all our fellow men in all stations of human activity, and (*f*) a higher type of medical practitioner.

How shall we accomplish these ends? By the taking of definite steps by this Council to enroll the undivided cooperation of all the members of the American Medical Association and its constituent units in support of such a campaign. I believe that such mobilization can be accomplished. Immediate provision must be made to attain this within this year.

While this is being achieved coincidentally there must be witnessed:

1. A revamping of our medical courses and hospital internship requirements, together with a readjustment of state board standards and enforcement of medical practice acts.

2. Legislative activity that will manifest its influence in national and state governing bodies to obstruct conflicting and obstructive legislation that is not consistent with the policies that we seek to establish, while at the same time enlightening our law makers in regard to the principles which we deem paramount in importance for the best interests of the health of this and future generations of our citizens.

3. An educational publicity campaign that will acquaint the public with complete and frank statements as to what is being done for the conservation and enhancement of their physical welfare, and to refute the unwarranted claims of all others who seek to establish their false and unreliable tenets. Such a campaign to be wide in scope and employ advertising space in the form of good will and educational advertisements, public meetings, national, state and local conferences and public discussions with allied organizations, such as the dentists, druggists, United States Public Health Service, Red Cross, and the other already established varied health organizations. The issuance of a paper or magazine, daily or weekly, devoted to the publishing of health news, so-called, and the educating of the public by imparting dependable and accurate information and instruction.

4. Arousing the profession to the need of better and more scientific practice, causing them to live up to the accepted and proved standards of today and thus increase their efficiency and ability to meet the demands of the public by a systematic course of postgraduate work that is immediately available at their very doorsteps: this in the form of regional clinic teams, similar to or modified from the plan now pursued in Michigan by the state medical society.

5. Providing for sections on public health in our national, state and county medical organizations to which representative and local interested lay persons are eligible for membership and whose enrolment should be solicited. The direction in which such sections are to devote their activities is almost self-apparent.

Organization of the Public for Health Work from the Standpoint of the State Health Officer

DR. CORNELIUS A. HARPER, Madison, Wis.: In the final analysis of public health work, the public health problem must be brought close to the public and the people must appreciate that the health problem in the main is their problem.

Taking the medical profession as a part of the laity, we have adopted the plan of three of us going out and talking to medical men in the various county medical societies, of which we have forty-two in Wisconsin. We have talked to the members of eighteen county medical societies, asking their cooperation in outlining a program and what the medical profession can do to help us bring this matter about. If we can get support on the practical and reasonable problems and the encouragement of the medical profession, we can advance much more rapidly than we could without it. In organizing the laity we are using the county public health nurse as an educator in the rural districts. These nurses are organizing the laity by the establishment of what we call in Wisconsin health centers and health stations. Through the activities of these nurses, after an examination of 54,000 children, some-

thing over 30,000 were found to have some defect of one kind or another that needed medical or surgical attention. The school population of the state is being very well taken care of, but the trouble is that children of preschool age are defective in many instances, both physically and mentally, and we are endeavoring to get the people to join in our activities to see that these children will have the care given to them that should be given. The superintendent of public instruction is also encouraging the laity to take up health problems, and the county superintendent of schools and the supervising teachers are working hand in hand with the public health officials and the county nurses in bringing about unity of action on the part of the lay public. These health centers and health stations are the people's, and nurses and medical men are the servants of the people. The public health nurse can get closer to the hearts of the people, if she is built right, than almost any medical man.

The Organization of the Public for Health Work from the Standpoint of the State Public Health Association

Mr. Celestine J. Sullivan, Secretary of the League for the Promotion of Public Health, San Francisco: There is only one public to be organized, and all the organizations represented at this conference and those that are not represented must each and all appeal to the same public and stand or fall on its decision, on its cooperation or opposition.

The organization of the League for the Conservation of Public Health was inspired by leading members of the medical profession of California who recognized that a strong civic responsibility rested on the medical profession to inaugurate a movement for better health; to protect the public from unqualified service and unsound views of quackery; to promote better hospitals and better medicine; to encourage the enactment and enforcement of better health laws to safeguard the public health. Much of the success the league has achieved in defeating destructive measures is due to the fact that we never proceed without finding out the lay of the land by general conferences on all questions in order to get the consensus. We are prepared to act quickly, but we never act hastily. In the campaigns that we have conducted we have had this general attitude of mind: If it is for the public good, we are for it; if it is against the public good, we are against it.

How to organize the public, how to formulate a plan, how to formulate a timely message and get it before thousands of different persons and make them see it, demands special knowledge of the basic laws of how people in large groups think and decide. When the League for the Conservation of Public Health has undertaken a campaign and wishes to achieve the result it wants, it has been due not to guesswork or haphazard methods but to the fact that we have canvassed public opinion; we have recognized spoken facts and controlling conditions, and then formulated our campaign to meet the situation.

We recognize in the hospital the greatest health center of every community. These hospitals should be made the pivotal points of medical practice and of public health work.

Organization of the Public for Health Work from the Standpoint of the Voluntary Public Health Organization

Dr. Charles J. Hatfield, Secretary, National Tuberculosis Association, New York: When we start an organization for the promotion of public health or for health, from the standpoint of a voluntary agency, we must immediately consider the basis on which the whole structure is built, is limited or conditioned. The voluntary health agency may be an educational factor. The general education of the public on public health measures is a function that the voluntary agency may insist upon. The constitution of such a voluntary agency gives it certain advantages over an official body in the matter of popular education. The ideal of every one of us in public health education is that the last individual in the community shall be reached and induced to become interested in public health. Voluntary health organizations are necessary, history shows that they have grown from necessity, and I believe their development indicates their real worth. The public health official is the apex of the wedge, in football terms, and behind him should be massed the whole nation as a voluntary health agency.

Organization of the Public for Health Work from the Standpoint of the Business Man

Mr. Lee K. Frankel, Third Vice-President, Metropolitan Life Insurance Company, New York: There are two classes of people today that cannot obtain services along the best diagnostic lines. The very poor are getting it in connection with hospitals and dispensaries by the finest type of most eminent men, and the very rich who can pay for it. But the great mass of the public is still unable to obtain that type of service at a cost which is within reason, and the result of it is that anywhere from 25 to 40 per cent. of the public, depending on the communities in which they live, because of the cost of medical service are unable unable to obtain it, and are not obtaining it in cases of disabling illness. That is a condition we must remedy.

If we must educate the great public, we must use the same methods the business man does in his work. We shall have to realize the need of spending money, of visualizing things that our public health authorities are trying to do, of bringing these things home to the people by making them realize that they want health more than they want sickness. Modern business today cannot be run without a periodic inventory, and with periodic and constant individual inspection. It will be necessary to take a periodic inventory of our human machinery, the great public. If we work along the best preventive lines, we are going to find diseases in their incipience and take them at a time when they are curative. We are going to cut down the mortality rate by so doing to a greater extent than that indicated in the figures given by Dr. Vaughan in his address.

The Organization of the Public for Health Work from the Standpoint of Women's Organizations

Dr. Lena L. Means, New York: The Women's Foundation for Health is a cooperative body composed of fourteen national women's organizations. It means a grouping of all the national organizations of women, and the main idea is to create public opinion for positive health. We want to create public opinion for building up health. These organizations represent ten million women, through whom we wish and hope and expect to get these positive health ideas over to all women and girls. We are stressing the individual responsibility for health.

The pronouncement of the Women's Foundation for Health is that the fundamental belief is that health is normal and realizable. It defines health as the condition of being which allows an individual the full development and mastery of herself—the powers of her physical body, her mental processes, her emotional force, her spiritual expression. Fully recognizing the importance of proper treatment of disease when it occurs, and of prevention, the foundation proposes education in the building of health. While recognizing the collective responsibility for securing sanitary, hygienic, economic and recreational conditions favorable to well-being, it regards the attainment of health as a matter of individual and personal responsibility.

Social Hygiene Legislation.—The years 1918 and 1919 were banner years for venereal disease legislation. Venereal diseases had been made reportable either by statute or regulation of state boards of health in only thirteen states, prior to Jan. 1, 1917, while even fewer had provisions for examination of suspected persons, and for quarantine or compulsory treatment of those in an infectious stage. No venereal diseases are reportable in at least forty-three states, while the remainder probably have legislative authority for their state boards of health to make them reportable by regulation. Compulsory examination of suspected persons and quarantine of those who are deemed to be a menace to public health, are now provided for by forty-four states, either by statute or regulations of the board of health.—G. E. Worthington, *Social Hygiene* **6**:565 (Oct.) 1920.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Personal. — Dr. William V. Nichols, Oceanside, recently ustained a severe scalp wound when he was knocked down y an automobile.

Bill for Eight-Hour Day in Hospitals.—Bills introduced in ıe state legislature provide for an eight hour day for all mployees of institutions and for the pensioning of such mployees when they become disabled in the line of duty or fter twenty-five years of service.

CONNECTICUT

Physician's Office Bombed.—An explosion recently badly amaged the office and home of Dr. Jonathan D. S. Smith, Bridgeport.

DISTRICT OF COLUMBIA

George Washington University Establishes Military Course. -The Medical School of the George Washington University, Vashington, D. C., has filed an application with the Medical Department of the Army for the establishment of a Reserve Officers Training Corps course. Major Eugene G. Worthington, retired medical officer, has been assigned by the Surgeon-General as professor of military science and tactics. The ourse will be inaugurated with the 1921-1922 term.

Bureau of Mental Hygiene.—Just as the present health epartment cares for their physical well-being, a bureau of ıental hygiene to look after the mental health of the citizens f Washington is being advocated by social workers, alienists nd physicians interested in mental problems. Dr. William A. White, superintendent of St. Elizabeth's, the government ıospital for the insane, and Dr. Robert Yerkes, author of ıental intelligence tests in the army, are said to favor the stablishment of the bureau.

GEORGIA

Health Nurses for County Schools.—Dr. Robert W. Todd, ounty health commissioner, has inaugurated the plan of lacing a junior health nurse in every school in Cobb County.

Personal. — Dr. Eugene O. Chimene, who recently was ıealth commissioner of Floyd County, has been elected to a similar position in Greenville County, S. C. Dr. Buena Vista Elmore will succeed him in Floyd County.—Dr. Harry W. Shaw, Augusta, was recently appointed to the board of directors of the medical school of the University of Georgia.

Registrars of Vital Statistics Organize. — Eight of the Southeastern states were represented by their directors of ureaus of vital statistics at a conference held, March 18-19, at Atlanta. A permanent organization of state, city and local egistrars of vital statistics was effected. The following fficers were elected: Dr. William A. Davis, Atlanta, chairnan; Dr. J. George Dempsey, New Orleans, vice chairman, nd Mr. Stewart G. Thompson, Florida, secretary-treasurer.

INDIANA

State Hospital Association.—An effort is being made to rganize an Indiana state hospital association at a meeting o be held at Hotel Fowler, LaFayette, April 27-28, 1921.

IOWA

Sanitation Laws Will Be Enforced.—The construction of ıew sewers in Sioux City having brought hundreds of dwellngs under the state housing law, which requires every house within 150 feet of a sewer to have sanitary connections with oth city water and sewer systems, notices have been mailed o all property owners that the rules will be strictly enforced.

KANSAS

Hospital News.—St. Elizabeth's Hospital, Hutchinson, has ecently been completed at a cost of $125,000.

MAINE

Hospital News.—The Queen's Hospital, Portland, has purchased a large residence building near the hospital, which will be remodeled and used as a maternity department.

MARYLAND

Personal.—Dr. Walter F. Somers has been appointed temporary surgeon of the fire board of Baltimore city, for a period not exceeding sixty days, to fill the vacancy caused by the illness of Dr. Elijah J. Russell.——Dr. John M. T. Finney has left for a trip through the West, to fulfil clinic and lecture engagements at Western institutions. He will then make a tour of California.

Lectures on the Herter Foundation.—Trustees of the Johns Hopkins University announce that the twelfth course of lectures on this foundation will be given in the medical amphitheater, Johns Hopkins Hospital, April 12-14, by Frederick Gowland Hopkins, M.D., M.A., D.Sc., F.R.S, professor of biochemistry and director of the biochemistry laboratory, Cambridge University, England.

Meetings.—The annual meeting of the Maryland Tuberculosis Association was held, March 28, at Baltimore. The principal address was made by Dr. Charles L. Minor of Asheville, N. C., who spoke on "Compensations of Tuberculosis." ——The regular meeting of the Johns Hopkins Hospital Medical Societies was held, April 4, in the medical amphitheater. Dr. Alan Woods spoke on "Immune Reactions Following Injury to the Uveal Tract" and Dr. Guy L. Hunner discussed "The Influence of Ureteral Stricture on Other Lesions of the Urinary Tract," illustrated by lantern slides.

Sites for Municipal Hospital Recommended.—The hospital commission, appointed some months ago by the mayor to recommend a location for a municipal hospital for contagious diseases for Baltimore city, recently presented its recommendations for this hospital. The first choice is a site at Arlington, Baltimore, a tract of 35 acres. The second choice is on the Western Maryland Railroad and south of the above site, containing 37 acres. The selections were made with the understanding that several streets be opened to provide means of reaching the hospital.

Outbreak of Smallpox.—Following a recent tour of the St. Mary's Industrial School band through western Maryland, in the interest of the campaign for a new building, three cases of smallpox developed among the members of the band and the disease has spread to three other boys at the school. The institution has, therefore, been put under strict quarantine and the 600 boys vaccinated. The Baltimore City Health Department attributes the outbreak to the trip, as there has been considerable smallpox in the western part of the state. The cases are all very mild in character but the quarantine will not be lifted for two weeks.

MASSACHUSETTS

New Head for Hospital.—Dr. William A. Bryan, department of mental diseases, Danvers State Hospital, has been appointed superintendent of the Worcester State Hospital, to succeed Dr. Ernest V. Schriber, deceased.

Accidents to Physicians.—Dr. Leonard Landry, Boston, was injured recently when the sedan he was driving collided with an automobile truck.——Dr. Cesidio A. Guarini, East Boston, was injured recently when his automobile was damaged by a Union freight locomotive.

Personal.—Dr. Dorvil M. Wilcox, former president of the Berkshire County Medical Society and member of the school committee of Lee since 1872, was recently presented with a mahogany chair by his fellow towns people at a reception given in celebration of his eightieth birthday.

Physician to Serve as Probation Officer.—Because of the necessity for an early and correct diagnosis of the mental condition of offenders brought into court, Judge Almy recently appointed Dr. Frederick Benjamin M. Cady, Cambridge, as assistant probation officer of the third eastern Middlesex district court at Cambridge. With the exception of the municipal court at Boston, this is said to be the only court that has a physician regularly attached to its staff.

Appointments at Harvard Announced. — The following appointments, to be effective for the remainder of the college year at the Harvard Medical School, are announced: Dr. Philip Drinker, Princeton, 1912, and Dr. Douglas A. Thom, Vermont, 1912, become instructors of applied physiology and psychiatry, respectively. Dr. Paul W. Emerson, 1907, Dr.

David M. Hassmann and Dr. Schichi Uymatsu are appointed assistants, the first two in pediatrics, and Dr. Uymatsu in neuropathology. Dr. Uymatsu is a graduate of the Imperial University of Tokio. Dr. Frederick L. Wells, Columbia, 1903, is given an appointment as instructor in experimental psychopathology, while Dr. Lloyd J. Thompson, Missouri, 1917, and Dr. Caesar Uribe become assistants, their subjects being psychiatry and comparative pathology. Dr. Thomas K. Richards, 1915, is named Austin teaching fellow in surgery.

MICHIGAN

Health Show at St. Joseph.—Dr. Harry E. Mock, Chicago, spoke on "Industrial Hygiene" at the recent health show in St. Joseph. A permanent infant welfare clinic, toward the equipment of which the Berrien County Milk Producers' Association contributed $50, was inaugurated during the health show.

MINNESOTA

Personal.—Dr. John E. Soper, Minneapolis, who served with distinction during the World War, has been appointed inspector general of hospitals for disabled ex-service men for the district, including Minnesota, North and South Dakota, Montana and Iowa.

MISSISSIPPI

Court Passes on Health Regulation.—A physician, convicted in the lower court of violating the regulation of the state board of health requiring a report on the first of each month of all cases of notifiable communicable diseases treated during the previous month, appealed to the supreme court, contending that the regulation was unreasonable. The court decided that the regulation was not unreasonable, but discharged the appellant because of insufficiency of the evidence.

MISSOURI

State Director of Physical Education.—The Tatum bill, providing for the appointment of a state director of physical education to supervise physical education, health habits, school sanitation, and playground activities in the schools, has been passed by the house. County and city school boards employing more than thirty teachers are empowered to employ supervisors of physical education. Teachers are required to obtain a certificate from a physician showing they are in good health and free from contagious diseases. Physical education is made compulsory in institutions for training teachers.

Child Hygiene in Missouri.—Carlisle P. Knight, United States Public Health Service, has just completed a year's survey of child hygiene in conjunction with the state board of health of Missouri and other private associations. The report just issued shows that a house to house canvas was made in many cities to determine the percentage of birth registration, the sanitary condition of the home, the amount of milk used, the relative income and the relation between prenatal influence and infant mortality. The parents were greatly interested in the work and better health supervision of young children and correction of much improper eating and sleeping habits resulted. In some communities school hygiene was begun by weighing and measuring the children. The discovery of many children underweight occurred with subsequent physical examinations that revealed physical defects that were unknown to the parents. Rural school surveys showed that though the country child had the advantage of fresh air and outdoor life he usually sleeps with closed windows and subsists especially in fall and winter on pork, hot biscuits, gravy, and sorghum. In the summer he has home-grown vegetables. Adenoids and decayed teeth pass unnoticed and are neglected because of lack of facilities. The opening of numerous clinics was effected in which examinations were made for teeth, eye and orthopedic defects.

MONTANA

Personal.—Dr. John M. Scanland, superintendent of the state hospital for the insane, Warm Springs, was operated on recently for appendicitis.

NEW JERSEY

Venereal Disease Conference.—A conference on the diagnosis and treatment of syphilis and gonorrhea will be held at the City Dispensary, Newark, May 11-12, under the auspices of the state and city venereal disease bureaus. Drs. Howard Fox and Mihron B. Parounagian, New York, will discuss syphilis, and Drs. Edward L. Keyes, Jr., and Colin L. Begg, New York, will discuss gonorrhea.

NEW YORK

Health Council Changes Opposed.—A measure pending in the state legislature proposing a reorganization of the public health council was opposed by the Rochester Tuberculosis Organization at a meeting held March 21. The annual meeting of the association will be held April 30; Dr. Charles J. Hatfield, manager of the National Tuberculosis Association, will be the speaker.

Brooklyn Physician Contests State Ruling.—Dr. Frank B. Jennings has applied to Supreme Court Justice Van Siclen for an injunction restraining State Commissioner of Narcotic Drug Control Walter R. Herrick from enforcing a regulation promulgated last December requiring physicians to issue prescriptions for cocain, morphin and other habit-forming drugs only on triplicate blanks issued by the commissioner's office. Dr. Jennings contended that the regulation constituted a violation of his rights and those of other physicians. Justice Van Siclen has reserved decision.

Protest Against Reduction of Medical Service.—Contemplated economies in state institutions for the insane, which would reduce the number of physicians and employees in these institutions, have brought widespread and vigorous protests to Governor Miller from medical and charitable circles. Reductions are provided for in a bill now pending in Albany and have been recommended by the legislative committee charged with its preparation. The state charities aid association is among the organizations that have protested against this legislation as destructive of effective work in the state institutions.

New York City

Personal.—Dr. Nishan H. Bayenderian sustained, it is feared, a fracture of the skull when he was struck on the head with a hammer by a patient whom he had been treating for a nervous disorder.

Hospital Starts Drive.—Beth David Hospital began a drive to raise $250,000, on April 1, with which to complete and maintain the eight story extension which is now in the process of construction and which will enlarge the hospital to four times its present capacity.

New York Electrotherapeutic Society Organized.—At a meeting held, March 9, the New York Electrotherapeutic Society was organized, and the following officers elected: Dr. Victor C. Pedersen, president; Drs. Harold D. Corbusier and Isaac Seth Hirsch, vice presidents; Dr. Herman C. Frauenthal, treasurer; Dr. Richard Kavacs, secretary.

New Medical Society Incorporated.—The incorporation of the Italian Medical Society of Brooklyn has been approved by Court Justice Benedict. The purposes of the new society are to erect an Italian hospital in Brooklyn, and to encourage friendly relations between American and Italian physicians. Dr. Gaetana De Zoanna has been elected president.

Antivaccinationist Twice Convicted.—Hugh McCullum More of Port Richmond, S. I., was convicted for the second time on the charge of failing to send his daughter to school because of his opposition to vaccination. He was given the choice of a fine of $25 or spending five days in jail, and allowed until April 4 to make the decision. In the meantime the antivaccinationists have taken up the fight in More's behalf.

Government Opens War on Port Rats.—Surgeon-General Hugh H. Cumming has sent a commission, headed by Dr. Joseph H. White, to New York and Boston to study quarantine conditions and to make recommendations to the Public Health Service. One of the important features of the work will be a survey of methods of "rat proofing." Other members of the commission are Dr. Allan J. McLaughlin, Dr. Mervin W. Glover and Assistant Sanitary Engineer E. C. Sullivan.

Study of Brooklyn Health Center Work.—At the request of Dr. Thomas J. Riley, secretary of the Brooklyn Bureau of Charities, a careful study was recently made of the Brooklyn Health Center work by a committee consisting of Drs. Donald B. Armstrong, Michael M. Davis, Jr., and Haven Emerson. The committee in commending the work recommends the formation of a representative citizens' committee for each center to foster neighborhood interest and encourage periodic medical examinations. The investigation found that many cases of tuberculosis previously unknown have been found by the health center.

NORTH CAROLINA

Craven County to Have Health Officer.—Beginning April 1, Craven County will have a full-time health officer.

Medical Society Reorganized.—At a meeting held in Kinston, March 14, the Lenoir County Medical Society was reorganized with Dr. Zebulon V. Mosely, Kinston, as president, Dr. Mathew L. Carr, La Grange, vice president, and Dr. Charles P. Mangum, Kinston, secretary-treasurer.

Milk Producers Approve New Act.—Recent legislation relating to milk was read and the provisions of the act explained to seventy-five milk producers from all parts of Buncombe and neighboring counties gathered at Asheville. Convinced that the act places local producers on a just footing while giving the consumers protection superior to that of other sections of the country, the milk producers gave a vote of thanks to the author of the bill.

District Medical Society Organized.—The medical societies of Martin, Pitt and Beaufort counties met at Washington, March 23, in response to the invitation of the Beaufort County Medical Society, and organized a Tri-County Medical Society. The following officers were elected: Dr. H. W. Carter, Beaufort County, president; Dr. W. H. Harrell, Martin County, and Dr. K. P. Pace, Pitt County, vice presidents; Dr. W. E. Warren, Martin County, secretary-treasurer. The society will hold three meetings a year, one at each of the three county seats; the next to be held at Williamston.

OKLAHOMA

Public Health Conference.—An afternoon devoted to a business men's health session was a new feature in the third annual conference of the state department of health in cooperation with the Oklahoma Tuberculosis Association. Addresses on the relation of health to industry and the interest for the business man in the general health campaign were delivered, and the united support of commercial organizations in state public health movements was assured. Resolutions were passed asking that the name Oklahoma Tuberculosis Association be changed to Oklahoma Public Health Association. Other resolutions called for increased appropriations for the state health department and the creation of a bureau of public health nursing in the department.

OREGON

State-Wide Survey of Mental Defectives.—The University of Oregon in collaboration with Dr. Chester L. Carlisle, Eugene, of the U. S. Public Health Service, recently completed a state survey of mental defectives, which shows that more than 75,000 men, women and children out of a population of 783,000 are dependent, delinquent or feebleminded, unable either to work or to fight, and are a constant drain on the finances, health and morality of the state. Very few of these mental defectives are being cared for in institutions. It was also found that 500 out of a total of 32,500 children of school age were more or less mentally deficient. Since the figures disclosed by this survey are lower than the average shown by the draft examination, the U. S. Public Health Officers believe that the percentage is no higher than would be shown by similar surveys in other states. The Public Health Service in its conclusions emphasizes the importance of the problem presented by mental defectiveness in its relation to juvenile delinquency, to the control of venereal disease, and to the economic and industrial condition of these unfortunate individuals. The survey was authorized by the state legislature.

PENNSYLVANIA

State Health Appointments.—Dr. Edward Martin, state health commissioner, Harrisburg, has announced these health appointments: Dr. Anna M. Scrade, chief of the child health station, Erie; Dr. Charles E. Nicholson, chief of the tuberculosis clinic, Pottstown; Dr. Sarah Wycoff, assistant in child health work, Wilkes-Barre; Dr. Joseph J. Kocyan, chief of maternity service, Wilkes-Barre; Dr. J. Erwin Zerbe, physician in charge of tuberculosis clinic, Franklin; Dr. William Tell Phillipy, chief of tuberculosis clinic, Carlisle; Drs. Harry C. Fulton, DuBois, and Willis M. Baker, Warren, chiefs of genito-urinary clinics at those places. Mr. W. A. Lambing has been appointed full time health officer for Armstrong County.

Philadelphia

Personal.—The Medical Club of Philadelphia will hold a reception, April 15, in honor of George E. Vincent, LL.D., president of the Rockefeller Foundation.

Phipps Institute to Open New Clinic.—The Henry Phipps Institute has announced that a diagnostic clinic for the examination of employees in industrial plants will soon be opened one day each week.

Mary Scott Newbold Lectures.—The fifth of these lectures will be delivered, April 20, by Prof. William Romaine Newbold on "The Voynich Roger Bacon Manuscript" with lantern demonstration, at the College of Physicians.

College of Physicians.—At a meeting held, April 6, Dr. Francis R. Packard read a memoir of the late Dr. George S. Gerhard, and F. G. Hopkins, M.B., professor of biochemistry, Cambridge University, England (by invitation), read a paper entitled "Some Oxidative Mechanisms in Living Tissues."

RHODE ISLAND

Medical Society Criticizes Compensation Act.—Section 5 of a bill before the judiciary committee of the senate providing for changes in some of the provisions of the workmen's compensation act was unanimously opposed by the Rhode Island Medical Society at a meeting recently held under the presidency of Dr. Jesse E. Mowry. It was charged that nurses are being employed by industrial plants for the performance of physicians' duties in violation of the law, and that employees are afraid to report unlawful conditions to the state board of health. The main objection to the bill was the extension of time of treatment to eight weeks while limiting total charges to $200, which was felt to be unfair to physicians in consideration of equipment, hospital expenses and other items.

SOUTH CAROLINA

Fifth District Medical Society Reorganized.—At a meeting in Rock Hill, March 15, the Fifth District Medical Society, which because of the absence of many members during the war had practically suspended activities, effected a reorganization and planned to meet twice a year for scientific discussion. The following officers were elected: president, Dr. William R. Wallace, Chester; vice presidents, Drs. George W. Poovey, Lancaster, William M. Love, Chester; secretary-treasurer, Dr. George A. Hennies, Chester. The president and secretary of the state association, Dr. Washington P. Timmerman, Batesburg, and Dr. Edgar A. Hines, Seneca, were present.

State Conferences.—Four important medical meetings are scheduled at Columbia this month. The state medical association will hold its seventy-third annual meeting, April 19-20. The principal address will be made by Dr. George Walker, Johns Hopkins Medical School, Baltimore, who served on General Pershing's staff during the war, with the rank of colonel, and was in charge of venereal control for the entire A. E. F. His subject will be "The Abolition of Venereal Diseases." The second day of the session will be devoted to a joint meeting with the state hospital association, the state public health association, and the state nurses' association. The nurses' association will be in session here three days, April 18-20.

TENNESSEE

State Association Meeting.—The annual meeting of the Tennessee State Medical Association will be held, April 12, at Nashville.

Legislative News.—A bill having for its purpose the amendment of Section 2772 of the state code has been introduced in the state legislature. This amendment would limit the time of entering malpractice suits to one instead of six years immediately following the date of attendance upon the person who may bring such suit.

TEXAS

Physician Convicted.—It is reported that Dr. Gabriel T. Spearman, Houston, was convicted of violation of the federal narcotic laws.

VIRGINIA

Hygiene Course for Teachers.—The state board of health in collaboration with the department of education has established a correspondence course, consisting of twelve lessons in physical inspection of schoolchildren, control of communicable diseases, personal hygiene, and first aid to the injured.

WASHINGTON

School Clinic.—An amended bill, prepared by a conference of school and health authorities and presented to the legislature, authorizes school directors of first class districts to have supervision of health and physical condition of children and to maintain dental and medical clinics. No child shall be treated or vaccinated without consent of the parents, and

only those children whose parents are unable to pay shall be given free treatment.

WEST VIRGINIA

Miners to Have New Hospital.—As soon as contracts are awarded, a hospital for miners, to cost approximately $500,000, will be built at Charleston. The project will be financed by about 20,000 union miners who have voted a monthly assessment of $1 each until the building is paid for and a smaller monthly assessment for maintenance after the hospital is opened.

WISCONSIN

Supreme Court Affirms City Council Decision.—In a recent decision the state supreme court upheld an ordinance passed by the city council of Milwaukee requiring that all milk sold in that city, except certified or tested milk, should be pasteurized.

Legislative News.—The legislature has advanced to engrossment, by a vote of 69 to 33, a bill to repeal the compulsory clause of the present law and make vaccination optional. The bill is opposed by the medical fraternity and the state board of health.

CANADA

Personal.—Dr. John Noble, Toronto, on his retirement from the chairmanship of the board of education of that city, was the recipient of a handsome cabinet of silverware. Dr. Noble was a public and high school trustee for eighteen years.

Public Health Notes.—The Superior Board of Health of the Province of Quebec has announced that the smallpox quarantine which has been in force against the Ottawa and Hull districts was raised on the first of April.——A plan has been presented to the Canadian House of Commons, which legislation will probably affect the welfare of the Canadian Expeditionary Forces in Canada. It is along the lines of the Garden Colony in England and is to care for the tuberculous soldier. A farm on the mountain near Hamilton is already available; and should the plan materialize and prove as effectual as the Garden Colony in England, many soldiers may be restored to health. Out of 100 men sent to the English institution—every one a serious case—only one death has so far been recorded. There are forty-five cases now at the Mountain Sanatorium at Hamilton, Ont.

GENERAL

Catholic Hospital Association Convention.—The 1921 convention of the Catholic Hospital Association the United States and Canada will be held, June 21 to 24, at St. Paul.

Personal.—Dr. Edward W. Scripture, formerly of Yale University and Columbia University Medical School, has been appointed to the faculty of the University of Hamburg for the summer semester.

Commission for Relief in Belgium Educational Foundation.—Ten Belgian students out of a total of twenty-four exchange students of the foundation are studying medicine in Johns Hopkins, California, Harvard, Columbia, University of Pennsylvania, Cornell, Yale and Stanford. They are specializing in stomatology, neurology, bacteriology, ophthalmology and surgery. The C. R. B. Educational Foundation and the parallel organization in Belgium, the Fondation Universitaire provide for the exchange of forty-eight graduate students yearly between America and Belgium, twenty-four from each country.

Southern Public Health Laboratory Association.—For the purpose of securing uniformity of methods and procedure among the public health laboratories of the Southern states, there was organized at Atlanta, March 16, the Southern Health Laboratory Association, which is the first of its kind in the United States. Directors and subdirectors of both municipal and state laboratories will be eligible to membership. Representatives of health departments in seven southern states were present and the following officers were elected: president, Dr. Clarence A. Shore, Raleigh, N. C., and secretary, Mr. T. F. Sellers, Atlanta.

LATIN AMERICA

New Hospital for Bahia.—There has begun the construction of a new hospital connected with the medical school of Bahia. This hospital will be used to give clinical instruction to students.

Radium Ward in a Mexican Hospital.—In the General Hospital of Mexico a new ward has been lately opened for radium treatment. It is provided with 20,000 pesos worth of this metal.

Prize to Dr. Menotti Sainati.—The S. Paulo Sociedade de Medicina e Cirurgia has conferred the "Dr. Sergio Meira prize," a diploma and gold medal, on Dr. Menotti Sainati for his study of Mikulicz's disease.

Plans for a Medical Congress.—Plans are being made to hold a Central American medical congress at San José, Costa Rica, in connection with the celebration of the centenary of independence in 1922. Dr. J. Pastor López is at the head of the organizing committee.

Donation from Kraus of Buenos Aires.—The *Medizinische Klinik* relates that Dr. Rudolph Kraus, chief of the Instituto Bacteriológico of the Public Health Service of Argentina, has presented 77,000 crowns to the Vienna Medical Society for the widows' and orphans' fund.

Milk Laboratory in Uruguay.—The Uruguayan government has created at Montevideo a milk laboratory which will analyze milk sold to the public, substitutes for mother's milk, products obtained by the use of lactobacillus and milk of wet nurses. The laboratory will also establish milk standards.

New Sanitary Code in Salvador.—The president of el Salvador has issued a decree embodying the rules and regulations for the government of the new bureau of public health. The bureau will be in charge of all public health matters. Its officers are the director general and several chiefs of sections.

Election of Officers.—The Sociedade de Medicina e Cirurgia of S. Paulo, Brazil, elected March 7, its officers for the coming year: Dr. Enjolras Vampré, president; Dr. A. Lindemberg, vice president; Drs. J. Pereira Gomes and M. Ottoni de Rezende, secretaries; Dr. A. Corrêa Dias, treasurer. The publication of the *Bulletin* is in the hands of Drs. Soares Hungria, Flaminio Favero and Lemos Monteiro.

Tribute to the Retiring Director of S. Paulo Medical School.—Dr. Ovidio Pires de Campos on his retirement was presented by the officers of the school with a gold plate, set with brilliants, on which was engraved a tribute to his work during his directorship. Dr. E. Xavier, professor of medical physics and chemistry, has been appointed to succeed him. Dr. J. Alves de Lima is the new vice director of the school.

Bequest to the Instituto Oswaldo Cruz.—Our Brazilian exchanges state that the will of Mr. Harold C. Lloyd, a British subject residing in S. Paulo, bequeathes all his property in S. Paulo to the Instituto Oswaldo Cruz, of which Prof. Carlos Chagas is director, at Manguinhos, near Rio de Janeiro. The bequest is to be applied exclusively to promote research on prevention and treatment of infectious diseases.

The Argentina National Medical Congress.—The *Semana Médica* relates that hydatidosis is the single theme appointed for discussion at this congress to convene at Buenos Aires in October, 1922. The subject has been subdivided into the biology: the echinococcus and the hydatid cyst; the pathology: general, medical and surgical, and the bibliography: national, American and universal. Address of the secretary is Santa Fé, 1171, Buenos Aires.

Belgians to Study Tropical Medicine in Brazil.—Dr. C. Chagas, director of the Instituto Oswaldo Cruz near Rio, recently received a letter from the University of Brussels asking permission to send two Belgian physicians to Brazil for a six months' course of study in prevention and treatment of tropical diseases, funds having been already appropriated for the purpose. The visiting physicians are not expecting to do original research work, but merely to study the methods in vogue in Brazil.

Financial Aid for Vienna Physicians.—The *Brazil Medico* announces that the committee appointed by the Academia Nacional de Medicina at Rio last year to receive subscriptions for the relief of members of the profession in Vienna, has recently forwarded to the Brazilian chargé d'affaires at Vienna, Dr. A. Murtinho, the sum of 228,226 crowns, the amount of the subscription up to February. The committee comprises Drs. J. de Mendonça, Abreu Fialho, A. Moses, C. Chagas and Aloysio de Castro.

First Paraguayan Medical Congress.—The first national medical congress ever held in Paraguay took place in March. The subjects discussed were hookworm disease, malaria, tuberculosis, alcoholism, and other diseases. The membership of the organizing committee was as follows: president, Dr. L. E. Migone; secretary, Dr. Manuel Ubieta; and members, Drs. Carlos Silva and P. L. Barbosa.——Drs. J. F. Recalde and

F. Abente Haedo were the Paraguayan delegates to the Sixth International Sanitary Conference at Montevideo.

Discussion of Reciprocity.—The *Folha Medica* of Rio de Janeiro reproduces some letters that have passed between the authorities of Brazil and Venezuela in regard to the proposed acceptance of reciprocity credentials in medicine. One of them urges regulations which will prevent abuses such as have occurred, it states, with the Mackenzie College at S. Paulo. This institution, it states, confers on its graduates the degree of agriculture and engineering, the degree proceeding from North America and thus not amenable to the laws of Brazil although the graduates have never been outside of Brazil, the consular authorities passing the degrees without question as conforming to the regulations in regard to degrees conferred in foreign countries for the completed course of study. The letter urges the nationalization of education under all of its aspects, allowing no loopholes for such an institution as this to function in the country outside the jurisdiction of the laws.

FOREIGN

Patti's Home Becomes Tuberculosis Sanatorium.—The Welsh National Memorial Association has acquired Craig-Y-Nos Castle, for many years the home of Madame Patti, to be used as a tuberculosis sanatorium.

Spanish Journals Discontinue.—*Therapia* of Barcelona and *Revista Española de Electrologia y Radiologia Médicas* of Madrid have both failed to appear recently, due, the editors state, to the present critical situation faced by medical journals everywhere.

Berlin Professor Made Honorary Member of a British Society.—The election of Dr. Ivan Bloch, Berlin, to honorary membership in the British Society for the Study of Sex Psychology, marks the first return to scientific relations between England and Germany.

Scarcity of Alcohol in Hospitals in Germany.—The organized physicians of the public hospitals have petitioned the government to ensure them a supply of alcohol for disinfecting the hands and for giving superheated air baths. The lack of alcohol has been a serious handicap for many of the sick.

Prize for Article on Tuberculosis.—All medical practitioners may compete for the prize offered by the *Indian Medical Record* for the best article on "Tuberculosis, Its Etiology, Prophylaxis and Treatment," more especially from the point of view of tropical medicine. Manuscripts should be sent to A. C. Bisharad, editor, *Indian Medical Record,* Calcutta.

Bocks for Europe.—A group of nine professors and librarians at Copenhagen have issued an appeal to the physicians of Denmark to donate medical textbooks and dictionaries for the use of physicians and students in Belgium, Germany and Austria who are suffering for the lack of scientific works. English, French and German books are solicited. The address to which the articles are to be sent is Kollegahjaelpens Depot, Slagtehallerne, Halmtorvet, Copenhagen, Denmark.

Social Health Insurance in America.—The German weeklies are interested in the agitation in this country against introduction of compulsory insurance against sickness, the *Medizinische Klinik,* for example, quoting at length from THE JOURNAL and commenting on the possibilities of group medicine, etc. It concludes with the remark "It seems very doubtful, however, whether these plans and arrangements will suffice to permanently prevent the introduction of compulsory social insurance into the country."

Hindu Women Petition Against Prostitution.—In support of a bill to deal with prostitution, which has been prepared for submission to the Imperial Legislature of India by Dr. Tej Baha dur Sapru, Allahabad, a petition signed by more than 7,000 women of the country has been addressed to H. E. the Viceroy of India. Because of their inability to write, thousands of women are barred from signing the petition. Appeals printed in English and in three of the Indian vernaculars are being widely circulated in Calcutta, Bombay and other cities.

French Physician to Visit London.—To promote the medical entente existing between France and England, Dr. Monod, an official representative of the Faculty of Medicine of Paris was recently sent to London. The visit had four distinct purposes: To offer the fellowship of medicine representation in the Faculty of Medicine, Paris; to insure proper exchanges of literature and of reviews by competent critics; to endeavor to arrange exchanges of professors between the two countries; and to lay the foundation of a strong Anglo-French medical association.

Medical Scholarships for Serbian Girls.—As a fitting memorial to the work of medical women in Serbia and as a means of fostering the friendliness between Serbians and Britons produced by relations during the war, there was recently held in England, by invitation of the Lady Swaythling, a drawing room meeting in aid of a plan to endow one or more scholarships for Serbian girls in connection with the London School of Medicine for Women and the Royal Free Hospital. The successful candidates will be required, when qualified, to return to practice in their own country.

A Medical Ambassador.—The recent death of Jules Harmand recalls his remarkably varied career. He began his professional life as a surgeon in the French navy, and took part in the conquest of French Indo-China, after which he explored the country and compiled records on the geography, pathology, ethnography, entomology, etc. He was appointed governor-general of Tongking, then consul-general to Siam, then to Calcutta, and then minister to Chile, and, in 1894, minister of France in Japan, and ambassador. Since his retirement he had devoted himself to entomology and to his important work "Domination et Colonisation." His remarkable collection of insects includes a number of new species.

Prizes Offered by the Madrid Academy of Medicine.—For the best work on the histogenesis of the nervous system and for the best work on cell metabolism, the academy offers a prize of 750 pesetas and gold medal. Competing articles must be in Spanish and typewritten, with motto, and name in sealed envelop, and be received by the Secretaria de la Real Academia Nacional de Medicina before July 1, 1922. The prizes will be awarded at the inaugural meeting of the year 1923. The Rubio prize will be conferred for the best work published by a Spanish physician during 1919 and 1920. Other prizes are offered for a study of the medical geography of part of the province of Madrid, and for the best work presented by physicians connected with the Asistencia Pública.

International Congress of Medicine and Pharmacy as Applicable to the Army and Navy.—As previously announced, the medical corps of the Belgian army has organized an international medicopharmacologic congress for the discussion of certain medical and pharmacologic questions as viewed from the military standpoint. The main topics on the order of the day are: General organization of army medical corps and their relations with the Red Cross; clinical and therapeutic studies on the war gases used during the recent war by the central empires, the sequelae of their action on the organism and their bearing on disability claims; antituberculosis and antivenereal campaigns in the army; the lessons of the war as regards the treatment of fractures of the extremities; and purification of water in the field. All manuscripts and communications bearing on these questions should reach the Secrétariat Géneral du Congrès, Hôpital Militaire de Liége, Belgium, by May 1. They may be written in French, English or Italian. The registration fee is 25 Belgian francs. The president of the congress is Dr. Wibin, inspector general of the army medical corps; the vice presidents are Drs. Depage, Wolf, Willems and Derache.

Deaths in Other Countries

Dr. **M. del Gaizo,** professor of history of medicine at the University of Naples, aged 67. His numerous and important works on the history of medicine have appeared in *Janus,* the *Riforma Medica* and other European journals.——Dr. **A. Cavazzani,** instructor in medical pathology and pediatrics at the University of Pisa, and writer on these subjects.——Dr. **R. Pöch,** professor of anthropology, and ethnography at the University of Vienna, an authority on tropical diseases from his many scientific missions to uncivilized lands. His collections include phonogram archives, and the anthropometric data collected from 10,000 prisoners of war.——Dr. **G. Gaertner,** professor of pathology at the University of Vienna, aged 66. His works on conduction of electricity and his apparatus, among them the ergostat, the electric two-cell bath, the tonometer, and his infant food, have made his name familiar. ——Dr. **I. Bloch,** a well known practitioner in Paris.——Dr. **F. Selberg,** a leader in the organization of the profession in Berlin, aged 77.

CORRECTION

Chiropractors Not Licensed in West Virginia.—Dr. R. T. Davis, former commissioner of health of West Virginia, calls attention to an error appearing in the report of the West Virginia October examination, published in THE JOURNAL of March 26, 1921, on page 885. Instead of a "chiropractor," it should have read a "chiropodist." Chiropodists are examined by the licensing board of West Virginia.

Government Services

MEDICAL OFFICERS, UNITED STATES NAVY, RELIEVED FROM ACTIVE DUTY

CALIFORNIA

Los Angeles—Pierce, S. N.
San Diego—Donnell, R. H.
San Francisco—Fielder, R. L.

MISSOURI

Columbia—Stone, W. E.

Intensive Training for Graduates

Members of the graduating class of the Army Medical School consisting of sixty-nine officers of the Medical Corps of the Regular Army on the completion of their course in Washington will be sent about the last of May to the Medical Field Service School at Carlisle Barracks, Pa., for an intensive course of six weeks in field training beginning the first week in June.

Wants Appropriation for Station

The United States Public Health Service will ask Congress at its special session for $200,000 to improve and equip the quarantine station at New York City. The inrush of immigrants to the United States during the past year has made the facilities for examining, delousing and fumigating persons passing through this station wholly inadequate and much delay has been experienced in handling immigrants. The United States Public Health Service took over this station from the state of New York last year.

Training Camp for Medical Students

Plans are being outlined by the Surgeon-General of the Army for the summer training camp for members of the Reserve Officers' Training Corps. The camp will be located at Carlisle Barracks and will be operated by the Medical Department in connection with its Medical Field Service School. It is expected that 150 medical, dental and veterinary students will attend. The course will begin June 6 and end July 16. Medical students, who have taken the Reserve Officers' Training Corps courses at various universities of the country, will make up the personnel of the camp.

Executive Officer Appointed to Handle Correspondence for Public Health Service

Surg.-Gen. Hugh S. Cumming has assigned Surg. J. D. Long to duty as executive officer in the United States Public Health Service and he will have complete charge of the handling of all correspondence in the Surgeon-General's office. The appointment was made because of the large amount of work that has been thrown on the Surgeon-General, making it impossible for him to handle all the details of his office. Surg. John L. Long was director of health in the Philippine Islands for a number of years, was associated with plague work conducted by the United States Public Health Service in California and recently was supervisor of hospital operations on the Western Coast.

Public Health Service Urges State Laws Concerning Children

Surgeon-General Cumming of the United States Public Health Service is urging the adoption of recommendations made by the National Child Health Council in the revision of children's laws by states now drawing up a new code. Some of the recommendations insist that all restrictions on local expenditures for the health of mothers and children should be repealed and that definite facilities for the education of prospective mothers, their protection in industry and the supervision of their health be adopted. Statutes are urged giving the state health departments the authority to license and supervise all midwives, to require the immediate reporting of all inflammatory conditions of the eyes of the newborn and their proper treatment. Births, including stillbirths, should be promptly reported to local registrars under the health department. All maternity homes should be licensed and supervised. Pasteurization under the inspection of the state of all uncertified milk and its proper handling is included in the recommendations.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 14, 1921.

"The Age of Consent"

Under the present law, "the age of consent" to acts with children between the ages of 13 and 16 and "reasonable cause to believe" that a girl was above the age of "consent" allowed for seduction (16 years) are defenses. The Bishop of London has introduced into the House of Lords a bill to take away these defenses and also to raise the age of "consent" to 17 years. The proposals have given rise to controversy in the press. Sir Herbert Stephen, a well-known jurist, considers that they will tend to facilitate, and so increase, the crimes which they are intended to suppress. His point is that the criminal law is an extremely powerful engine for the diminution of crime so long as it has the full support of the public morality on which it is based, but is of little or no use when that support is wanting. He is satisfied that according to the present morality the immoral acts which are not now unlawful, but are proposed to be made so by the Bishop, ought to be treated as sins and not as crimes. He does not think that it is the feeling of the public that when two young persons are guilty of unchastity or immodesty, and the girl is old enough to take care of herself, the man ought to be legally punished. Indeed, he thinks that the present law is, as it ought to be, a shade in advance of public feeling in the direction of stringency, but not more than the public will tolerate. If the Bishop's proposals are adopted, he believes that juries will refuse to convict because they will regard the law as too severe. In the debate on the bill, Lord Dawson (physician to the London Hospital) said that in certain respects the bill was liable to do evil. After 16, boys developed slowly and steadily, but girls were apt sometimes to develop rapidly and in a few months to pass from girlhood to womanhood. This was particularly likely to occur in those sexually precocious girls to whom the bill particularly applied. In such circumstances it was difficult to throw the whole blame for sexual misdoing on the man. Just in proportion as the girl became a conscious sexual agent she would be jointly to blame. If satisfied that a girl over 16 did not develop into a conscious sexual agent, he would be in favor of raising the age; but the moment she did so she must share the responsibility for a sexual offense. It was not fair to throw the whole onus on the youth—he was not concerned with the man of 25 and upward who had reached a stage in which he was quite capable of forming a stable opinion. They must do one of two things: either leave the age where it was or make both the male and the female responsible to the law for any sexual offense. He did not think that the problem of promiscuous intercourse could be solved in the main by legislation but by social reform. The bill was read a second time.

Poisoning by Illuminating Gas

Before a committee recently appointed by the board of trade to consider the question of limitation of carbon monoxid in illuminating gas, Dr. J. S. Haldane gave important evidence. He said that the poisonous action of the gas was entirely due to carbon monoxid. The lowest proportion which in time would produce nausea and headache and other symptoms was 0.2 per cent., but in some experiments he was able to endure up to 0.6 per cent. without symptoms, as the result of acclimatization. When pure coal gas was supplied the risk of poisoning was negligible; but when carburetted water gas, containing about four times as much carbon monoxid as

coal gas, was supplied the risk increased about sixty-four fold. The chief danger was due to burners turned on accidentally in bedrooms. He allowed pure coal gas containing about 7 per cent. of carbon monoxid to escape in a room of about 1,000 cubic feet at the rate of about 40 or 50 cubic feet per hour and found it almost impossible to get a poisonous atmosphere at the sleeping level; the gas tended to go to the roof, and descended only in small proportions. But when the carbon monoxid in the gas was increased to, say, 20 per cent., a poisonous atmosphere was readily produced. In a room of the size mentioned, the final percentage given by gas containing 5 per cent. of carbon monoxid was 0.05; 10 per cent., 0.09; 15 per cent., 0.13, and 20 per cent., 0.18. The lowest percentage which would endanger life in twelve hours varied according to the susceptibility of the person from 0.15 to 0.3. Dr. Haldane therefore suggested that a maximum of 20 per cent. of carbon monoxid in illuminating gas should be laid down. At an inquiry conducted twenty years ago he suggested 12 per cent., but the distribution of gas and the pattern of burners had improved since then. Other witnesses called were two chief engineers and a chief chemist of gas undertakings. They were strongly against any limit for carbon monoxid. One, who represented the company which supplies the greater part of London, stated that in ten years during which the largest quantity of carburetted water gas had been supplied by his company, fifteen deaths occurred from accidental inhalation and eleven from suicide, and in three cases the deaths of sick people had been accelerated.

Sir Felix Semon

The death of Sir Felix Semon at the age of 72 removes a man who was in his day the foremost laryngologist in this country and famous throughout the world. The son of a Berlin Jewish stockbroker, he studied medicine at Heidelberg, and during the Franco-Prussian War served as a volunteer with the Prussian guard. When the war ended he resumed his medical studies, and took the M.D. degree at Berlin in 1873. He then studied at Vienna and Paris, paying special attention to diseases of the throat and nose, and became expert in the use of the laryngoscope, which had only recently been introduced into medicine. Finally he came to London, where in 1875 he was appointed assistant at the Throat Hospital, Bolden Square, and in 1877 physician. In 1882 he became physician in charge of the throat department, St. Thomas' Hospital, and in 1888 laryngologist to the National Hospital for the Paralyzed and Epileptic, Queen's Square. His contributions to laryngology are classical. Perhaps the most important is that known as Semon's law: "In all progressive lesions of the centers and trunks of the motor laryngeal nerves, the abductors of the vocal cords succumb much earlier than the adductors." In conjunction with Sir Victor Horsley he elucidated the central motor innervation of the larynx, and showed that it was practically impossible for a one-sided cortical lesion to produce laryngeal paralysis. A generalization of great practical importance which followed from his researches is that abductor paralysis (which may be associated with adductor) is due to organic disease, while adductor paralysis is in the great majority of cases functional, more rarely myopathic, and then usually due to catarrh. His work on malignant disease of the larynx also is epochal. He showed that of all parts of the larynx the cords were the most prone to attack; he described the early symptoms and elaborated the early diagnosis, and advocated and did much to establish laryngofissure—an operation which has saved thousands of patients throughout the world from avoidable mutilation. Of his other numerous papers, two may be mentioned as not only important but of general interest: "On the Probable Pathological Identity of the Various Forms of Acute Septic Inflammation of the Throat and Neck, Hitherto Described as Acute Oedema of the Larynx, Oedematous Laryngitis, Erysipelas of the Pharynx, Phlegmon of the Pharynx and Larynx, and Angina Ludovici;" and "The Therapeutic Value of Complete Vocal Rest During Sanatorium Treatment of Laryngeal Tuberculosis." In 1884 he founded the *Centralblatt für Laryngologie,* which he edited for twenty-five years. He was an accomplished pianist as well as a musical composer, and an excellent raconteur. He leaves three sons, one of whom is Dr. Henry Semon, a dermatologist.

PARIS

(From Our Regular Correspondent)

March 18, 1921.

The Touching History of Mme. Dr. Madeleine Brès

The medical profession has been greatly moved by the sad plight of Mme. Madeleine Brès, the first French woman to secure the degree of doctor of medicine. Nearly fifty years have elapsed since she gained this distinction, and now she is old (past 80) and blind and entirely without resources. Mme. Brès was matriculated as a student of medicine in 1868 at the medical school of the University of Paris. Two years later the Franco-Prussian War broke out. Madame Brès, who was then in the midst of her studies—married and the mother of three children—requested the privilege of serving as hospital intern and was attached to the service of Professor Broca, in the Hôpital de la Pitié, where she stayed throughout the siege of Paris. This hospital was bombarded, and several shells fell into the wards under Professor Broca and exacted their toll of victims. Of Mme. Brès' services in his department Broca speaks in these terms: "Mme. Brès entered my service in the capacity of élève stagiaire (student assistant) in 1869. In September, 1870, several internships being vacant, owing to the fact that the occupants had been summoned to military hospitals, it became necessary to appoint provisional interns. Mme. Brès, at my suggestion, was selected as provisional intern. She held that office during the two sieges of Paris, and remained until July, 1871. Her duties were always well performed and her conduct was irreproachable." The director of the hospital says, in a similar vein: "Mme. Brès was always conspicuous by her zeal, her devotion and her excellent conduct. She was of great aid to us, especially during the recent insurrection." Professors Gavarret, Paul Lorain, Sapey and Dean Wurtz commend her thus: "By her zeal for work, her ardor in the hospital service and her perfect conduct and bearing, we are pleased to state that Mme. Brès has justified our departure in opening our courses to students of feminine sex. Mme. Brès has won the respect of all the students with whom she has been associated." In spite of such testimonials, in 1871, the Conseil de surveillance de l'assistance publique denied her the right to compete for an internship, lest thereby an undesirable precedent might be created. Notwithstanding this rebuff, Mme. Brès continued her studies. In 1875 she passed her examination, and the subject of her thesis was "De la mamelle et de l'allaitement." From that time on, she practiced in Paris—modestly and quietly—devoting herself to the diseases of women and children. In order to bring relief to Mme. Brès in her present condition, an appeal was made to the Association générale des médecins de France. But, according to the by-laws of the Association générale, no one outside its own membership may be given aid. Mme. Brès had not been a member of the association. She had lived isolated—*en sauvage,* as we say—and had not been connected with any mutual aid societies. In view of this state of affairs, Mme. Dr. Alice Sollier has taken the initiative and has opened a subscription in favor of Mme. Brès. Gifts may be sent to Mme. Dr. Alice Sollier, Sanatorium de Boulogne, 145, route de Versailles, à Boulogne-sur-Seine.

The Hospital Policy of the City of Paris

With the disappearance of the fortifications and the preparation of plans for the extension of the city limits, it becomes the duty of the administrative authorities to determine in what directions the capital and its suburbs are to develop. In this connection, the fifth commission of the municipal council is considering carefully the question as to what sites should be assigned to hospitals. The brunt of the work of investigation that needs to be done has been entrusted to Monsieur de Fontenay, who thus finds himself called on to determine what part urban and what part rural hospitals shall play in the problem of hospitalization for a large city such as Paris.

As the point of departure for his interesting investigations, Monsieur de Fontenay has taken the "ideal plan" as set forth by Dr. Mourier on the occasion of his installation at the head of the Assistance publique. This plan consists in carrying over into the civil domain some of the ideas worked out, during the war, for war hospitals. The main feature would be to leave in the city center only first-aid stations from which the sick and wounded, having been carefully sifted, would be transported to special services organized and equipped for the work devolving on them. Monsieur de Fontenay outlines his policy in these words: "The preferable solution is to adopt a program of exteriorization; that is to say, a plan by which many of the hospitals now located in the center of the city would be transferred to the suburbs and elsewhere. Restrictions would be imposed on certain classes of patients at the start, with the idea of increasing the restrictions as the plan developed. Our general hospitals would be transformed, in part, into evacuation centers. We would leave here the acute cases—adults and children. We would retain in Paris or in the vicinity, in the suburban hospitals, a small number of chronic patients, not only in the general interest of the patients but also in the interest of science. Maternity cases would usually be kept in the city. To rural hospitals, located in regions with an especially adapted climate, should be sent all tuberculous patients, chronic cases in medicine and surgery, arteriosclerotics and convalescents. Cancer patients would be sent to the country, where suburban hospitals would be established for them in close proximity to radiotherapeutic institutes."

Association for the Development of Medical Relations Between France and Allied and Friendly Countries

In a previous letter I referred to the organization of an association, the object of which is to attract to France on special missions and for study purposes foreign physicians and students, to receive them cordially and to guide them through our laboratories and hospitals, to organize special rapid courses of instruction for them, grouping together in a short course the professors and the subjects that have the most interest for them from the standpoint of their specialty, and to organize also excursions to the medical schools in the provinces and to various spas and health resorts. It also proposes to send to foreign countries certain missions for study and instruction, to promote the circulation of our medical journals, to publish in the medical reviews of the world as many articles as possible of our principal writers (either in French or in translations, as the case may warrant); in short, the purpose is to make better known our medicosocial life and our charitable and welfare organizations. The association will endeavor to have, in every country, a medical correspondent or, better still, a group of medical correspondents, and, at the same time, various foreign countries will be urged to appoint one or more correspondents residing in France and familiar with the language, and, if possible, with the medical mentality of this country, who will keep in touch with the Association des relations médicales. The honorary president of the administrative council is Dean Roger and the actual chairman is Professor Hartmann. The membership of the council is comprised of numerous professors and physicians and surgeons to the hospitals, also general practitioners known throughout the circles of organized medicine. A bureau of information, always in possession of the latest communications, will be open every day in the offices of the Faculty of Medicine (salle Béclard), from 9 to 11 a. m. and from 2 to 5 p. m. A bulletin of information will also be published in the near future.

Reserve Rations of the American Army

Monsieur Rothea, head pharmacist of the French army (with the rank of colonel) and chief of the laboratory for the general inspection of foodstuffs, recently published, in the *Bulletin des sciences pharmacologiques,* a study on the reserve rations of the American army. Rothea reached the conclusion that the entire daily ration contains only 1,239 calories. This amount is manifestly too small in view of the fact that the allowance needed by a man of average size, during rest, is from 2,300 to 3,000 calories for twenty-four hours, depending on the temperature—whether it is intended to be used during the heat of summer or during the cold of winter. The writer states that the reserve rations of the French army contain 3,892 calories, or 2,153 calories more than the American reserve rations. The French reserve rations constitute regular working rations.

BELGIUM

(From Our Regular Correspondent)

March 3, 1921.

The Belgian Red Cross

The Belgian Red Cross has been completely reorganized, and on the occasion of its affiliation with the League of the Red Cross Societies it published its new statutes. One and the same society serves Belgium and the Congo. Its purposes are, in time of war, to (1) lend its aid to the army medical corps, and (2) aid in the care and relief of all war victims, civilian as well as military; and, in time of peace, to (1) organize, in conformity with the needs of the department of national defense, such sanitary formations as are required by the Red Cross in time of war; (2) contribute to the amelioration of the public health, to ward off disease and to relieve the sufferings of the people; (3) contribute to the hospital care and treatment of patients, especially of those suffering from transmissible diseases and industrial wounds, such as victims of accidents; (4) take an active part in all undertakings for the protection of childhood, and (5) to aid the victims of catastrophes and public calamities.

In addition to the general council that presides over the general functions of the society, a standing medical committee, divided into three sections; namely, medicine, surgery and hygiene, has been established. The state universities each nominate three members from their instructional corps to serve in the three sections, respectively, of the medical committee. The army medical corps also nominates three members to serve in these three sections. A medical hygienist appointed by the minister of the interior serves in the hygienic section. From a list of names presented by the provincial committees the medical committee will select, to complete the membership of the various sections, two physicians, two surgeons and one hygienist. The members of the medical committee are appointed by royal decree for a term of three years. It is the duty of the medical committee to study into the various questions that are submitted to it by the general council, and it can, on its own initiative, study any other questions of a medical nature lying within the domain of the Red Cross and transmit the results of its studies to the general council. The medical committee is also the connecting link between the medical service of the League of the Red Cross Societies and the Belgian Red Cross.

From the standpoint of the amelioration of public hygiene conditions in general, the organization of supplementary provincial committees is of great value. The mission of these committees would be: (1) to study in their respective provinces, either at the instance of the general council or on their own initiative, any questions relative to the activities of the Red Cross, and transmit their proposals and their suggestions to the general council; (2) to organize conferences with the view to propagating the principles of social hygiene, and (3) to appoint in their respective provinces—in accord with the general council—local committees and committees of women, and to promote various activities needed for the carrying out of the program of the Red Cross.

It will be easy to see that this decentralization of power in public health work, this transference of authority to the hands of physicians, may bring about a social revolution, which will result in the amelioration of the conditions of existence of the people as regards social hygiene and general prophylaxis.

The Campaign Against Narcotics

The campaign against narcotics having become more and more urgent, the minister of the interior has presented to parliament a bill that it is expected will make more effective the measures already in force. The increase in the consumption of narcotics is connected with the suppression of the sale of alcohol in Belgium. On the other hand, the increase may be attributed in part to the more frequent relations with Germany, from which country come, in a large part, the injurious products against which the bill is aimed. In spite of the care with which our borders are patrolled, it seems easy to commit fraud.

Last year an act was passed subjecting the toxic substances to certain restrictions, but the penalties involved are insignificant and nobody seems to worry about them. As the number of morphin addicts was increasing, more serious intervention was necessary and also a more active and more effective surveillance seemed indicated. Our inspectors did not have the right to enter certain establishments where narcotics were being used by habitués in a convivial manner. As the evil is increasing, it was necessary to adopt more energetic measures, and that is the purpose of the present bill, which gives to the government the right to regulate the transport, the sale and the exposure for sale of all toxic products such as cocain, morphin, opium and other narcotics. More severe penalties are provided for the organizers of the séances at which convivial groups indulge in the abuse of narcotics. Also, physicians and pharmacists who support this vice are threatened with heavy penalties. In extreme cases their licenses may be revoked.

Furthermore, the police and also agents of the public health service will have, according to the provisions of the bill, the right to enter apartments where dangerous products are dispensed, and at night they may enter the rendezvous of the unfortunates who indulge in the indiscriminate use of narcotics.

The Functions of the Thymus

Before the Société des sciences médicales et naturelles of Brussels, Dr. Dustin gave an additional report of his researches on the thymus. Observations on seasonal variations; studies on the regeneration of the thymus as the result of special alimentary regimens; grafts and cultures of the thymus; experimental studies on the development of the organ, and observations on mitosis brought about by the injection of various substances have led him to consider the thymus as absolutely distinct from true lymphoid tissues. He also concludes that Hassall's corpuscles—which, furthermore, are lacking in many animals—are not the active agents of an internal secretion. The only function of the thymus that can be indisputably demonstrated has as its agent the "petite cellule thymique" (little thymic cell), by virtue of which nucleoproteins are stored up and given out according to the needs of the organism. This conception constitutes, in the main, the experimental results that have been reached up to the present time. It opens new vistas with respect to the functions and the pathology of the thymus, and also with regard to the still greater question of the cycle of the nucleoproteins, the generation of the tissues, tumors, etc.

The Morphologic Defects of the Ear

Before the Société d'antropologie of Brussels, Monsieur Galet communicated recently the results of his observations, made on a large scale, in the prisons of Brussels. It is well known that to the morphologic defects of the auricula considerable significance is ascribed from the standpoint of degeneracy, criminology and semeiology. In 1,800 prisoners, scarcely more morphologic defects of the ear were observed than in 5,000 nondelinquent subjects. If we compare the total number of malformations and deviations with the type regarded as normal, the difference in the percentages is almost nil. The morphologic alterations of the ear are not sufficiently specific to aid in the determination of specific criminal tendencies, although the percentage of their occurrence in grave and inveterate cases of recidivism is higher than the average.

Annals of Tropical Medicine

The Société belge de médecine tropicale, under the presidency of Dr. Broden, has recently published the first number of its annals, which is a good-sized volume possessing great interest and destined to attract the attention of the medical world. Colonial medicine, the development of which is in keeping with the growing interest that the Belgian people takes in its Congo colony, is assuming more and more importance every day. The review that the Société de médecine tropicale has just published constitutes a medical event of prime importance in the annals of Belgian medicine, and it gives abundant evidence of the reality of an evolution of ideas. The principal subjects discussed are: diagnosis of trypanosomiasis, by Dr. Borden; articles on the symptomatology and therapeutics of yaws, by Dr. Van Nitsen; yellow fever at Matadi, by Dr. Deprez, and various short articles on the treatment of trypanosomiasis.

BUENOS AIRES

(From Our Regular Correspondent)

Feb. 22, 1921.

The Intern Problem

The director of the Public Assistance has stated that his plan for the regulation of the internship has been misunderstood, as he did not intend to abolish the system but improve it, making it more useful for both patients and medical students. The idea of the complete abolition of the intern system in the hospitals he attributes to a socialist alderman whose plan has not been discussed as yet. So far as can be seen, there will be no reduction of the internship, the necessity of which is unanimously recognized as the complement of medical teaching, which makes it also possible to give better care to patients.

University Conflict

A peculiar conflict has nearly revolutionized the medical school and the whole university. Prof. Domingo Cabred, who deserves credit for some important advances in the care of the insane, resigned his chair at the very beginning of the recent university reforms, and his resignation was accepted by the university officer, called interventor. Later he sent a letter withdrawing his resignation and arguing that the president alone can accept it. He asked that he should be reinstated and placed on the examining boards. His application

was rejected by the faculty, but approved by the Superior University Council. The faculty later refused to permit this body to interfere in the matter. Dr. Cabred's friends tried to obtain support on the part of the students, but at a meeting held by these, they declared themselves against his claims.

Exchange of Professors

Dr. José Arce has just concluded in Paris the exchange agreement, established before the war, between Buenos Aires and Paris schools. In August of this year Profs. Marcel Labbé and G. Brumpt will come to Buenos Aires to give lecture courses. The Buenos Aires school will send either heads of clinics or laboratories to take postgraduate courses in Paris. Dr. Arce has given some lectures in Paris and Rome. Dr. Chutro also gave some lectures in Paris and was specially invited to Madrid, where he also lectured.

Peculiar Happening at Rosario

As a sign of the increasing disrespect shown by students toward public institutions, we may mention the recent event at the city of Rosario. A score or so of students took possession of the city hall building, raised a red flag on it, and made several appointments of officers, dismissing others. On their being captured soon afterward by the regular troops, they stated that it was only a joke. Some comment was caused by the fact that in one of their decrees they stated that they would give up their functions to the Communist Federation.

MADRID

(From Our Regular Correspondent)

March 3, 1921.

Suicide in Spain

Dr. Ricardo Pérez Váldes, of the Hospital General of Madrid, has been admitted to membership in the Royal National Academy of Medicine, before which he read an interesting paper on suicide. There are in Spain detailed statistics on this subject, owing to the initiative of a physician, Dr. Gimeno, who while secretary of public education, ordered their compilation by the Geographical and Statistical Institute. Pérez Váldes says that in the Cantabrian slopes, Galicia, Asturias and Santander (northern Spain), where the original Spanish type is most pure (brachicephalus), the suicide rate is much lower than in other Spanish regions. In discussing heredity, he recalled the case of a male patient at the Hospital General who tried twice to kill himself, and whose father, maternal grandfather and brothers had been suicides. Another man, aged 29, after spending several months in the hospital because of toxic neuritis, asked permission to spend Christmas with his family. A few days afterward it was reported that he had killed himself in the same place, at the same time and with the same kind of weapon his father had used to kill himself. The two also died at the same age. The direct relation observed between culture and suicide all over Europe does not apply to Spain, where it is precisely the contrary. The provinces with the smallest proportion of illiterates are generally those which have also the smallest number of suicides. Pérez Valdés reported some interesting cases, showing the relation between suicide and insanity. A girl, aged 25, killed herself, pushing into her brain a tenterhook which she had to force, striking it with a stone she picked up in the river. A pellagrin, a bull fighter, killed himself by pushing his head inside a pail filled with dirty water, and keeping it there until he suffocated. A poor roving photographer ended his life by braining himself with a heavy hammer after placing carefully beside him a pail so that his blood might fall into it.

Three or four years ago there occurred in Madrid a double suicide. This started a large number of similar suicides which undoubtedly would never have happened if the newspapers had not spread the news. If censorship is ever justified, it is in connection with suicide, since the publication of these facts may be harmful if they fall on predisposed ground.

Castromán's Lecture on Ferrán's Tuberculosis Vaccine

Dr. Rodríguez Castromán, a physician of Montevideo, Uruguay, began using Ferrán's antituberculosis vaccine as soon as it was made known about fifteen years ago. Since then he has tried it in many diseases not related to tuberculosis. The trials made by other authors with nonspecific vaccines and proteins lead us to think that some of Castromán's successes may be due to this mechanism. No matter what interpretation may be placed on the facts, it seems that patients with rheumatism, dermatosis and indefinite digestive troubles improve and even get well with Ferrán's vaccine as applied by Castromán.

BUDAPEST

(From Our Regular Correspondent)

Feb. 25, 1921.

The Rejuvenation Method of Professor Steinach

Dr. Eugen Steinach, two decades ago professor of physiology at the Prague German University, and since 1912 director of the physiologic section of the Vienna Experimental Biologic Institute, published a paper in the *Archiv für Entwicklungsmechanik,* Rejuvenation Through Experimental Revivifying of the Senescent Puberty Glands (Verjungung durch experimentelle Neubelebung der alternden Pubertätsdrusen). The article has since been published in book form by Springer in Berlin. The work aroused great surprise not only in the medical but also in the lay press. Steinach's method proposes to rejuvenate the organism bodily as well as mentally. He conducted experiments on birds, insects, amphibia and finally on mammals. It has long been known that if a male animal is castrated during its youth, the male characters do not develop. Likewise in females, if the ovaries are removed, the external female characters vanish. Steinach and others have shown by experiments that in the sexual glands the cell groups located between the cell-building structures—in males the Leydig interstitial cells, in females the lutein cells, in the atresic follicles—are those which supply with their internal secretion (incretion, Roux) those stimulating substances which decide the specific sexual characters. These constituents of the sexual glands have been named by Steinach the puberty glands.

The evolution of the sexual character has also been studied by Tandler and Gross and by Dr. Keller, professor of obstetrics at the veterinary high school in Vienna, Their results have been compiled by Lipschütz in a book entitled "Die Pubertätsdruse und ihre Wirkungen." Lipschütz has added many interesting items to the results. According to him the embryonal stage is an asexual period, whereas Lenhossek and others argue that the sex of the developing embryo is decided from the time of fecundation.

Steinach aroused great admiration at the session of the German physicians and natural history workers, held in Vienna in 1913, with his lecture on the feminization of male animals and masculinization of female animals. With his experimental methods he proved that it is possible entirely to change the sexual character in young adolescent animals by the exchange of the puberty glands. He meant to prove that the embryo does not start to develop unisexually or bisexually, but it is sexually indifferent (asexual period) and the sexual differentiation ensues only with the development of the puberty glands. This question has been largely dealt with, together with results of new experiments by Paul Kammerer (who as well as Lipschütz is a collaborator of Steinach), in the seventeenth volume of the *Ergebnisse der inneren Medizin,* 1919.

Steinach's experiments aiming at the rejuvenation of the organism have been most successful with rats. Before all he had to bring up an entirely healthy generation and to study the process of their living until the advent of death with special regard to the manifestation of growing old. The growing old of male rats is characterized by the bristling and crumpling of their hair, the hanging of the head, the curving of the back, the loss of body weight, the want of appetite, the weakening of the muscles, and the withdrawing of the animal from the outer world. Steinach tried to rejuvenate these rats with three different methods. The best and simplest method proved to be ligation of the vas deferens on one side. Another method consisted of the application of roentgen rays. The third method consisted of transplanting the sexual gland of a young animal into one growing old. Three weeks after ligation of the vas deferens the whole behavior changed; the rat began to keep its head erect, came forward from its hole, paid a lively interest toward the outer world, and its hair began to become smooth and shiny; when another male rat had been let into its cage it attacked him immediately, and when a female rat was let in, it eagerly performed the sexual function, and as only one vas deferens was ligated, the coitus was successful. The young of the female fecundated by the rejuvenated rats thrived well, and propagated further.

Steinach tried to rejuvenate senile men by ligating the vas deferens on one side—employing local anesthesia. The method proved successful in these cases too, because the outer appearance of these subjects became youngish, fresh, their bodily strength increased, the tremor of their hand disappeared, memory and will power returned, and the sexual power was restored. With females mild irradiation of the ovaries led to good results, the treated women alleging that they regained their entire mental and bodily freshness. The number of experiments made is not sufficient to draw final conclusions, and the period of observation is relatively short to form definite judgment. Besides, there are as yet only one-sided publications at our disposal. At any rate, it is certain that the experimental rejuvenation is successful on lower animals and that the secretion of the puberty glands produced by artificial stimulation when getting into the organism, is capable of producing great changes.

The Austrian press started a movement to collect money for the enlargement of Steinach's small institute, in order to make it possible for him to lay his further experiments on a broader basis.

On February 8 there was a well attended meeting of the Society of Psychiatrists and Neurologists at the Wagner-Jauregg Clinic. There Dr. Sigfried Turkel read a paper on the responsibility of the surgeon performing the Steinach operation. He was of the opinion that such an operation can be performed only on mentally sound men, with their expressed consent given in writing. They have to be warned before the operation of evil consequences that might follow such an operation. Patients must not be used for experimental purposes, even if they give their consent to it. On patients of not entirely sound mind, operations must not be performed at all, if such curative results—warranted through the experiences of science—cannot be arrived at. This is true either for the Steinach operation or for treatment by the roentgen ray.

Dr. Bauer discussed the rôle of the interstitial cells in the Steinach theory. He is of the opinion that this question is not entirely solved yet, and he drops the "asexual" period and argued that after fecundation the sex of the embryo is already decided.

Dr. Lichtenstern, lecturer at Vienna University, said that he had performed twenty-one transplantations and thirty-six operations on account of senile changes. In not one single case has any damage been done to the patient, although it is to be admitted that results were not attained in every case. He cured one homosexual patient by Steinach's method.

Dr. Federn represented the standpoint of the psychanalyst Freud and said that Steinach's researches must be regarded as of great importance.

Professor Kolmer demonstrated a great number of microscopic slides which showed the function of the interstitial cells. His observations on animals have not borne out Steinach's theory in every instance.

Professor Strasser was of the opinion that Steinach's method is an advance, and he himself has seen striking results. Nevertheless, it would be too early to introduce the method into general medical practice. It must remain, for the time being, in the hands of the clinics and hospitals.

Marriages

DWIGHT CORWIN HANNA, Port Allegany, Pa., to Miss Florence C. Finger of Steelton, Pa., March 19.

ALEXANDER SANDS ROCHESTER, Los Angeles, to Miss Olive Margaret Redford of San Francisco, March 1.

WILFRED MCLAUREN SHAW, Sumter, S. C., to Miss Jean Van Auker of Youngstown, Ohio, March 28.

GEORGE WOODWORTH LOUGEE, Lynn, Mass., to Miss Florence G. Morse, February 21.

Deaths

Arthur J. Gillette ⊕ St. Paul; St. Paul Medical College, 1886; University of Minnesota, Minneapolis, 1903; aged 57; professor of orthopedic surgery in the University of Minnesota; president of the Minnesota State Medical Association in 1917-1918; founder and surgeon to the Phalen Park Hospital for Crippled Children; surgeon to St. Luke's, St. Joseph's, Bethesda, Lutheran, City, and County hospitals, St. Paul; died, March 24, from cerebral hemorrhage.

David Kindleberger ⊕ Med Dir., Rear Admiral, U. S. Navy (retired), New York; Jefferson Medical College, 1858; aged 86; entered the Navy in 1859; serving with Admiral Farragut's Squadron during the Civil War, the Asiatic Squadron from 1877-1880, was commander of U. S. Naval Hospital, Philadelphia, from 1892-1896, and naval hospital, Guam, in 1914, and retired, Sept. 2, 1896, on attaining the age of 62 years; died, March 25.

Samuel Thomas Weirick ⊕ Capt., M. C., U. S. Army (retired), Washington, D. C.; University of Maryland, Baltimore, 1865; aged 77; a private in the One Hundred and First Ohio Volunteers during the Civil War; served as captain and assistant surgeon of volunteers in 1901; was appointed lieutenant, M. C., U. S. Army, June 16, 1908, and was retired with rank of captain; died at Los Angeles, March 16.

George Ferdinand Cott ⊕ Buffalo; University of Buffalo, 1884; aged 65; captain, M. R. C., U. S. Army, during the World War; emeritus professor of otology and laryngology in, and president of the Alumni Association of his alma mater; surgeon to the City and General hospitals, Buffalo; died, March 22.

William H. Tucker, Halls, Tenn.; Vanderbilt University, Nashville, Tenn., 1886; aged 57; a member and in 1918 vice president of the Tennessee State Medical Association; formerly president of the Lauderdale County Medical Association; died, March 22, from gastric hemorrhage.

Archibald B. Nelson ⊕ Shreveport, La.; Memphis (Tenn.) Hospital Medical College, 1902; aged 44; captain, M. C., U. S. Army, and discharged, May 31, 1919; surgeon to Shreveport Charity Hospital; died in Albuquerque N. M., February 27, from acute dilatation of the heart.

Frederick William Sauer, Hammond, Ind.; University of Michigan, Ann Arbor, 1902; aged 42; a member of the Indiana State Medical Association; local surgeon for the Lake Shore and Michigan Southern and Indiana Harbor railroads; died, March 23, from pneumonia.

⊕ Indicates "Fellow" of the American Medical Association.

Robert Weightman Smith, California, Pa.; Medico-Chirurgical College of Philadelphia, 1915; aged 32; a member of the Medical Society of the State of Pennsylvania; was instantly killed, March 21, when the automobile in which he was riding was struck by a passenger train.

Samuel O'Dell, Swanton, Ohio; Toledo (Ohio) Medical College, 1885; aged 67; a member of the Ohio State Medical Association, at one time mayor of Swanton; was instantly killed, March 20, when the automobile in which he was riding was struck by a passenger train.

David Agnew Crawford ⊕ Guthrie Center, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1883; a specialist in diseases of the eye, ear, nose and throat; died at the Presbyterian Hospital, Chicago, March 14, following an operation for carcinoma of the bowel.

William Preston Beauclerk, Concord, N. H.; University of Vermont, Burlington, 1896; aged 45; a member of the New Hampshire Medical Society; a member of the staff of the Margaret Pillsbury General Hospital, Concord; died, March 17.

Daniel Webster Young, East St. Louis, Ill.; Gross Medical College, Denver, 1898; Hahnemann Medical College and Hospital, Chicago, 1899; aged 53; major, M. C., U. S. Army, and discharged, Oct. 28 1919; died, March 20, from heart disease.

Orlando Tyler Shepard, Dadeville, Ala.; Graffenberg Institute, Dadeville, Ala., 1861; a member of the Medical Association of the State of Alabama; a veteran of the Civil War; died, March 13; from carcinoma of the lower jaw.

Eugene A. Hensel ⊕ San Diego, Calif.; Rush Medical College, Chicago, 1895; a member of the staff of St. Joseph's Hospital, San Diego, and for many years local physician for the Santa Fe Railroad; died, March 17.

Russel T. Olmstead, Versailles, Ind.; Medical College of Ohio, Cincinnati, 1879; aged 70; a member of the Indiana State Medical Association; died, March 25, from injuries received in a fall a few weeks before.

Samuel Alexander Sterrett Metheny ⊕ Philadelphia; Jefferson Medical College, 1894; aged 51; captain, M. C., U. S. Army, and discharged, June 2, 1919; at one time a medical missionary in Syria; died, March 26.

Edward Charles Kiernan, New Haven, Conn.; Yale University School of Medicine, New Haven, 1909; aged 37; lieutenant, M. C., U. S. Army, and discharged, Dec. 23, 1918; died, March 17, from tuberculosis.

Robert William Glaubit, Rockville Center, L. I., N. Y.; University of the City of New York, 1888; aged 56; a member of the Medical Society of the State of New York; died, March 27, from heart disease.

Charles Elijah Case, Tacoma, Wash.; California Medical College, Oakland, 1880; College of Physicians and Surgeons, Chicago, 1886; a member of the Washington State Medical Association; died, March 18.

Stanley Beckwith Eichberg ⊕ Denver; Miami Medical College, Cincinnati, 1907; aged 40; a member of the staff of Mercy, Children's, City and County hospitals; died, March 25, from tumor of the brain.

Roy Harrison Ferguson ⊕ Sante Fe, N. M.; St. Louis University School of Medicine, 1913; aged 34; president of the Santa Fe County Medical Society; died, March 8, from pulmonary tuberculosis.

John Joseph Leary, Staten Island, N. Y.; Syracuse (N. Y.) University College of Medicine, 1917; aged 32; lieutenant, M. C., U. S. Army, and discharged, Oct. 21, 1919; died, March 19, from diphtheria.

Frank Edward Dean, South Shaftsbury, Vt.; Albany (N. Y.) Medical College, 1891; aged 56; a member of the Vermont State Medical Society; died, March 23, from cerebral hemorrhage.

Adolph A. Just, Crookston, Minn.; Hahnemann Medical College and Hospital, Chicago, 1881; aged 69; a member of the Minnesota State Medical Association; died, March 4, from angina pectoris.

Neely McCoy Palmer ⊕ Shreveport, La.; University of Nashville, Tenn., 1907; aged 40; lieutenant, M. C., U. S. Army, and discharged, Feb. 19, 1919; died, March 8.

Robert B. English, Columbus, Kan.; St. Louis Medical College, 1874; aged 70; for several terms coroner of Cherokee County; died, March 16, from heart disease.

Herbert J. Knapp, Brooklyn; New York Homeopathic Medical College, New York, 1884; Barnes Medical College, St. Louis, 1901; aged 56; died, March 25.

Hasse A. Meilike, Clintonville, Wis.; College of Physicians and Surgeons, Keokuk, Iowa, 1887; aged 65; for many years mayor of Clintonville; died, March 17.

Joseph Henry McDougall, Middletown, Conn.; New York Homeopathic Medical College, New York, 1877; aged 65; died, March 20, from heart disease.

William P. Berry, Pascagoula, Miss. (license, Tennessee, 1889); aged 79; formerly a practitioner of Memphis, Tenn.; also a druggist; died, March 23.

William Joseph Costello, Chicago; Chicago College of Medicine and Surgery, 1917; aged 32; died, March 7, from acute dilatation of the heart.

George Edward Muir, Pawnee Rock, Kan.; University of Louisville, Ky., 1894; aged 52; a member of the Kansas Medical Society; died, March 12.

Irvin Willis, Omega, Ga.; Atlanta (Ga.) School of Medicine, 1908; aged 42; a member of the Medical Association of Georgia; died, March 16.

Fletcher Blagborne, Detroit; Michigan College of Medicine, Detroit, 1883; aged 66; at one time mayor of Marine City, Mich.; died, March 16.

James B. Mercer, Kansas City, Kan.; Medico-Chirurgical College of Kansas City, 1905; aged 50; died, March 17, from cerebral hemorrhage.

James McCully, Basehor, Kan.; University of Kansas, Lawrence and Rosedale, 1906; aged 53; also a druggist; died suddenly, March 19.

John Edson Kelsey, Berkeley, Calif.; Cooper Medical College, San Francisco, 1894; also a druggist; died, March 24, from heart disease.

Major Herbert Westbook, Olmsted Falls, Ohio; Cleveland Homeopathic Medical College, 1899; aged 52; died, March 22, from heart disease.

Albert T. Slemons, Edgemoor, Tenn.; University of Tennessee, Memphis, 1888; aged 55; died, suddenly, March 17, from heart disease.

John Harrison Hughes, San Jose, Calif.; California Medical College, San Francisco, 1887; aged 61; died, March 15, from heart disease.

Wilson Darlington Walker, Kelloggsville, Ohio; Pulte Medical College, Cincinnati, 1895; aged 52; died, March 16, from pneumonia.

Juliet E. Hanchett, Syracuse, N. Y.; Woman's Medical College of Pennsylvania, Philadelphia, 1835; aged 64; died, March 29.

Clark I. Miller, Whitewater, Wis.; Chicago Medical College, 1870; aged 78; a veteran of the Civil War; died, March 15.

John Bennett Woodworth, Redlands, Calif.; Starling Medical College, Columbus, Ohio, 1896; aged 51; died, March 16.

James F. Crowley ⊕ Batavia, N. Y.; University of Buffalo, 1885; aged 61; died, March 20, from valvular heart disease.

Thomas M. Topp, Alleghany, Calif.; Chicago Homeopathic Medical College, 1897; aged 51; died, suddenly, March 10.

Irving Francis Wallace, Syracuse, N. Y.; University of Pennsylvania, Philadelphia, 1918; aged 32; died, March 25.

Charles E. Smith, Aspers, Pa.; Hahnemann Medical College of Philadelphia, 1873; aged 90; died, March 16.

John Markle Fuller, Uniontown, Pa. (license, Pennsylvania, years of practice, 1881); aged 77; died, March 12.

Vander K. Corbett, Driftwood, Pa.; Jefferson Medical College, Philadelphia, 1882; aged 62; died, March 3.

Augustus H. Conson, Gainesville, Texas; Bellevue Hospital Medical College, 1874; aged 72; died, March 18.

John Dectur Justice, Hunter, Okla.; Missouri Medical College, St. Louis, 1878; aged 66; died, March 15.

Adelbert M. Gaines, Pea Ridge, Ark.; Barnes Medical College, St. Louis, 1898; aged 66; died, March 14.

Flora L. S. Aldrich, Anoka, Minn.; Minnesota Hospital College, Minneapolis, 1887; died, March 19.

John Vork, Grand Rapids, Mich.; Rush Medical College, Chicago, 1902; aged 45; died, March 14.

Thomas Aaron Holman, Rice, Ill.; Rush Medical College, 1870; aged 77; died, March 11.

Henry Osborne Beattie, Pittsburgh; L.R.C.S. (Ireland), 1883; aged 55; died, March 11.

Joseph K. Knowles, Logan, Iowa; Rush Medical College, 1869; aged 75; died, March 11.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

LASH'S BITTERS

A physician in a middle western state writes:

"I was in to see a patient Saturday, whom I find suffering om chronic Bright's and cirrhosis of the liver. When I arted to go his wife opened the closet door and showed me o gunny sacks filled with a 'patent medicine' called 'Lash's itters.' All these bottles are dated, the first one was taken nuary 28 and the last one March 5. There were ninety-one them in all. This seems to be an unusual amount for a an to take and I thought perhaps you could use it. I have id a picture taken of the empty bottles taken in this time. efore January 28 he was consuming 'Wine of Pepsin' in out the same proportion."

The picture sent in by the physician is reproduced on this ge. "Lash's Bitters" comes in bottles containing 22 fluid nces and the label declares the presence of 18 per cent .of cohol. The directions on the bottle give the dose as "A half nall glassful (3 or 4 tablespoonfuls). Increase or decrease required."

The state chemists of nnecticut, who pub-shed a brief report this nostrum in 14, described it thus:

"This popular bar-om bitters (our sam-e was purchased in saloon) contains .46 per cent. of alco-l and 7.83 per cent. solids, with 2.42 r cent. of vegetable ctractives of a more less laxative nature. he suggestive pictures ed to advertise these tters show it better ted for the bar-room an the sick chamber."



These 91 bottles of Lash's Bitters were taken in 36 days. Each bottle contains 22 ounces, 18 per cent. of which is alcohol. Thus the person who took this amount was consuming the equivalent of nearly 20 ounces of straight whiskey daily.

Since that time evidently the amount of alcohol has been minished to 18 per cent. The interesting feature of the se recorded by the physician whose letter appears above the amount of the nostrum consumed by his patient. om January 28 to March 5, inclusive, is thirty-six days and there were 91 bottles consumed in this time, the man was king about 2½ bottles of Lash's Bitters daily, or 55 ounces a mixture containing 18 per cent. of alcohol. This would equivalent to about 20 ounces of straight whisky (50 per nt. alcohol) every day.

The label on the Lash's Bitters bottle declares: "Guaran-ed free from habit-forming or injurious drugs. . . ."

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the U. S. Department of Agriculture

Treatamiento Zendejas.—A quantity of this product, alleged have been shipped in September and November, 1919, by nfilo Zendejas of Los Angeles, Cal., was seized in New ork on the charge that it was misbranded. The article was beled, in part, in English and Spanish: "Zendejas Treat-ent. A strong purifier of the blood, blood depurator for eumatism, Constipation, Kidney Troubles, Eczema." When alyzed by the Bureau of Chemistry it was found to consist sentially of a dark-colored solution containing potassium did, plant extractives and sugar. The claims made on the bel, both in English and Spanish to the effect that it was a purifier of the blood and a remedy for kidney trouble, tumors, jaundice, headache, epilepsy, seasickness and a number of other conditions were declared false and fraudulent. In February, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed. —[*Notice of Judgment No. 8236; issued Feb. 3, 1921.*]

Helmitol.—The Bayer Co., Inc., New York, N. Y., are alleged to have shipped a quantity of this product in June, 1919, from New York to Porto Rico. Analysis by the federal chemists showed the tablets to consist of hexamethylenamin, methylencitrate and talc. It was falsely and fraudulently labeled so as to lead the public to believe that the product was capable of curing and preventing diseases and disorders of the urinary tract. In January, 1920, the Porto Rico Drug Co., San Juan, P. R., claimant, having consented to a decree, judgment of condemnation and forfeiture was entered and it was ordered by the court that the product be delivered on payment of the costs and the execution of a bond.—[*Notice of Judgment No. 8163; issued Jan. 22, 1921.*]

Self-Help E & I Treatment.—A quantity of this preparation is alleged to have been shipped in March, 1918, by Henry S. Wampole Co. of Baltimore. When analyzed by the Bureau of Chemistry it was found to consist of a liquid for external use and some tablets for internal use. The liquid was reported to be essentially a watery solution of zinc chlorid and glycerin, colored red. The tablets were reported to be essentially cubebs and copaiba balsam with small amounts of santal oil, alum and magnesium oxid. The preparation was falsely and fraudulently represented as an effective treatment for the relief and prevention of gonorrhea (clap), blennorrhea (gleet), leucorrhea (whites) and all forms of acute and inflammatory mucous discharges from the urethra. In January, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8194; issued Jan. 22, 1921.*]

Uriseptic Pills.—A quantity of this preparation, shipped in March and August, 1918, by G. J. Fajardo, New York City to Porto Rico was declared by the federal authorities to be misbranded. It was labeled in part "Uriseptic Pills . . . Prepared by Davis & Lawrence Co., New York." The federal chemists reported that analysis showed the pills to consist essentially of hexamethylenamin, cubebs, santal oil and kava-kava. The preparation was falsely and fraudulently represented as an effective treatment for gonorrhea, acute or chronic inflammation of the bladder or urethra and for diseases resulting from gonorrhea. In March, 1920, Davis & Lawrence Co., claimant, having consented to a decree, judgment of condemnation and forfeiture was entered and the product was released on payment of the costs of the case and the execution of a bond.—[*Notice of Judgment No. 8165; issued Jan. 22, 1921.*]

Pinkolo Ointment.—Government officials seized a quantity of this product that was on sale at Ponce, P. R., in July, 1919, and charged that the product was misbranded. The article was labeled in part: "Oleum Rubrum Pinkolo Guaranteed by Custer Chemical Co., New York." The chemists of the Bureau analyzed the product and reported that it showed that the active ingredients of the ointment were camphor, red mercuric oxid and zinc oxid. It was falsely and fraudulently recommended for the treatment of acute and chronic diseases of the skin and scalp, for eczema, psoriasis, trachoma and

syphilitic ulcers. It was also claimed that it would not only cure diseases of the scalp but would also make the hair grow. In November, 1919, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8230; issued Feb. 3, 1921.*]

Correspondence

THE PARALYSIS FLY, LUCILIA CAESAR: A PLEA FOR COLLECTING ITS TOXIVIRULENT LARVAE FOR EXPERIMENTAL PURPOSES

To the Editor:—There are many noxious agents affecting animals and man which are under investigation now, but the paralysis fly has not as yet received the recognition that it deserves. I began my experiments with the larvae of this fly eight years ago, and as there seems to be at last a wide interest aroused, it appears to be an opportune time to publish a statement as to the best method of obtaining larvae of the highest potency.

Lucilia caesar is truly a ubiquitous insect thriving equally well in the hottest and the coldest climates, and is active in Alaska and in Sweden in the depth of winter wherever it is sheltered from the cold. In summer it enters human habitations only to deposit its eggs. When trapped in the ordinary fly trap, it beats itself to death against the walls of its cage within a few hours. It is possible, however, to keep it under glass in winter, and in summer in a large, shaded fly house, supplied with some form of animal life and the food that it delights in, especially rotting fruit. It can be readily caught in a large fly trap placed over boiling cabbage, which is the greatest attraction that can be offered. There is a fly bait furnished by a house in Berkeley, Calif., which attracts *L. caesar* alone, and thus offers a great advantage to the experimenter, as the house fly does not cumber the trap. A large collapsing bag of cheese cloth could be connected with the top of the trap so as to prevent the fly from beating itself to death against the sides of the cage. The fly should be removed promptly to the fly house. The fly house should be placed under a shed in summer and should consist of an inner and an outer circle of wire screening. A race course is thus provided for the insect which will effectually prevent its pounding against the outer wall of its prison. The entrance to the fly house should be provided with a long vestibule with three screen doors opening inward; or, better still, the vestibule should extend to the inner chamber of the rotunda.

The carcasses of animals dead of limberneck should be placed in boxes of earth, not on the ground. It was found in our earlier experiments that the flies could not live on carrion alone, but rotting fruit is sufficient to keep them in good health. When cold weather approaches, the sides of the shed could be boarded in and a stove placed inside so that experiments could be completed during cold weather.

Undoubtedly a hotbed placed over the buried carcasses of chickens in the early spring would be a very successful mode of getting experimental material early wherever it is known that the fowls have died of limberneck in the late fall and had been buried.

In epidemiologic experimentation, the potency of larvae obtained in the open is exceedingly variable because we cannot discriminate between infected and noninfected *L. caesar,* and also because it is difficult to distinguish *L. caesar* from other species of carrion fly. Our usual method of preparing the material was to take all the larvae from a limberneck carcass, triturate them with glycerin, and determine the lethal dose of this magma. The guinea-pig is the most susceptible of all animals to the toxin, the next most susceptible being the young chicken.

It is earnestly hoped that many institutions and individual scientists will repeat our experiments in the coming fly season and if furher information is desired it will be gladly furnished by our group of incestigators, Dr. T. Wistar White Dr. Phil Hoffman, Dr. W. E. Wisdom, Dr. Reives, Professor Dutcher of the Minnesota University, and his associate in this experiment, Mr. Wilkins.

E. W. Saunders, M.D., St. Louis.

"MODIFIED SALICYLIC ACID" AND "SAMARIN"

To the Editor:—It is unfortunate that the article recently published in The Journal, relative to certain of our pharmaceutical preparations should appear almost coincident with a definite change of policy we have inaugurated in our Pharmaceutical Department.

The Pharmaceutical Department forms but a small part of the business of the Frank S. Betz Company. For this reason and because of the highly specialized nature of its products the conduct of the Pharmaceutical Department has been left almost entirely to the head of that department who was responsible not only for the preparations advertised, but also for the sales and advertising policy of that department.

A few months ago our attention was called to certain tendencies in this department and on investigation a definite and decisive change in policy was decided on, with the result that the former manager of the department left our organization, Jan. 1, 1921. Under the new manager a completely revised policy was inaugurated, which included the elimination of many items previously advertised, and the revision of other products, which work has been proceeding since that time. Definite instructions were given the new manager to the effect that every item listed by that department must be able to stand the closest scrutiny in every respect. Only products of recognized and established therapeutic merit and of nonsecret formula were to be catalogued and sold, and these must be advertised in an ethical and conservative manner.

C. A. Taylor,
General Manager, Frank S. Betz Company.

"THE SOURCE OF TUBERCULOSIS IN CHILDHOOD"

To the Editor:—In the editorial comment on the source of tuberculosis in childhood (The Journal, March 26, 1921, p. 866) I find a hint of probable conclusions based on 184 necropsies by Wollstein and Spence in the Baby's Hospital, New York, and would remind the writer of the treatment of the public milk supply in the city of New York. If universal pasteurization of the milk supply furnished young babies is going to accomplish for the public what we promise, then New York's babies should already be showing a less frequency of tuberculosis acquired by swallowing bacilli with milk, and the relative proportions of infections entering by way of the bronchial route as contrasted by those with the alimentary canal should be showing in figures. Studies made in New York and Toronto, where pasteurization has been required now for some years, as contrasted with similar studies in communities not pasteurizing milk, might be of particular value, and is worth a special investigation.

B. Franklin Royer, M.D., Halifax, Nova Scotia.
Executive Officer, Massachusetts-Halifax Health Commission.

Rural Depopulation.—In spite of natural tendencies, the British people, under the influence of commercial development, have been steadily forsaking the fields and flocking into the towns, until the depletion of the country-side has become one of the great tragedies in our history.—Brend.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

CONJUNCTIVITIS FROM HYDROGEN SULPHID

To the Editor:—I do a good deal of work for an oil refinery in a nearby town. One of the accidents that happen not infrequently is that the men in cleaning out the stills have their "eyes gassed," as they express it. It means that at times gases are loose which produce, as nearly as I can diagnose it, a very painful, blinding conjunctivitis, sometimes lasting three or four days, but without suppuration. I have been treating it with 1 per cent. holocain, greasing the lids, and (quite empirically) with raw potato poultices. The last were suggested by some of the old time oil men themselves. This treatment is successful, but I do not feel sure of the why and wherefore.

1. What is the probable composition of these gases?
2. Just what is the effect?
3. What treatment do you advise?
4. Is there any scientific reason for the potato poultices or any value in them, so far as you can see?

Please omit my name.

G. M. S., Massachusetts.

ANSWER.—1. The oil which is refined in that section of the country is mostly Mexican oil, which is rich in sulphur. In the refining, much hydrogen sulphid (sulphuretted hydrogen) is liable to be thrown off.

2. The irritating effect of this gas on some eyes is to produce an acute conjunctivitis of the type resembling "pink-eye." Not all eyes are affected, idiosyncrasy playing a part.

3. The treatment consists in removing the person from the source of the irritation, protecting the eyes from strong light and wind, and the instillation of some mild antiseptic lotion, such as a 3 per cent. solution of boric acid, three or four times a day. Cold fomentations to the eyes for a few minutes just before each instillation are often of marked benefit. Under this method of treatment, the eyes will in most cases be cured in about ten days.

4. Potato poultices, and in fact poultices of any kind, are rarely employed in the treatment of eye diseases; they are liable to do more harm than good. They certainly have no place in this condition.

FILARIASIS—ACIDOSIS

To the Editor:—1. Do you know any kind of intravenous injections useful in filariasis?

2. Can you refer me to any good works on acidosis?

F. SUÁREZ GARRO, M.D., San Antonio de los Baños, Cuba.

ANSWER.—1. It is reported that the intravenous injection of soluble antimony salts has a definite effect in reducing or causing the disappearance of the filarial embryos from the peripheral blood, presumably as the result of the destruction of the adult filaria. Rogers, who has probably had more experience with the use of this drug than any one else, cautions that as a rather long course of intravenous injections of a highly toxic drug is required to produce this effect, the treatment requires care in its use. In THE JOURNAL, Sept. 20, 1919, the method of use was thus described:

> The apparatus consists of: 1. Two small 50 c.c. Bohemian flasks, one containing a sterilized solution of antimony tartrate (Antimony and Potassium Tartrate, U. S. P.), ½ grain to 20 minims of distilled water (20 grains to the ounce), the other containing a sterilized solution of physiologic sodium chlorid solution for dilution purposes, each labeled with their respective contents. 2. Two record syringes (glass with metal plungers), a small one of 20 minims, and a large one of 10 c.c. The same size needles are used for both syringes; they should be fine (hypodermic) and sharp with platinum iridium tips (a fine sharp needle is a very important requisite). 3. A small sterilizer, two or three small beakers, crucibles and watch glasses should be ready for holding and mixing solutions, and for containing the solution of antimony and the physiologic sodium chlorid solution ready for use. With a skilful assistant to compress the veins, a tourniquet is unnecessary. A prominent vein of the arm is chosen, preferably not the median basilic at the elbow, as it is in relation to the brachial artery; any prominent vein, however, will do; sometimes a vein at the back of the hand is conveniently conspicuous when others are not. This small operation should be done with much care. It is absolutely necessary to inject the antimony tartrate solution inside the lumen of the vein, or phlebitis and necrosis result. The skin is sterilized with ether or alcohol; iodin may be used, but it has a tendency to obscure the veins on dark skins. Treatment commences with the injection of ½ grain in about 40 or 50 minims of physiologic sodium chlorid solution. Injections take place every other day, equal parts of the antimony solution and the physiologic sodium chlorid solution being used when larger doses are reached. The dose is increased by ½ grain every injection until 2 or 2½ grains have been reached and this is maintained (in the case of boys of 16 or under, 1½ grains is the maximum dose employed). The total quantity of antimony injected would be 20 or 25 grains, according to circumstances. If more than 25 grains are required, the surplus needed should be reserved for a second course. When the dose of antimony tartrate is 1½ grains or 2 grains (sometimes before), a cough immediately on injecting indicates that the antimony is already in the pulmonary circulation, and shows that the drug is both rapid and far reaching in its action.

The *Quarterly Cumulative Index*, 1920, lists the following recent papers on the subject:

Rogers, L.: Antimony Intravenously in Filariasis, *Brit. M. J.* **1**: 596 (May 1) 1920.

Low, G. C., and Gregg, A. L.: Antimony in Treatment of Filariasis, *Lancet* **2**: 551 (Sept. 11) 1920.

Macfie, J. W. S.: Intravenous Injection of Tartar Emetic in Filariasis, *J. Trop. Med.* **23**: 36 (Feb. 2) 1920; *Ann. Trop. Med.* **14**: 137 (Nov.) 1920; *Lancet* **1**: 654 (March 20) 1920.

Voegtlin, C., and Smith, H. W.: Trypanocidal Action of Antimony Compounds, *J. Pharmacol. & Exper. Therap.* **15**: 453 (July) 1920; *Pub. Health Rep.* **35**: 2264 (Sept. 24) 1920.

Christopherson, J. B.: Action of Tartrate of Antimony in Intravenous Injections, *Brit. M. J.* **2**: 854 (Dec. 4) 1920).

2. The *Quarterly Cumulative Index*, 1920, lists the following articles on acidosis:

Harrop, Jr., G. A., and Benedict, E. M.: Acute Methyl Alcohol Poisoning Associated with Acidosis, THE JOURNAL, Jan. 3, 1920, p. 25.

Jonas, L.: Chemistry of Acidosis, *Therap. Gaz.* **44**: 468 (July) 1920.

Kahn, M.: Clinical Significance of Acidosis, *M. Clinics N. America* **4**: 345 (July) 1920.

Gittings, J. C.: Clinical Symptoms and Treatment of Acidosis in Early Life, *Therap. Gaz.* **44**: 461 (July) 1920.

Hills, T. L.: Determination of Acidosis by Means of H-Ion Concentration, *J. Michigan M. Soc.* **19**: 169 (April) 1920.

Rachford, B. K.: Epidemic Acid Intoxication in Acidosis (Parke's Syndrome), *Arch. Pediat.* **37**: 651 (Nov.) 1920.

Barach, J. H.: Evidences of Nephritis and Urinary Acidosis, *Am. J. M. Sc.* **159**: 398 (March) 1920.

Haggard, H. W., and Henderson, Yandell: Fallacy of Asphyxial Acidosis, *J. Biol. Chem.* **43**: 3 (Aug.) 1920.

Donnelly, W. H.: History of Acidosis, *New York M. J.* **112**: 246 (Aug. 21) 1920.

Labbe, M.: Acidosis in Course of Acute Abdominal Disease, *Bull. de l'Acad. de méd.* **83**: 335 (April 6) 1920; abstr. THE JOURNAL, June 12, 1920, p. 1677.

Hopkins, F. G.: Acidosis in Disease, *Brit. M. J.* **2**: 69 (July 17) 1920.

McClanahan, H. M.: Acidosis in Infants and Children, *Nebraska M. J.* **5**: 249 (Sept.) 1920.

Chace, A. F., and Myers, V. C.: Acidosis in Nephritis, THE JOURNAL, March 6, 1920, p. 641.

Shaw, B. H.: Acidosis in Nervous Disorders, *J. Ment. Sc.* **66**: 244 (July) 1920.

Shaw, B. H.: Acidosis in Certain Nervous Disorders, *Brit. M. J.* **1**: 695 (May 22) 1920.

Sweitzer, S. E., and Michelson, H. E.: Acidosis in Skin Diseases, *Arch. Dermat. & Syph.* **2**: 61 (July) 1920.

Piersol, G. M.: Acidosis, Mechanism, Recognition and Clinical Manifestations, *New York M. J.* **111**: 793 (May 8) 1920.

Ross, E. M.: Occurrence of Acidosis After Anaesthesia, *Canad. M. A. J.* **10**: 548 (June) 1920.

McKibben, W. W.: Acidosis of Recurrent Vomiting Type, *Boston M. & S. J.* **183**: 219 (Aug. 19) 1920.

Beauchamp, W. W.: Problem of Acidosis in Relation to Disease, *Ohio State M. J.* **16**: 488 (July) 1920.

Joslin, E. P.: Severe Diabetes Versus Severe Acidosis in Diabetes, *M. Clinics N. America* **3**: 873 (Jan.) 1920.

Stadie, W. C., and Van Slyke, D. D.: Studies of Acidosis: Carbon Dioxide Content and Capacity in Arterial and Venous Blood Plasma, *J. Biol. Chem.* **41**: 191 (Feb.) 1920.

Van Slyke, D. D., and Palmer, W. W.: Acidosis: Titration of Organic Acids in Urine, *J. Biol. Chem.* **41**: 567 (April) 1920.

ADMINISTRATION OF HEXAMETHYLENAMIN

To the Editor:—Given a case of cystitis with alkaline urine, what would be the proper way to administer urotropin, which is said to act only in an acid urine? Would you give the drug to acidify the urine a short time before each and every dose of urotropin, or wait until the urine was acid (say three or four days), before beginning the urotropin? What is the best drug to use to acidify the urine in these cases?

H. S. GEIGER, M.D., Kissimmee, Fla.

ANSWER.—According to "Useful Drugs" (1921, p. 84), hexamethylenamin (also known under the proprietary names "formin" and "urotropin") "is chiefly excreted in the urine; and when the urine is acid, hexamethylenamin is decomposed, yielding formaldehyd. . . . When the urine is alkaline, the decomposition does not occur and the drug is then ineffective. . . . If the urine is not acid, sodium acid phosphate (NaH_2PO_4) in doses of 1 to 2 gm. should be administered every four hours, midway between the doses of hexamethylenamin. Enough of the acid phosphate should be used to render the urine acid, but not enough to cause diarrhea."

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arkansas: Little Rock, May 10. Sec., Reg. Bd., Dr. T. J. Stout, Brinkley. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

District of Columbia: Washington, April 12. Sec., Dr. Edgar P. Copeland, 1315 Rhode Island Ave., Washington.

Hawaii: Honolulu, April 11. Sec., Dr. Guy C. Milnor, 401 S. Beretania St., Honolulu.

Iowa: Des Moines, April 12-14. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

Kentucky: Louisville, May 10. Sec., Dr. A. T. McCormack, Sixth and Main Sts., Louisville.

Louisiana: New Orleans, May 3. Sec., Dr. F. H. Hardenstein, 702 Macheca Bldg., New Orleans.

Montana: Helena, April 12. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

Nevada: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.

New Mexico: Santa Fe, April 11-12. Sec., Dr. R. E. McBride, Las Cruces.

New York: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

Oklahoma: Oklahoma City, April 12-13. Sec., Dr. J. M. Byrum, Shawnee.

REPORT FROM PEKING UNION MEDICAL COLLEGE

A report from the Peking Union Medical College, which was established in 1919 by the Rockefeller Foundation,[1] states that the new hospital buildings will be opened to patients during this spring but that the formal opening will be postponed until the opening of the medical college in the fall. At that time a number of noted clinicians and teachers from various parts of the world have been invited to hold clinics and give demonstrations.

The most advanced students are now in the latter half of the second medical years so that at present only the subjects of the premedical and the first two medical years are being given.

Active research is being carried on in all the laboratories which have been finished. The problems handled are connected not only with diseases found in China, but also with those fundamental to medical science everywhere. The members of the department of internal medicine are working on Kala Azar to determine the character of the anemia and the most effective chemotherapy. A member of the chemistry department is investigating the distribution of waste products between cells and plasma in the blood, while another research worker is studying the problems of Chinese diets. The head of the department of ophthalmology is working on the development of the pectinate ligament of the eye and is making some observations on the growth of the human eyeball.

The department of anatomy has published over twenty papers during the seventeen months since the school was opened. This department also has been instrumental in forming the Anatomical and Anthropological Association in China, which already has sixty-three members and is rapidly growing. The purpose of this organization is to advance the science of anatomy and anthropology and through it to establish at the medical college a serviceable collection of anatomical, anthropological and other scientific material.

The pathological department has sent out a circular letter to all foreign doctors in China urging them to send in pathological material for diagnosis and study. The service of diagnosis and report is at present being made free of charge.

The faculty at present consists of forty-one members, including seven full professors, eight associate professors, thirteen associates and thirteen assistants. Of this number, eleven are Chinese, of whom five secured their medical training in the United States. Three other professors from the United States and Canada are on leave of absence or are to take up active work at a later time. There are only thirteen medical students at present enrolled, consisting of six freshmen and seven sophomores. In the three premedical classes there is a total of fifty-nine. There are also two students in the nurses' training school and nineteen graduate students, making a total enrolment in the institution of ninety-three.

1. J. A. M. A. **73**: 629 (Aug. 23) 1919.

AID FOR MEDICAL EDUCATION IN AUSTRIA

The Rockefeller Foundation, according to reports, has offered to present $20,000 to each of the Austrian universities at Vienna, Graz, Innsbruck, Prague and Budapest, the money to be used in securing materials and apparatus for the medical laboratories, on condition that equal sums be raised by the faculties themselves. It was found impossible for the faculties to procure so large a sum, even by charging higher tuition fees. To help meet the requirement, it has been arranged, with he consent of the foundation, to tax foreign students who, on account of the exchange value of their money, are able to pay higher fees. Since February 1, therefore, each foreign student will be taxed 20 francs a month for use of the university laboratories, apparatus, etc. Even with this additional means of raising funds, it is feared that enough will not be raised to meet the foundation's terms.

PROPOSED BUILDING PLANS OF THE UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE

An elaborate building plan for its medical school has been adopted by the University of Illinois in cooperation with the state department of public welfare. As previously reported, what was formerly the Cub's ball park, just south of the Cook County Hospital, is to become the campus of the new medical school. The buildings now under construction are a clinical institute, a new building for the Illinois Charitable Eye and Ear Infirmary, a psychiatric institute and an institute for crippled children. Later, according to the plans adopted, the clinical institute and the orthopedic institute will be considerably enlarged and additional buildings will be erected for infectious diseases, venereal diseases, a research institute, a library, class rooms, research laboratories and a dental institute. The Elizabethan style of architecture has been selected—a style attractive not only from the architectural but also from the practical point of view. With the completion of all the proposed buildings, Chicago will have another medical teaching institution which, it is contemplated, will furnish a medical training equal to that obtainable anywhere.

Illinois December Examination

Mr. F. C. Dodds, superintendent of registration, reports the written and practical examination held at Chicago, Dec. 6-8, 1920. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 52 candidates examined, 42 passed and 10 failed. Twenty-one candidates were licensed by reciprocity. The following colleges were represented:

College	Year Grad.	Number Licensed
PASSED		
University of Colorado School of Medicine	(1910) 1, (1914) 1,	2
Chicago College of Medicine and Surgery	(1914)	1
Chicago Hospital College of Med.	(1915) 1, (1918) 2, (1919) 1,	4
Loyola Univ. School of Med.	(1916) 1, (1919) 1, (1920)* 3,	5
Northwestern University	(1918) 1, (1920)* 1,	2
Rush Medical College	(1910) 1, (1919)* 1, (1920) 13,†	15
Northwestern University Woman's Medical School	(1898)	1
St. Louis University School of Medicine	(1919) 1, (1920) 1,	2
Leonard Medical School	(1911) 1,	1
University of Pennsylvania	(1917) 1, (1918) 1,	2
Meharry Medical College	(1913) 2, (1915) 1, (1920) 1,	4
University of Heidelberg, Germany	(1911)‡	1
University of Toronto	(1909)	1
University of Berne, Switzerland	(1917)‡	1
FAILED		
Howard University	(1907)	1
Chicago Medical School	(1920) 2,	2
National Medical University	(1909)‡	1
Leonard Medical School	(1906)	1
Meharry Medical College	(1908) 1, (1910) 1, (1913) 1, (1915) 1, (1916) 1,	5

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
George Washington University	(1908)	Wisconsin
American Medical Missionary College, Chicago	(1910)	Alabama
College of Physicians and Surgeons, Chicago	(1912)	Nebraska
Rush Medical College	(1917)	Iowa
Johns Hopkins University	(1915), (1917) (1917) Massachusetts, (1919) Missouri	Maryland
University of Maryland	(1917)	New Jersey
Tufts College Medical School	(1916)	Maine
University of Michigan	(1896)	Minnesota
St. Louis University School of Medicine	(1919)	Missouri
University of Nebraska College of Medicine	(1917)	Nebraska
University and Bellevue Hospital Medical College	(1911)	New York
Jefferson Medical College	(1918)	California

Meharry Medical Coll...(1905, 2), (1911) Alabama, (1911) Arkansas
Marquette University .....(1913, 2) Wisconsin

* Degrees for these candidates have been withheld pending completion of their hospital internship.

† Twelve candidates received temporary licenses pending completion of their hospital internship.

‡ Graduation not verified.

Ohio December Examination

Dr. H. M. Platter, secretary, State Medical Board of Ohio, reports the oral, written and practical examination held at Columbus, Dec. 1-3, 1920. The examination covered 10 subjects and included 100 question. An average of 75 per cent. was required to pass. Of the 24 candidates examined, 23 passed and 1 failed. Thirty-one candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University		(1920)	82.6, 83.5
Chicago College of Medicine and Surgery		(1915)	80.6
Loyola University		(1916)	82.5
Northwestern University		(1917)	84.5
University of Maryland		(1913) 75.2, (1920)	84.2
Harvard Medical College		(1918)	86.7
Eclectic Medical College, Cincinnati		(1920)	78
Western Reserve University		(1920) 78.8, (1920) (1920) 81.6, (1920) 82.1	80.7,
Jefferson Medical College		(1920)	76, 81.2, 81.6
University of Pennsylvania		(1919)	85.1, 86.9
Vanderbilt University		(1906) 80.3, (1920)	81
National University, Athens		(1917)*	75
University of Budapest, Hungary		(1915)*	83.2
University of Toronto		(1917)	85.9
Loyola University	FAILED	(1918)	72.5

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University		(1919)	Dist. Colum.
Howard University		(1911) West Virginia, (1916)	Texas
Chicago College of Medicine and Surgery		(1909)	Illinois
Rush Medical College		(1907)	Illinois
Indiana University		(1919)	Indiana
State University of Iowa College of Medicine		(1919)	Iowa
Kentucky School of Medicine		(1898)	Penna.
University of Louisville		(1911)	Kentucky
Baltimore Medical College		(1912)	Maryland
Johns Hopkins University		(1912), (1917),	(1919) Maryland
Harvard University		(1919)	New York
Univ. of Michigan Med. School		(1914), (1916), (1917)	Michigan
Beaumont Hospital Medical College, St. Louis		(1897)	Illinois
St. Louis University		(1919)	Missouri
Bellevue Hospital Medical College		(1897)	New York
Cornell University		(1916), (1918)	New York
Fordham University		(1916)	New York
Leonard Medical School		(1906)	Virginia
Starling-Ohio Medical College		(1911)	Michigan
Jefferson Medical College		(1911)	W. Virginia
University of Pennsylvania		(1898)	New Jersey
University of Pittsburgh		(1912)	Penna.
Western Pennsylvania Medical College		(1907)	Penna.
Women's Medical College of Pennsylvania		(1912)	Iowa
Meharry Medical College		(1916)	Missouri
National University, Athens		(1895)*	Illinois

* Graduation not verified.

Oklahoma April Examination

Dr. J. M. Byrum, secretary, Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City, April 11-12, 1920. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Four candidates, including 2 osteopaths, took the physician's and surgeon's examination, all of whom passed. Twenty-six candidates, including 6 osteopaths and 1 undergraduate, were granted physician's and surgeon's certificates by reciprocity. Six candidates were granted reregistration licenses. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Tulane University		(1916)	1
Jefferson Medical College		(1914)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas		(1906), (1910),	(1914) Arkansas
Atlanta Medical College		(1916)	Georgia
College of Physicians and Surgeons, Chicago		(1901)	Kansas
Northwestern University		(1910)	Kansas
Indiana University		(1918)	Indiana
Keokuk Medical College		(1904)	Iowa
Kansas Medical College		(1911)	Kansas
University of Louisville		(1909)	Kentucky
Saginaw Valley Medical College		(1903)	Missouri
Mississippi Medical College		(1912)	New Mexico
Eclectic Medical University, Kansas City, Mo.		(1912)	Arkansas
Missouri Medical College		(1882)	Arkansas
Jefferson Medical College		(1910) Missouri, (1911)	N. Carolina
Meharry Medical College		(1916)	Texas
University of Tennessee		(1914)	Tennessee
Southern Methodist University		(1912)	Texas
Undergraduate			Arkansas

Miscellany

HABIT INDULGENCE IN CERTAIN CACTACEOUS PLANTS AMONG THE INDIANS

THOMAS S. BLAIR, M.D.
Chief, Bureau of Drug Control, Pennsylvania Department of Health
HARRISBURG, PA.

The Gandy bill, now pending in Congress, aims to prohibit the use of "peyote" among the Indian tribes of the Southwest. As this agent is not known among the medical profession at large, and as more romance than fact is found in the literature concerning it, some discussion of the cactaceous plants used in habit indulgence will be attempted here.

Dioscorides described "the thorn called cactos"; since when the cactaceous plants, and others more or less allied, have held some place in therapeutics, and, also, in the desert, a place in habit indulgence.

Probably there has been more use of the maguey species throughout the world than of the Cactaceae. The familiar century plant, *Agave americana,* whose flower scapes I have seen towering 40 feet in the air, grows freely in Mexico. It is not the only Agave there; there are more than 100 species of Agave known, many distributed irregularly throughout the American deserts. In Mexico, *Agave pulque* yields a sweet juice that is quite refreshing when first collected; but it is fermented to yield the national drink of Mexico, known as pulque, which, as ordinarily made, is only mildly intoxicating unless very freely imbibed. But mezcal, also called mescal and aguardiente de maguey, is distilled from it and is a fearful intoxicant to the uninitiated.

A cactaceous plant, *Anhalonium lewini,* first described by Lewin, was introduced into medicine years ago as the "mescal button." Lewin asserted that it acted like strychnin in the lower animals, but gave rise to some of the symptoms characteristic of cannabism in man. He isolated from it a glucosid possessed of a strychnin action and called anhalonin, and sometimes anhaloin. While all parts of the plant have been used, thus accounting for the wide range in dosage recorded in the literature, the active principle is found chiefly in the dried tops of the plant, which are known as mescal buttons in trade. These are brown, circular, and from 1 to 1½ inches in diameter. They are hard but readily soften when placed in the mouth. Homeopathic physicians took up the new drug and made "provings" of it fairly paralleling those of cannabis, but especially stressing "loss of conception of time, difficult enunciation, color visions, dilated pupils, finally collapse and tetanic convulsions." In my own trial of the flowering tops after maturity of the authentic plant, I believe the findings to be approximately correct, though I never carried the dosage very far.

Somewhat later, Prentiss and S. Weir Mitchell reported on the drug, using drop doses of the tincture for various purposes, chiefly as a cardiac and nerve tonic, while Landry employed larger doses as a substitute for opium. Nevertheless, the drug has never taken any stable place in therapeutics, though its toxicity is well established.

It is my belief that this toxic principle occurs in several desert plants, not alone in Anhalonium, and that the "mescal button" of commerce is derived from several sources—from plants commonly called cactaceous, though not all true cacti.

As a matter of fact, Anhalonium is a genus and *Anhalonium lewini* is only one of several forms, the genera of the *Cactaceae (mamillaria, cereus, echinocactus, anhalonium, rhipsolis, epiphyllum, melocactus, pilocereus, phyllocactus* and *echinopsis)* being numerous. Several forms of Anhalonium yield buttons, as do other cacti; and also several varieties of

agave. These buttons are simply the seed pods or fruits. Several cacti yield edible fruits of a pulpy nature, notably several of the opuntias; but most cactus fruit is spiny and becomes dry when ripe, some of them being in the form of buttons, some poisonous and some not. It is safe to beware of those with a bitter taste. The term "mescal button," as applied to Anhalonium, is a botanic misnomer.

I have been unable to find Anhalonium described in our American works on botany, even those written in the Southwest; and I have not seen any specimens of *Anhalonium lewini* in Texas, Arizona, California or the desert of northern Mexico. It is found in certain Mexican valleys, far south of the United States line. But there are hosts of peculiar and poorly defined poisonous plants in the Southwest, some yielding buttons rather similar in appearance. The Mexicans and Indians know the secrets of many of them, just when to gather them, etc.; and the matter is just as much commercialized among them as is poppy growing in the Orient, even to sophistication. The Mexican may make his pulque of *Agave pulque, A. potatorum,* or any other Agave whose sap is not too bitter. Sometimes he will not scruple to use bitter sap, which when fermented makes a drink that causes the drinker to run amuck. So it is with the mescal buttons: some are nearly inert, and some dangerously toxic, depending on their source.

I shall make no attempt here to review the literature on the mescal button or to define exactly what the Indians call "peyote"; it is too contradictory. Any one who has visited the Southwest and endeavored to secure accurate and scientific data on the subject will understand what I mean. But commercial "peyote" is a very distinct menace, not only among the Mexican Indians, but, of late, among many of the tribes throughout the Southwest in the United States.

Perhaps E. O. Watson has defined it as nearly as may be when he says: "Peyote includes the various products of cactaceous plants having effect similar to Indian hemp, opium and other narcotics."

Missionary workers in the Southwest are becoming seriously concerned over the spreading use of mescal buttons, whether called peyote or by other name. In many Indian reservations, practically all the adults are addicted to the use of this agent. Commonly the buttons are chewed, but a tea is also brewed.

Certain Sons of Belial, taking advantage of the tendency of the Indian to religious ceremonial, have been industriously spreading the word among the tribes that partaking of peyote enables the addict to communicate with the Great Spirit. It is true that certain Mexican tribes have long had a superstitious reverence for mescal buttons and have used them on occasion in religious ceremonials; and this old superstition gave the commercial dope vender a great opportunity among the Indians in the United States. This has been carried so far that the "Peyote Church" has actually been incorporated, the members being devotees, who gather for an orgy of frenzy, far worse than the cocain parties held among the negroes.

The government has investigated the use of peyote and found its evil effects to parallel the Oriental abuse of cannabis. The addict becomes indolent, immoral and worthless. The great difficulty in suppressing this habit among the Indians arises from the fact that the commercial interests involved in the peyote traffic are strongly entrenched, and they exploit the Indian, even as similar interests exploiting morphin addicts are strongly entrenched. Added to this is the superstition of the Indian who believes in the Peyote Church. As soon as an effort is made to suppress peyote, the cry is raised that it is unconstitutional to do so and is an invasion of religious liberty. Suppose the negroes of the South had a Cocain Church!

All sorts of substitutes for alcohol are demanded since prohibition has become the national policy. Fortunately, morphin does not appeal to most of the men craving alcohol; but what about cannabis and the allied mescal button? Already smoking tobacco impregnated with cannabis is appearing; and the use of peyote is being taken up by some white men in the Southwest.

Our first duty is to ascertain the exact facts about the new menace confronting us. This article shows how little exact scientific knowledge we have on the subject; but there is no doubt that the Gandy bill or similar legislation is needed, for the protection not only of the Indian, but of the whites as well.

403 North Second Street.

STATE LAWS AUTHORIZING COUNTY AND CITY HOSPITALS

Alabama.—Laws 1915, 544: Counties may levy a tax for the purpose of erecting hospitals. County commissioners may vote money for them. Counties may vote bond issues for tuberculosis hospitals.

Laws 1919, 704: Cities may issue bonds for the erection of hospitals.

Arizona.—No laws.

Arkansas.—No laws.

California.—Statutes 1907, 366: Counties may construct and maintain hospitals and levy taxes for the indigent sick.

General Laws 1915, 572: Cities of the first class (400,000) may erect hospitals and levy taxes therefor.

Colorado.—Court Statutes 1914, 2331: Incorporated towns and cities may establish and maintain. No tax provided.

Counties may vote bond issues for hospitals for indigents.

Connecticut.—County unit ignored. Bill authorizing bond issue for state infirmatory now pending.

Delaware.—Provides for almshouses only.

Florida.—Has state tuberculosis sanatorium.

Georgia.—Laws 1910, 130: An act to provide that in counties having a population of 125,000 or over the power shall be vested in the board of county commissioners, or in the ordinary in the event there is no such board, to grant or refuse permission to establish cemetaries, sanatoriums, hospitals and similar institutions, and to regulate and control the same, and to provide the conditions under which the same may be established and to provide when such institutions may be declared nuisances and to provide a penalty for the violation of this act, and for other purposes.

Idaho.—Complete Statutes 1919, V. 1, 483: Cities or counties may provide hospitals for infectious diseases.

Complete Statutes 1919, V. 1, 1127: Municipal corporations may establish hospitals.

Complete Statutes 1919, V. 1, 976; County hospitals for indigent sick.

Laws 1919, 175: Tuberculosis hospitals. An enabling act for rural hospitals failed to pass at the last legislature.

Illinois.—Statutes Annual V 1, 954: Cities and towns may erect and establish hospitals.

Statutes Annual V. 2, 1231: May levy a tax not to exceed 3 mills on all taxable property in the city.

Call Annual Laws 1913-1916, 254: Further organization.

Call Annual Laws 1917-1920, 325: Tax raised to 3⅓ mills.

Section 135-155, Revised Statutes: Authorize the erection of county tuberculosis hospitals, in which cities and counties may join.

Indiana.—Burns Annual Statutes 1914, V. 4, 250: Every city may establish and maintain hospitals. No tax specified.

Burns Annual Statutes 1914, V. 4, 407: May levy a tax not exceeding 7 cents on each $100 valuation of taxable property of such city.

Counties singly or in combination with other counties may erect and maintain hospitals and may vote bond issues.

Iowa.—Iowa Section 409, Revised Statutes: Authorize counties to vote bond issue to erect and maintain county hospitals.

Kansas.—General Statutes, Annual 1915, 232: Cities may establish and regulate hospitals.

General Statutes, Annual 1915, 367: May procure land for such purposes. Cities between 6,000 and 10,000 may levy tax

of 0.3 mill on the dollar of taxable property of such city. Cities between 3,000 and 6,000 may levy a tax of 1 mill.

General Statutes, Annual 1915, 571: Organizations and regulation of county hospitals. Manner of submitting proposition and levy of tax.

Laws 1917, 152: Cities between 3,000 and 6,000 may establish, acquire site for, build and maintain public hospitals and may levy in addition to other taxes prescribed by law, a tax therefor, elect hospital trustees, maintain training school for nurses, and the trustees may provide the regulations and rules for operating, managing and conducting the hospitals.

Laws 1919, 218: Counties less than 40,000 may establish and maintain hospitals and levy a tax of 2 mills therefor.

KENTUCKY.—Laws 1920, 21: Counties containing cities of second and third class may establish county hospitals and issue bonds and levy taxes for construction and maintenance of same. Also provides for nurses' training schools.

LOUISIANA.—No laws.

MAINE.—No laws.

MARYLAND.—No laws.

MASSACHUSETTS.—Laws 1911, 621: Act to encourage building of tuberculosis hospitals by cities. Amended. Acts 1912, 691, Acts 1916, 177.

Laws 1913, 99: Subsidies to cities for establishing and maintaining tuberculosis hospitals.

Laws 1915, 126: Cities may establish and maintain hospitals.

MICHIGAN.—Complete Laws 1915, V. 3, 3876: Counties may maintain hospitals and may levy tax of 2 mills. Amended Public Acts 1917, 491, 504.

Public Acts 1919, 57: The tax shall not exceed 0.2 mill on each dollar.

MINNESOTA.—General Statutes 1913, 353: Cities of more than 10,000 and not more than 20,000 may acquire, own and operate hospitals. No tax provided.

Laws 1915, 373: Counties may establish and maintain county tuberculosis sanatoriums.

Laws 1917, 460: Counties of 25,000 may appropriate money for aid of county hospitals.

Laws 1919, 52: Cities of more than 50,000 may levy a tax of 1 mill for maintaining a hospital.

MISSISSIPPI.—Hem. Annual Code 1917, V. 2, 1923: Counties may establish hospitals for persons suffering with pellagra. They may provide charity wards in any hospital in their respective counties.

MISSOURI.—Laws 1915, 201: Counties may establish tuberculosis hospitals. May issue bonds.

Revised Statutes 1919, V. 3, 1021: Tuberculosis sanatorium.

NEBRASKA.—No laws.

NEVADA.—No laws.

NEW HAMPSHIRE.—Public Statutes 1901, 165: Towns may appropriate money to incorporated hospitals and $300 annually or $5,000 for permanent free hospital bed.

NEW JERSEY.—Complete Statutes 1910, V. 1, 1222: Cities shall have power to build, acquire and maintain hospitals.

Complete Statutes 1910, V. 2, 2750: Establishment and maintenance of county hospitals.

Complete Statutes 1910, V. 2, 2759: Establishment and organization of hospitals in cities and towns.

NEW MEXICO.—No laws.

NEW YORK.—Con. Laws Ed. 2, V. 3, 3316: Any town, city or village may acquire a hospital and levy tax for same. Organization and management. Counties of 35,000 or over must, and counties under 35,000 may, erect and maintain tuberculosis hospital.

NORTH CAROLINA.—Greg. Supp. to Pell's Rev. 1913, V. 3, 173: Establishment of county hospitals.

Laws 1917, 543: Towns and townships may also establish hospitals.

NORTH DAKOTA.—Complete laws 1913, V. 1, 861: Cities may erect and establish hospitals and control and regulate the same.

OHIO.—General Code 1, 1116: Counties may establish tuberculosis hospitals.

Laws 1919, 1055: Funds and management of county tuberculosis hospitals.

OKLAHOMA.—Revised Laws 1910, V. 1, 156: Cities of 2,000 may acquire, own and maintain hospitals and levy tax for same.

Laws 1919, 386: Counties may purchase sites and erect hospitals and may call for an election to vote bonds.

OREGON.—Counties may erect and maintain tuberculosis hospitals.

PENNSYLVANIA.—Any county and any city of third class in that county may erect a joint hospital. May issue bonds for such purpose. Counties may erect and maintain contagious disease hospitals.

RHODE ISLAND.—Laws 1917-1918, 347: Towns may appropriate money for use of hospitals.

SOUTH CAROLINA.—Laws 1916, 1169: Enabling Orangeburg County to establish and maintain a hospital and to provide a tax for the same.

Laws 1917, 640: Enabling Spartanburg County to establish and maintain a hospital and to provide a tax for the same.

SOUTH DAKOTA.—Laws 1919, 327: Authorizing counties to establish, erect and maintain county hospitals and to issue bonds for same.

TENNESSEE.—Bald. Cum. Code Supp. 1920, 313: County courts may establish tuberculosis hospitals and raise funds for maintenance.

TEXAS.—Complete stats. 1920, 284: Power of commissioners court to establish or enlarge county hospitals; petition of voters; issue of bonds.

UTAH.—Comp. laws 1917, 381: Counties may erect hospitals.

Laws 1917, 371: Counties may establish and maintain hospitals, levy taxes and issue bonds, elect hospital trustees and maintain training schools for nurses.

Laws 1919, 128: Maternity hospitals under supervision of board of health.

VERMONT.—Gen. laws 1917, 685: Towns may appropriate money for support of nonsectarian hospitals.

Laws 1919, 108: Towns may make appropriations to hospitals for free beds.

VIRGINIA.—Rem. codes and stats. 1915, V. 2, 2849: Counties and towns may establish hospitals.

WASHINGTON.—Code 1919, 507: Cities of first and second classes may erect and establish hospitals.

WEST VIRGINIA.—No laws.

WISCONSIN.—Stats. 1917, 826: Explains power and authority of governing board of municipal hospitals.

WYOMING.—Laws 1917, 100: Counties may aid, establish and maintain memorial county hospitals.

The following states do not have any city or county hospital law although some of them provide for tuberculosis sanatoriums:

Arkansas, Arizona, Connecticut, Delaware, Florida, Louisiana, Maine, Maryland, Mississippi, Montana, Nebraska, Nevada. New Hampshire, New Mexico, Ohio, Oregon and West Virginia.

Book Notices

MASSAGE: ITS PRINCIPLES AND PRACTICE. By James B. Mennell, M.A., M.D., B.C., Medical Officer, Physico-Therapeutic Department, St. Thomas' Hospital. With An Introduction by Sir Robert Jones, K.B.E., C.B., F.R.C.S. Second edition. Cloth. Price, $6. Pp. 536, with 169 illustrations. Philadelphia: P. Blakiston's Son & Co., 1920.

To one who is surfeited with books on massage written along conventional lines this volume is refreshing; it not only sounds a note of personal experience throughout, but also contains a number of original and, here and there, unorthodox ideas. On the other hand, it is not intended to serve as a systematic textbook on massage. It is a book particularly suitable for physicians, as it emphasizes rationale more than technic, though the latter is described thoroughly enough and is adequately illustrated for one who has some practical knowledge of the subject. "When a medical man orders massage," says the author, "he should consider the prescription . . . in the same light as . . . that of a potent drug, and watch its effects no less closely, varying the dose and the nature of the dose from time to time according to indications." He should know enough about massage to render his instructions intelligible to the masseur and to warn him of the danger signals of which he must beware. When the anticipated improvement does not occur, the physician should be able to decide whether this is due to overdose —which is the case with considerable frequency—or to insuf-

ficiency of dosage, or whether the remedy is altogether unsuitable to the case. The day has passed when it was enough to "try a little massage" on those unrelieved by more "orthodox remedies." The influence of the war is shown by the large share of attention given to the use of massage in the treatment of injuries and their after-effects, the treatment of deformities, the reeducation of muscles, and to massage as a remedy in the treatment of the wounded. For these portions, the book cannot be too warmly recommended to the surgeon. Nevertheless, there is also an abundance of material of importance to the internist.

Of special interest is the chapter on sacro-iliac strain and subdeltoid bursitis. In it, Mennell describes the results of a two months' visit to America. He finds that "the number of medical men who take any interest in physical therapeutics in the United States is surprisingly small." Among those who do, he noted three schools of thought regarding sacro-iliac "strain." In the first, it is held of trivial importance. These the author thinks are wrong. In the second school, the wearing of a belt is prescribed, though in three separate clinics the condition is treated by three different kinds of belt, and in each case the one belt is regarded as the only satisfactory cure for the complaint. In the third school, any sort of belt is anathema, and reliance is placed entirely on manipulation. Mennell inclines to the opinion that both methods are efficacious in suitable cases, but he is also convinced that both can be injudiciously applied.

Osteopathy, chiropractic and bone-setting are given a remarkably fair exposition. While the less educated among the osteopaths and almost all the chiropractors labor under the delusion that the symptoms for which they apply treatment are due to gross displacement of the vertebrae, and many are too ignorant to be able to define exactly what joints are supposed to be displaced, there is at least one school of osteopathy whose teaching is definite on this point. It acknowledges that minor displacements of the intervertebral joints are impossible, and attributes all the evils for which treatment is applied to "subluxations" of the joints between the articular processes. A "subluxation" is defined by this school as "an immobilization of a joint in a position of normal motion, usually at the extremity of a given movement." Explanation of the effects of subluxation varies, though nearly all agree that it causes pressure on the nerves. On what nerve is usually not specified. Among osteopaths he finds at least three schools of thought. One claims that it can cure practically anything from pneumonia to appendicitis by its manipulations. This school is unquestionably a danger to the public. "The second school holds that the nerve pressures cause pain by direct action, and by reflex can cause almost any trouble not due to recognized infective processes. This is a far less dangerous doctrine, which, were gross displacement of the joints possible, would be quite tenable. It is, however, almost inconceivable that, short of the most severe injury or disease, sufficient displacement can take place to cause pressure on the main nerve trunks, and so produce definite symptoms. The third school, probably quite rightly, ignores the possibility of all gross displacement except as the result of grave injury, but claims that a very minute amount of displacement affects the sympathetic system, and this gives rise to such complaints as headache, neuralgia and neuritis, if in the cervical region; to chronic irritating cough in the dorsal, and to a variety of ills in the lower part of the back, including 'lumbago,' 'sciatica' and 'constipation,' to quote only three. They still, however, maintain the theory of definite subluxation, and that cure depends on 'reduction.'"

Mennell, though admitting that it might be ill advised in the midst of so much doubt and speculation to advance any other theory, still ventures to point to the possibility that "a minute anatomical defect of the articular processes might, by allowing eccentric movement, cause a locking or 'jamming' of the joints on the two sides. This would tend to produce an arthritis, and would at once give rise to reflex spasm, particularly in the deeper muscles of the back. There could not fail then to be reflex irritation of the nerves that supply the joints; and possibly also of the nerves which supply the muscles which are thus kept in spasm; and of the nerve trunks which pass out in the vicinity of these muscles." The author, however, strongly insists on the point that there are quite a number of other pathologic conditions affecting the joints and muscles of the back, the nature of which must be determined before rational therapy can be addressed to them. The entire book is stimulating to thought, investigation, and improvement in the practic of mechanotherapy.

THE INDUSTRIAL CLINIC. A Handbook Dealing with Health in Work. By Several Writers; Edited by Edgar L. Collis, M.D., M.R.C.P., Talbot Professor of Preventive Medicine in the University of Wales. Cloth. Price, $3.50. Pp. 239. New York: William Wood and Company, 1920.

Medical examination of workmen is more extensively carried out in England than it is in this country. The character and scope of the examination and the method of conducting it in large industrial plants is thoroughly discussed in this work. The laws governing factories and workshops and the duties of factory inspectors and medical examiners are clearly set forth. What is technically known as "young persons" must first be examined by, and receive a certificate from, the examining surgeon before they may be permitted to go to work. If the young person on examination is found to be physically fit for the particular kind of work in which he desires to engage, he is given a certificate to that effect. The surgeon, for physical reasons, may refuse to issue a certificate, or may issue a qualified certificate with recommendations. An unfortunate defect of the system, however, is that while the surgeon may advise, he has no power to enforce. The author states that "the surgeon often finds it advisable to make recommendations respecting the person, though there is no power to enforce the carrying of them out." The matter is still up to the inspector to heed or disregard the surgeon's recommendations, as he chooses. As a result, much of the good that the surgeon might accomplish is lost, owing to the fact that he has no authority to enforce his recommendations concerning the health and sanitary regulations of the individual or the workshop. In addition to matters that relate personally to the worker, the book contains a great deal of valuable information concerning the shop, such as the question of ventilation, heat and moisture, the arrangement of the light, natural and artificial, and the placing of machines and of safety guards, rest-rooms and first-aid rooms, all of which should be of the greatest practical value, not only to the physician doing industrial surgery, but to all foremen and others who have the supervision of men at work.

THE ROENTGEN DIAGNOSIS OF DISEASES OF THE ALIMENTARY CANAL. By Russell D. Carman, M.D., Head of Section on Roentgenology, Division of Medicine, Mayo Clinic. Second edition. Cloth. Price, $8.50 net. Pp. 676, with 626 illustrations. Philadelphia: W. B. Saunders Company, 1920.

The first edition of this work proved of such great value to the general as well as the roentgenologic profession that this edition is especially welcomed. Being the product of an observer whose experience in this particular work is perhaps unequaled, the book can be looked on as authoritative. All phases of roentgen diagnosis of the alimentary canal are presented in text and illustration. In addition to the typical findings, some of the unusual and rare but instructive cases are described in detail; these provide information that will help in the practical application of the roentgen ray in diagnosis. The chapter on interpretation is especially apropos in view of the present tendency to stress too greatly the roengen-ray features of gastro-intestinal examination to the more or less exclusion of clinical evidences of disease. It presents the conservative attitude which, after all, is the fairest to the patient and the referring physician. Especially instructive is the reproduction in parallel columns of photographic illustrations and roentgenograms of various lesions of the alimentary canal. In this edition the author has added a chapter on pneumoperitoneal diagnosis, which procedure has of late attracted some attention in certain quarters. The references to the literature indicate that pneumoperitoneum is an old method revived. The book apparently does not contain illustrations of cases in which this method was used to determine pathologic changes in the abdomen. This book occupies a real place in English medical literature. The abundant operative proof which is back of Carman's work makes his presentation doubly valuable to the less experienced, and his conclusions can be relied on as a safe guide.

Surgery: Its Principles and Practice. For Students and Practitioners. By Astley Paston Cooper Ashhurst, A.B., M.D., F.A.C.S., Associate in Surgery in the University of Pennsylvania. Second edition. Cloth. Price, $10. Pp. 1202, with 1143 illustrations. Philadelphia: Lea & Febiger, 1920.

The author has thoroughly revised the first edition of his work, and in this edition, with the aid of his colleagues, he introduces valuable information concerning experiences in army hospitals, and applies it to civil surgery. The book is arranged in well planned chapters on general, systemic and regional surgery. The chapter on tumors and surgical pathology might well be elaborated. Those on systemic and regional surgery rival larger systems on surgery, since they contain much of the best of recent developments in operative technic. It may be questioned whether the relative space given to these developments in a book on principles and practice is not a little out of proportion. However, this effort on the part of the author to make the reader acquainted with recent operative technic makes the work valuable for reference. In view of the rapid development of the use of local anesthesia in modern surgery, more detailed descriptions of its use and possibilities would be appreciated. The book contains many well chosen illustrations which are largely original, coming from the undoubtedly large experience of the author. We feel that too little space has been given to roentgen rays as a factor in diagnosis and in therapy. Radium, also, is given possibly too little recognition as a therapeutic agent. Nevertheless, the task, which the author has accomplished in presenting so comprehensive a volume on surgical principles and practice, is well done. The work is up to date, is a pleasure to read, and is recommended to the student for its useful, concise information, and to the practitioner of surgery for the detailed description of recent development in operative technic.

Kompendium der Kinderheilkunde mit besonderer Berücksichtigung der Säuglingskrankheiten. Von Professor Dr. Albert Niemann, Privatdozent für Kinderheilkunde an der Universität Berlin. Paper. Price, 18 marks. P. 334. Berlin: S. Karger, 1920.

As the title indicates, this book is not an exhaustive treatise on diseases of children. It is written by one who has been for many years in the department of pediatrics of the University of Berlin and who has had a vast clinical experience. The book has a new arrangement which will appeal to many. This arrangement is logical, and differs essentially from the arrangement of books which one usually sees on the subject. The first part discusses congenital and constitutional diseases. Under this there is first considered the developmental disturbances, and this is again subdivided into disturbances which affect the whole organism, prematurity and infantilism, and disturbances affecting single organisms such as the ductless glands, central nervous system, heart and digestive tract. Among the congenital anomalies were considered exudative diathesis, rickets, constitutional overirritability, and diseases of the blood and blood forming organs. The next part treats of nourishment and nourishment disturbances. This is handled in a manner peculiar to the writer. He does not take any of the usual classifications of nourishment disturbances, but begins with a section on general etiology and then divides them into diseases with diarrhea and diseases with disturbances of nutrition. In the latter he includes the lighter forms of malnutrition, and also marasmus and disturbances due to "mehlnährschaden" and scurvy. Following this section is a section on diseases caused by infection. The book is compact, well written, and, as the arrangement indicates, it is distinctly individual in many ways.

Therapeutisches Vademekum für die Kinderpraxis. Von Dr. Hans Kleinschmidt, Professor der Kinderheilkunde an der Universität Hamburg. Second edition. Paper. Price, 15 marks. Pp. 196. Berlin: S. Karger, 1920.

This small compendium of indications for treatment in children's diseases is arranged in parts, general therapeutic measures being given first, and then the feeding of infants, diseases of the new-born, diseases of infants and older children. This is followed by a short chapter on the preparation of foods, and then a list of the German institutions for children. The book contains many helpful hints, but the American reader is struck by the frequent reference to proprietary remedies throughout the book. It is greatly condensed, but should serve a useful purpose in directing treatments, and it contains many helpful suggestions.

Medicolegal

Validity of Note Taken from Patient—Evidence

(Cole v. Wolfskill et al. (Calif.), 192 Pac. R. 549)

The District Court of Appeal of California, Second District, Division 2, in affirming a judgment in favor of the plaintiff, who sued the defendants as executors of the will of a Mrs. Wolfskill, on a note given by her for $12,500, says that it appeared that Mrs. Wolfskill was a widow, about 71 years of age, without business experience until after her husband's death, when she administered his large estate, with the assistance of agents and attorneys. The plaintiff had been for many years her family physician and a neighbor, but there was nothing of a business nature between them prior to the execution of the note, except with regard to his fees, which she had paid. In May, 1915, he, with the assistance of three other physicians whom he called for the purpose, amputated one of her legs. In July, in the presence of the nurse, he jokingly inquired of Mrs. Wolfskill how much he owed her for his visits, to which she responded by inquiring how much she owed him. At that point the nurse left the room, and did not hear the conversation that ensued. Several days later the plaintiff again called, bringing with him the note, which Mrs. Wolfskill signed. At that time she offered to secure the payment of the note by a mortgage on her home, but the plaintiff said that her signature was enough. He also informed her that he had paid the other physicians, and on delivery of the note gave her a receipt for $12,500 for professional services, which, by its terms, included payment of the three assistants. After his departure, Mrs. Wolfskill remarked to the nurse that she thought the charge reasonable, that she would not have been surprised if it had been $20,000, and expressed appreciation of what the plaintiff had done for her. Her two sons, executors of her will, testified that she had a clear, strong mind, a positive character, and was a good house manager. She had administered her husband's estate, which was appraised at $2,600,000, in a satisfactory manner, and no criticism was made of the conduct of any of her business affairs. From this undisputed testimony it was sufficiently established that she was fully capable of contracting, that the plaintiff had rendered her valuable services, and that the note was voluntarily executed by her in settlement therefor, in the belief that the charge was reasonable.

It undoubtedly is the established rule that the relation of physician and patient is confidential, and the law demands the strictest good faith and fair dealing in all transactions arising from that relationship. Once this relation is shown to exist, all dealings between the parties will be closely scrutinized, to ascertain whether the confidence of the trusting party has been betrayed, or his mind unduly influenced to his prejudice. But when satisfactory proof has been made that a person has freely and voluntarily disposed of his property in accordance with his wishes, and his capacity and volition are apparent, the existence of the confidential relation will not prevent the consummation of his desires. It was contended that, by reason of the proof that the note was executed by a patient to her physician during such relationship, the presumption arose that it was obtained by undue influence and without sufficient consideration; but the result of a drastic application of the rule invoked would be to preclude a physician from bargaining with a patient in regard to his fees, and to deprive persons occupying confidential relations of the power of contracting with each other for compensation, which, in all cases, would of necessity be fixed by a court or jury regardless of the circumstances under which the parties arrived at an agreement between themselves.

Counsel argued that it did not appear that Mrs. Wolfskill was informed as to the amounts paid to other physicians or what services were performed by the plaintiff, although peculiarly within his knowledge. It must be borne in mind that

this was an action to recover a debt due from an estate; and the lips of the plaintiff were sealed as effectually by the terms of Section 1880 of the Code of Civil Procedure as the voice of the decedent was stilled by the Grim Reaper. What the plaintiff knew could never be revealed to an earthly tribunal; and what occurred between the parties must ever remain undisclosed to mortal judge. The court was justified in instructing the jury to find for the plaintiff.

A hearing was denied by the Supreme Court of California.

Legality of School Health Inspection Department

(Hallett et al. v. Post Printing & Publishing Co. (Colo.), 192 Pac. R. 658)

The Supreme Court of Colorado, in reversing a judgment in which the plaintiff company was granted an injunction against the defendants, who were the president, secretary and treasurer of the school board of Denver, forbidding them to issue warrants for the maintenance of the school health inspection department which the board had established and in which it was employing physicians, dentists and nurses, holds that such maintenance was within the lawful powers of the board. The court says that the power of the school board to exclude pupils who do not meet reasonable health requirements, which is undoubted, necessitates the conclusion that they have power: (1) To make the requirements, and therefore to take expert advice as to what those requirements ought to be. (2) To determine whether the pupil meets them, which requires expert advice and inspection, and therefore they may employ suitable persons to give such advice and make such inspection. The fact that in small districts this may be impossible is immaterial. It is also undoubted that the board may provide for the physical as well as the mental education of the pupils. It follows that, if they provide physical education, they must, within reasonable limits as to expense and time of pupils, provide for determining what is proper and beneficial for each pupil, by all reasonable means, including examination, physical as well as mental, by suitable persons, and for proper physical exercises and development to overcome defects. This should not include medical or surgical treatment for disease. That would be to make infirmaries or hospitals of the schools. The fact that the persons employed are professional medical men and nurses does not preclude but justifies their employment for such a purpose. If the board were restricted by Section 5925 of the Revised Statutes to the employment of "teachers, mechanics and laborers" only, as was claimed by the plaintiff, they could not employ a lawyer, architect, clerk, secretary, librarian, engineer, or even a superintendent; and, further, if employees are inspecting the children and directing what is to be done for their physical education, they are as certainly teachers are are those principals of large schools who do not actually teach.

As to Chapter 203 of the Laws of 1909, it was contended that, since that act provides a complete system of health inspection for schools, school boards cannot lawfully do more. An examination of the act, however, discloses no purpose on the part of the legislature to provide a complete system of inspection or to restrict school boards in any way. The act provides for a yearly inspection by inexpert principals and teachers of sight, hearing and breathing only, and that without drugs or instruments, at an annual expense of $1,000 for the whole state. The supreme court was asked to hold that the provision for such inspection forbids adequate inspection by experts. The court ought not to impute absurdity unnecessarily. It was not absurd to require such inspection as a minimum, nor, perhaps, to forbid the inexpert to use instruments, however inefficient their inspection might be without them; but, if the legislature should go to the length of establishing such inspection as the maximum of what might lawfully be done for the health of the public school children, would it not be absurd? Section 2 requires no inspection at all, not for infectious disease, physical education, hygiene, personal sanitation, nor for any police purpose. It merely requires principals and teachers to report what is apparent. It is not possible that this act was intended as a complete system to supersede the board's power to protect and physically educate the children.

The provision of the constitution for free schools for all from 6 to 21 years of age did not preclude free schools for those under 6. Why, then, does a provision for inspection of sight, hearing and breathing preclude inspection for measles or curvature of the spine? The fears that school districts will be loaded with unnecessary and expensive experts are groundless. The same argument would apply to teachers, mechanics, laborers and principals. The people of the district can always control the whole matter by changing the board.

The supreme court denied a rehearing.

Injury Held Cause of Death from Apoplexy

(State ex rel. George D. Taylor & Sons et al. v. District Court of Ramsey County et al. (Minn.), 179 N. W. R. 217)

The Supreme Court of Minnesota says that, Aug. 7, 1918, a workman had three fingers of his right hand cut off near the knuckles, and the fourth, or little, finger cut off between the knuckle and phalangeal joints, by a saw. Immediately following the accident he was taken to a hospital, where he was given an anesthetic, followed by proper surgical treatment. He remained at the hospital six days, and while there and some two days after the injury suffered a slight apoplectic stroke, his left side being affected, with paralysis of the face and loss of power of speech. He recovered from the shock, and when he left the hospital was apparently in his normal condition, barring the injury to the hand. He suffered another and more severe stroke, August 13, from which he made only a partial recovery, and a third stroke, October 10, resulted in his death three days later. The medical testimony tended to show that the injury was a severe nervous shock to the man's system, reducing the power of resistance of the tissues of the body, bringing on or causing an embolismic condition which in turn caused the apoplectic strokes, the third of which resulted in his death. The credibility of this evidence was for the trial court. It was competent and was accepted by that court, and its decision in favor of the claim of the man's widow for compensation under the workmen's compensation statute was based thereon. The supreme court finds from the record no sufficient reason for disapproval of that conclusion, and affirms that judgment.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Montgomery, April 19-21.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2-3.
American Association of Physicians, Atlantic City, May 10-11.
American Laryngological Association, Atlantic City, May 30-June 1.
American Medico-Psychological Association, Boston, May 31-June 3.
American Otological Society, Atlantic City, June 1-2.
American Society for Clinical Investigation, Atlantic City, May 9.
Arizona Medical Association, Tucson, April 15-16.
Arkansas Medical Society, Hot Springs, May 3-5.
Association of American Peroral Endoscopists, Atlantic City, June 1.
California, Medical Society of the State of, San Diego, May 10-12.
Connecticut State Medical Society, Hartford, May 18-19.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Illinois State Medical Society, Springfield, May 17-19.
Iowa State Medical Society, Des Moines, May 11-13.
Kansas Medical Society, Wichita, April 26-28.
Louisiana State Medical Society, New Orleans, April 19-21.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-28.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Mississippi State Medical Association, Laurel, May 10-11.
Missouri State Medical Association, St. Joseph, May 17-19.
Nebraska State Medical Association, Lincoln, May 9-12.
New Hampshire Medical Society, Concord, May 25-26.
New Mexico Medical Society, Albuquerque, April 28-30.
New York, Medical Society of the State of, Brooklyn, May 3.
North Carolina, Medical Society of the State of, Pinehurst, April 26-28.
North Dakota State Medical Association, Fargo, May 26-27.
Ohio State Medical Association, Columbus, May 3-5.
Oklahoma State Medical Association, McAlester, May 17-19.
Rhode Island Medical Society, Providence, June 2.
South Carolina Medical Association, Columbia, April 19-20.
South Dakota State Medical Association, Aberdeen, May 24-26.
Tennessee State Medical Association, Nashville, April 12-14.
Texas, State Medical Association of, Dallas, May 10-12.
Western Electro-Therapeutic Association, Kansas City, Mo., April 21-23.
West Virginia State Medical Association, Pence Springs, May 24-26.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Dermatology and Syphilology, Chicago

March, 1921, 3, No. 3

*Application of Cutaneous Sensitization to Disease of Skin. M. F. Engman and W. G. Wander, St. Louis.—p. 223.
*Occupational Dermatitis in Dentists: Susceptibility to Procain. C. G. Lane, Boston.—p. 235.
Fifth Case of Scleroderma with Arsenic in Urine. S. Ayres, Jr., Los Angeles, Calif.—p. 245.
*Value of Iodin in Treatment of Leprosy. J. T. Wayson, Honolulu, H. I.—p. 248.
Roentgen-Ray from Pathologic Point of View. D. L. Satenstein and J. Remer, New York.—p. 250.
*Experimental Production of Clinical Types of Syphilis in Rabbit. W. H. Brown and L. Pearce, New York.
Study of Arsphenmin-Serum Precipitates and Their Relation to Clinical Reactions. J. F. Schamberg, K. Tokuda and J. A. Kolmer, Philadelphia.—p. 263.
Study of Spinal Fluid in One Thousand Eight Hundred and Sixty-Nine Cases of Syphilis in all Stages. U. J. Wile and C. H. Marshall, Ann Arbor, Mich.—p. 272.
Attempt to Improve Sensitiveness of Complement-Fixation Test for Syphilis without Loss of Accuracy. W. H. Kellogg, Berkeley, Calif.
*Sachs-Georgi Reaction for Syphilis. S. A. Levinson and W. F. Petersen, Chicago.—p. 286.
*Spurious Chancer. J. H. Stokes, Rochester, Minn.—p. 295.

Value of Cutaneous Sensitization Test.—Engman and Wander maintain that the cutaneous sensitization test by the dermal method is of inestimable value as a diagnostic and therapeutic measure in the study and care of urticaria, eczema and several other diseases of the skin. In urticaria, 79 per cent. showed a positive sensitization; in infantile eczema, 78 per cent. and in chronic generalized eczema, 38 per cent. This is an interesting comparison with that of Baker who showed "that the incidence of positive protein sensitization in normal children is negligible," and corresponds with the statistics of Blackfan, who showed a high protein sensitization in infantile eczema.

Procain Dermatitis.—Lane cites the cases of three dentists who had a dermatitis of the hands which appeared since they began to use procain. Since discontinuing its use, or wearing gloves, the irritation has disappeared and their hands have become normal. Furthermore, the evidence of skin tests has been in agreement with the clinical evidence.

Iodin in Leprosy.—Wayson has obtained good results from the use of iodalbin in leprosy. Iodalbin contains about 22 per cent. iodin. It is given in 20 grain doses. In association with this intensive use of iodin internally, he has attempted to use an iodinized autogenous serum obtained in the following way: Skin lesions containing large numbers of lepra bacilli are frozen with a carbon dioxid snow pencil to produce a large bulla. The fluid from these bullae is withdrawn under antiseptic precautions and reinjected into the patient. Different lesions are used from time to time, but any single lesion is employed until the bacilli can no longer be obtained from it. This process is repeated at from seven to ten day intervals. The basis for this therapeutic method is the belief that iodin, which passes out through all the secretions, would be contained in the serum, thus forming an iodinized autogenous serum. Furthermore, the increased blood supply brought to the part treated with the snow pencil would produce a local phagocytosis, and would aid in bringing the iodin directly in contact with the diseased tissue. Wayson is firmly convinced that this method of using iodin has a curative action in the treatment of leprosy.

Clinical Types of Syphilis.—In the course of investigations dealing with generalized syphilis in the rabbit, it was noted by Brown and Pearce that distinctly different types of disease were frequently produced by inoculations made with a given strain of *Spirochaeta pallida;* it also appeared that there was an appreciable connection between the experimental conditions employed and the type of disease which occurred. Since it has been found possible to convert a disease by diminishing or suppressing the primary reaction, it appeared that by modifying the reaction in different ways, one might produce types of disease which would conform to alterations in the defensive mechanism. Experiments carried out on a large series of animals showed that such was the case. By various experimental procedures, different types of infection were produced, and in this way it was found that there was a definite sequence of tissue involvement or of tissue reactions which made it possible to produce infection or to confer protection on a given group of tissues according to the nature of the means employed. From the manner in which the infection responded to modifications of the defensive reaction, the conclusion was drawn that a wide variation in the clinical type of the disease might be traceable to this one group of causes. This does not eliminate the possibility that variation in the biologic properties of the infectiong organisms may contribute to further variations in the type of disease.

Sachs-Georgi Reaction.—Levinson and Peterson make a preliminary report of more than 1,000 comparative Wassermann and Sachs-Georgi tests. A close parallelism of the two reactions (92 per cent.) existed: in sixty-two cases in which the Wassermann reaction was negative while the Sachs-Georgi reaction was positive or doubtful, the clinical history or examination revealed evidence of syphilis in 58 per cent. Because of its simplicity and the fact that it is frequently positive in syphilitic cases when the Wassermann test is negative, the authors are of the opinion that the Sachs-Georgi reaction offers a valuable aid in the routine examination for syphilis when used in conjunction with the Wassermann reaction.

Spurious Chancre.—The case reported by Stokes has a double interest because it illustrates how perfectly an initial sclerosis may be mimicked by a factitial or benign inflammatory lesion, and how critical one may justly be of accounts of reinfections, superinfections and cures based on the excision of the chancre when the diagnosis of the lesion has been made on clinical criteria alone, without a complete confirmation by dark-field and serologic examination.

Archives of Internal Medicine, Chicago

March 15, 1921, 27, No. 3

*Treatment in Botulism. V. Burke, J. C. Elder and D. Pischel, Stanford University.—p. 265.
*Relation of Hyperthyroidism to Diabetes Mellitus. R. Fitz, Rochester, Minn.—p. 305.
*Ocurrence of Abnormal Leukocytes in Blood in Acute Infections. Acute Benign Lymphoblastosis. W. A. Bloedorn and J. E. Houghton, Annapolis, Md.—p. 315.
*Focal Infection and Selective Localization of Streptococci in Pyelonephritis, Study I. H. C. Bumpus, Jr., and J. G. Meisser, Rochester, Minn.—p. 326.
*Muscular Infantilism. A. Gibson, Winnipeg, Can.—p. 338.
Administration of a Pituitary Extract and Histamin in Case of Diabetes Insipidus. R. B. Gibson and F. T. Martin, Iowa City.—p. 351.
*Influenza Pandemics Depend on Certain Anticyclonic Weather Conditions for Their Development. C. M. Richter, San Francisco.—p. 361.

Treatment of Botulism.—The treatment of botulism is in the experimental stage, and based mainly on insufficient or inexact knowledge. In experimental work with laboratory animals and in the treatment of human cases of botulism there has not been gained sufficient knowledge to develop a scientific treatment. The evidence we have indicates that treatment begun after the symptoms are well advanced will not, in most cases, alter the course of the disease. But we have sufficient experimental evidence to believe that some of those receiving lethal amounts of toxin can be saved by the use of antitoxin if the treatment is begun at about or before the time the symptoms appear. The general treatment of botulism consists of treatment of the digestive tract and stimulation of the nervous system. The authors recommend the use of high enemas that will neutralize the toxin, prevent its absorption and destroy the organisms. Liquid soap neutralizes the toxin, olive oil prevents its absorption and turpentine may have some beneficial action. Iodin and potassium permanganate destroy both the toxin and organisms and might be used to advantage. The effect of soap on the organism is unknown and should be determined. Treatment of the stomach should have in mind the removal of the toxic contents by stimulation of movement or the stomach pump, the prevention of absorption by the use of demulcents and oils or stimulation of secretions, the neutralization of the toxin and the destruction of the organisms. The removal of the stomach

contents is attended with some danger as it may induce pneumonia. The death rate among those vomiting is 75 per cent.; among those not vomiting, 70 per cent. The average time of death of those vomiting is 3.7 days and of those not vomiting 5 days after the ingestion of the toxic food. This indicates that those ingesting the most toxin tend to vomit or the act of vomiting induces a terminal pneumonia. The food taken in with the toxin delays the appearance of the symptoms. This is probably due to a slowing down of the rate of absorption of the toxin. Treatment of the stomach must be begun early, as paralysis of the throat soon sets in and there is great danger of pneumonia.

Relation of Hyperthyroidism to Diabetes Mellitus.—The material presented by Fitz consists of thirty-nine hitherto unreported cases of diabetes complicated by thyroid disease. Five patients with nontoxic goiter were operated on with no mortality, six with toxic adenoma with one death, and six with exophthalmic goiter with one death. Therefore, it does not seem overradical Fitz says to advise operation for properly selected and prepared patients in this group of cases, since the risk does not seem out of proportion to the possible benefit to be gained, and since the prognosis is otherwise very grave.

Acute Benign Lymphoblastosis.—Five cases are reported by Bloedorn and Houghton in which the blood picture gave rise to considerable apprehension. The disease occurred in young adults and as a rule followed an infection of the tonsils or upper respiratory passages. Three of the four cases showed the presence of the organisms of Vincent's angina in throat smears during the acute course of the disease. The blood picture in this type of case bears great similarity to that of acute lymphatic leukemia. However, the total white count never became so large that it could not be accounted for as the result of reaction to acute infection; there was no hemorrhagic tendency and no degenerated or fragile celles were noted in the smears. The predominating type of cell was the lymphoblast and the Rieder type of lymphoblast was frequently noted. All of these cases showed enlargement of the lymphatic glands, particularly the cervical and submaxillary glands. They all pursued a benign course and ended in complete recovery. The term "acute benign lymphoblastosis" is suggested as covering this type of case.

Focal Infection and Pyelonephritis.—It seems from this study by Bumpus and Meisser that pyelonephritis may often be due to focal infections harboring streptococci which have a selective affinity for the urinary tract, and that the colon bacillus which is commonly found and generally believed to be the cause, is of secondary importance.

Muscular Infantilism.—In Gibson's case there was a striking absence of pathologic signs, except an infantile degree and character of muscular power; and the presence of creatin in the urine. On the basis of clinical data, of ergograph and dynamometer records, and the presence of creatin in the urine, Gibson describes this as a case of muscular infantilism. Its ultimate cause is still unknown, and the condition is entirely uninfluenced as yet by treatment. Such observations as have been made tend to negative the suggestion that the endocrine glands are at fault.

Influenza and Anticyclonic Weather.—The assumption, that the propagation of influenza is analogous to that of an infectious disease, Richter claims, has so far no foundation in fact. The cause of influenza is still unknown. The first appearance of influenza cases in a pandemic, and the full development of the latter, are geographically in direct relation to the appearance and development of certain anticyclonic conditions. The successive seizure of great districts of the continent invariably originates in one or the other center of great anticyclonic action on the globe, as in inner Asia, Bokhara, and in Canada during the 1890 pandemic, and as in the region of the "Canary Island High" (Spanish influenza), in Canada during the 1918 pandemic. The influenza pandemic extends, spreads in the same direction and with the same velocity as the great anticyclone spreads from its center over a continent. Increases of influenza morbidity preceding a great pandemic are always in harmony with similar increases of an anticyclonic type of weather.

Archives of Neurology and Psychiatry, Chicago

March, 1921, 5, No. 3

*Study of Some Peculiar Changes found in Axons and Dendrites of Purkinje Cells. S. Uyematsu, Hathorne, Mass.—p. 231.
*Repeated Multiple Minute Corticospinal Hemorrhages with Miliary Aneurysms in Case of Arteriosclerosis. O. J. Raeder, Boston.—p. 270.
Intellectual Status of Patients with Paranoid Dementia Praecix. E. Rawlings, Napa, Calif.—p. 283.
*Cerebellar Fits. R. G. MacRobert and L. Feinier, New York.—p. 296.
*Luminal Therapy in Control of Epileptic Seizures. I. J. Sands, New York.—p. 305.

Changes in Axons and Dendrites.—Swelling of the dendrites and axis cylinders have been reported by various observers under various pathologic conditions, and their opinions concerning the nature of these swelling vary. This study was made to endeavor to determine in what diseases these changes are likely to be found and what significance they may have. Uyematsu selected forty-one cases. All the patients died of psychoses. He states that these peculiar changes are encountered in cerebellums whenever there is a chronic degenerative process. This process may be either of an inflammatory character, the result of malformation, or of toxemia, as for example, from alcohol, and therefore is not specific. Axonal swellings are more frequently observed than dendritic swellings. Axonal swellings may be found in any disease in which the Purkinje cells have undergone degeneration. If, however, degeneration of the Purkinje cells is extreme, axonal swellings are either not to be observed or only a few are encountered as these swellings are stages of degeneration which these cells undergo. The dendritic swellings, on the other hand, are found even with fairly advanced degeneration of the finer dendritic processes and most commonly in senile dementia and congenital brain diseases. The dendritic and axonal swellings are not always of the same intensity in the same case though they are usually associated. Reasons are given for the assumption that the swellings are, in the beginning at least, a reactive process of pathologic but living protoplasm. The diffuse hypertrophy of axons and collaterals which are found associated with focalized swellings, are to be regarded as a regenerative process. Thus the ill nourished or slightly degenerating Purkinje cells appear to make a feeble attempt to increase the thickness of the axons. The "feeble attempt" at regeneration is, however, abortive. The dendritic swellings, though they are not so frequently observed as are axonal swellings, probably are of the same character. The regenerative process, however, is soon followed, as in the axis cylinders, by a degenerative one. The metabolic product which in most instances gives rise to the peculiar swellings is a homogeneously glassy substance. This substance shows a staining reaction similar to that of the amyloid bodies found in the central nervous system. Uyematsu has been unable to determine the definite character of this substance.

Multiple Corticospinal Hemorrhages.—Opinion is divided as to the degree in which miliary aneurysms are a factor in causation of lethal brain hemorrhage. Charcot and Bouchard asserted that a great majority of such deaths were due to miliary aneurysms. Picl said that few, if any, deaths were caused by ruptured miliary aneurysms. Raeder believes that his case supports the latter view, for there is evidence of repeated showers of miliary hemorrhages with recovery in each instance in spite of an extremely high blood pressure 250/160, except in the last instance, in which death was due to intercurrent disease. The man had marked arteriosclerosis with repeated convulsive attacks. Evidence was found, especially in the cortex, of numerous minute hemorrhages of various age and size. Miliary aneurysms, chiefly of the dissecting type, were found in large numbers. They were rare in the interfocal spaces. The various vessel coats could not all be followed over the aneurysms. The vascular lesion was an arteritis with degeneration of the fenestrated membrane and the muscularis, and frequently a degeneration of these coats resulted in a single layer of hyalin substance. Repeated showers of small hemorrhages during a period of almost three years failed to cause death.

Posterior Fossa Tumors as Cause of Convulsions.—In only nine cases in a series of forty-five posterior fossa tumors studied by MacRobert and Feinier phenomena occurred that

ight be considered under the caption of "fits." From a study f these cases and a brief review of the literature, the authors ave concluded that convulsive phenomena of any sort in mors of the posterior fossa are rare; that the chief disnguishing feature of those which have been noted is the regularity and sustained tonicity of the movements, in comarison with the rhythmic clonic movements of forebrain fits. udden involuntary movements, similar in a measure to the o-called forced movements which follow experimental ablaon of parts of the cerebellum, were observed in some cases. udden characteristic disturbances in the function of the ranial nerves in the posterior fossa, such as ticlike spasms nd respiratory embarassment, may result from irritation by tumor in this region. Fits of any kind usually occur late the illness, after conclusive signs of cerebellar disease have ng been present. Jacksonian convulsions, which may result rom instability induced by the growth of a tumor in the icinity of the cerebral motor cortex, are easily distinguishble from cerebellar fits by the deliberate, progressive charcter of the spasms.

Luminal in Epilepsy.—Luminal, a phenylethylbarbituric acid losely allied to veronal, has given Sands most unusual esults in the treatment of eighty-six cases of epilepsy. odium luminal rather than the alkaloid itself was used ecause of its greater solubility. As a general rule, the dose mployed was three-fourths of a grain, three times a day, but ach patient was carefully studied before a definite dosage was iven. While some patients required more than three doses day, others did better on only one dose given just before etiring. The first improvement noted was a decided decrease the number of seizures. There was a definite diminution in he nature of the seizures, the convulsions being much milder nd of shorter duration. There was a definite decrease and hange in the unpleasant after-effects of the seizures. There as a definite favorable impression on the menstrual funcion of patients. It was possible to parole patients who otherise would not have been considered fit to leave the institution. The patients became much quieter and more amenable o care and treatment. There was a decided decrease in the umber of injuries received during seizures, and in the numer of altercations with other patients. Less demands were nade on the overworked nursing staff. The after-effect of the lrug have been practically nil. There were no cumulative ffects in any of the cases; there was no dulness no exanhems, no paralysis, indicative of toxic effects that have been eported by other observers. However, with the discontinuaion of the drug, the seizures return at more frequent interals and with greater intensity. This and the fact that as et the manner in which the drug acts is not understood, Sands says, would indicate that the drug should be used with aution andl only by trained men.

Boston Medical and Surgical Journal

March 17, 1921, **184**, No. 11

Bone Setters, Osteopaths and Physical Therapeutics. E. H. Bradford, Boston.—p. 267.
Primary Syphilis. C. G. Lane, Boston.—p. 272.
Rectal Abscesses and Their Treatment. T. C. Hill, Boston.—p. 278.
Energy Requirements of Girls from 12 to 17 Years of Age. F. G. Benedict and M. F. Hendry, Boston.—p. 282.

Canadian Medical Association Journal, Toronto

March, 1921, **11**, No. 3

*Prognostic Value of Study of Blood Chemistry in Acute Abdomen. I. M. Rabinowitch.—p. 163.
Toxemias of Pregnancy—Early Recognition and Treatment. T. B. Stevenson.—p. 167.
Epidemiology and Diagnosis of Lethargic Encephalitis. N. B. Gwyn.—p. 169.
Blood Transfusion. S. J. S. Pierce.—p. 174.
Footwear. J. Patterson.—p. 178.
Continuous Fever in Children with Streptococcic Infection in Blood Stream, with Recovery. J. B. Manning.—p. 187.
Fibro-Plastic Tuberculosis in Eye. R. Kerby.—p. 192.
*Recurrent Dislocation of Shoulder Joint. A. Gibson.—p. 194.
Epilepsy. A. G. Morphy.—p. 199.
Plea for More General Use of Local Anesthesia. A. J. Grant.—p. 202.
Seasonal Hay Fever. W. Ness.—p. 205.
Hyperthyroidism—Diagnosis and Treatment. E. M. Eberts.—p. 207.

Value of Blood Chemistry in Acute Abdomen.—A routine study of the blood chemistry made in a number of cases admitted to the Montreal General Hospital having or suspected of having acute intestinal obstruction, acute peritonitis or acute pancreatitis showed that in intestinal obstruction, whether mechanical or adynamic, in acute general peritonitis, and in acute pancreatitis, the blood urea nitrogen rises above the normal in spite of normal kidney function. This rise in the blood urea is therefore due to increased tissue destruction and not to defective kidney elimination. The tissue destruction is probably due to the toxic effect of a proteose absorbed. The maintenance of a high blood urea nitrogen, in the presence of a good kidney function, is indicative of an unfavorable prognosis, in spite of the amelioration of the clinical symptoms.

Operation for Recurrent Dislocation of Shoulder Joint.—Gibson recommends the Clairmont-Erlich operation in which a portion of the deltoid itself is employed as a muscular guard. The principle is the detachment of a portion from the posterior border of the deltoid muscle, and its insinuation through the quadrilateral space to an attachment at the coracoid process. The nerve supply of the segment of the deltoid is retained intact so that on the assumption of the danger position by means of the deltoid fibers, a muscular sling gives active support to the threatened aspect of the capsule.

Illinois Medical Journal, Oak Park

March, 1921, **39**, No. 3

Special Field of Neurologic Surgery After Another Interval. H. Cushing, Boston.—p. 185.
Vaccination in Prevention of Smallpox. W. S. White, Evanston.—p. 195.
Physics and Use of Radium. H. P. Beirne, Quincy.—p. 201.
Twilight Sleep. E. R. Miner, Macomb.—p. 203.
Subsequent Treatment in Casualty Cases. D. Deal, Springfield.—p. 206.
Differential Diagnosis of Duodenal Ulcer and Gallbladder Disease. L. Bloch, Chicago.—p. 209.
Prognostic and Diagnostic Value and Interpretation of Quantitative Wassermann Reaction. A. Gehrmann, J. A. Wesener and M. Roman, Chicago.—p. 212.
Reminiscenses of Sixty Years' Practice of Medicine in Egypt, Southern Illinois. F. M. Agnew, Makanda.—p. 214.
Roentgen Ray in Malignancy. H. A. Chapin, Jacksonville.—p. 219.
Plea for Bed Time Toilet. C. B. Johnson, Champaign.—p. 223.
Case of Syphilis of Stomach with Negative Findings in Blood and Spinal Fluid. S. A. Portis, Chicago.—p. 226.
Three Days vs. Three Weeks in Hospital After Operations for Hemorrhoids. J. R. Pennington, Chicago.—p. 229.
Fibroids Complicating Pregnancy Summary. A. P. Heineck, Chicago.—p. 232.
Interpretation of Early Abdominal Symptoms. F. D. Moore, Chicago.—p. 235.
Treatment of Nervous Irritability and Excitement. E. Jacobson, Chicago.—p. 243.
The State: Its Interest in Health and Life of Children. C. W. East, Springfield.—p. 247.
Cubism in Medicine. G. F. Butler, Winnetka.—p. 250.
Surgery of Gall Tracts Without External Drainage. H. M. Richter, Chicago.—p. 256.

Journal of Infectious Diseases, Chicago

March, 1921, **28**, No. 3

*Acute Respiratory Infection in Man Following Inoculation with Virulent Bacillus Influenzae. R. L. Cecil and G. I. Steffen, Washington, D. C.—p. 201.
*Botulism from Cheese. M. Nevin, Albany, N. Y.—p. 226.
*Acidfast Actinomycetes; Report of Case from Which a New Species was Isolated. A. T. Henrici and E. L. Gardner, Minneapolis.—p. 232.
Growth of Gonococcus in Various Gaseous Environments. G. E. Rockwell and C. F. McKhann, Cincinnati.—p. 249.
Activity of Staphylococci in Milk. W. H. Barnes, Berkeley, Calif.—p. 259.
*Influence of Chaulmoogra Oil on Tubercle Bacillus. J. A. Kolmer; L. C. Davis and R. Jager, Philadelphia.—p. 265.
Characteristics of Microcolonies of Some Pathogenic Cocci. R. C. Haner and W. D. Frost, Madison, Wis.—p. 270.
*Changes in Leukocytes and Alkali Reserve of Blood in Experimental Infections. E. P. Hirsch, Chicago.—p. 275.
*Effect of Mustard Gas (Dichlorethylsulphid) on Antibody Formation. L. Hektoen and H. J. Corper, Denver, Colo.—p. 279.
*Effect of Mustard Gas (Dichlorethylsulphid) on Experimental Tuberculosis. H. J. Corper and O. B. Rensch, Denver, Colo.—p. 286.
*Fate of India Ink Injected into Blood. II. Formation of Intracellular Granules and Their Movements. K. Nagao, Chicago.—p. 294.

Experimental Influenza Studies.—The results obtained by Cecil and Steffen in their experiments confirm, in almost every particular, the studies on experimental influenza recently carried out by Blake and Cecil on monkeys. In both instances, the inoculation of virulent influenza bacilli usually gave rise to an acute respiratory disease, similar in many respects to clinical influenza, and characterized by the presence

of influenza bacilli in the discharges. In monkeys the hemolytic streptococcus, when inoculated in the nose and throat, caused no reaction. In man, however, one of the two volunteers developed an acute tonsillitis from which *Streptococcus hemolyticus* was recovered. In both species virulent pneumococci failed in a few trials to excite symptoms.

Botulism from Cheese.—Three persons who had eaten of home-made cottage cheese later examined by Nevin had died. The clinical data furnished suggested different diagnoses, including poliomyelitis, and a definite diagnosis was not made. Two cases were identical; paralysis of the muscles of deglutition, suffusion of the face, ptosis, total dilatation and failure of pupils to react to light, paralysis of the muscles of the throat with difficult speech were present. There was no loss of consciousness or paralysis of any other part of the body. The third patient was unable to swallow, and a considerable quantity of mucus accumulated in the throat. No eye symptoms were evident, doubtless owing to the fact that it was a milder infection, as the death occurred several days after that of the other two patients. Subcutaneous inoculation of 3 c.c. of an emulsion of the cheese after incubation at 37 C. for forty-eight hours, killed guinea-pigs within thirty-six hours. *B. botulinus* was isolated from the cheese. This appears to be the first time that *B. botulinus* has been isolated from cheese, that a soluble bacterial toxin has been detected in cheese, and that *B. botulinus* has been isolated in America.

Acid-Fast Actinomycetes.—In case reported by Henrici and Gardner the condition was diagnosed during life; the organism was isolated in pure culture from the sputum and proved to be different from any of the recorded species; immunologic studies were made and vaccine treatment was tried.

Influence of Chaulmoogra Oil on Tubercle Bacillus.—Undiluted chaulmoogra oil (*Taraktogenos kurzii,* King) and dilutions in liquid petrolatum had no appreciable germicidal influence in vitro on a strain of bovine tubercle bacilli, according to the results observed by Kolmer and others with the technic employed in these experiments. The sodium salts of the total acids of this oil (chaulmoogrates) were not included in this study. Undiluted and diluted chaulmoogra oil had no appreciable germicidal effect on virulent tubercle bacilli as determined by an in vitro-vivo method employing guinea-pigs. Chaulmoogra oil in doses of 0.2 c.c. per hundred gm. body weight, administered by intramuscular injection at weekly intervals (equivalent to 2 c.c. per kilogram or 120 c.c. per 60 kilograms) had none or but slight effect on the course of tuberculosis in infected guinea-pigs. Chaulmoogra oil is relatively nontoxic for guinea-pigs; animals have borne at least eleven intramuscular injections of 0.2 c.c. per hundred gm. without deleterious effect except localized inflammatory changes at the sites of injection.

Leukocytosis and Blood Alkali Reserve.—The results obtained by Hirsch indicate that a general leukocytosis and lenkopenia are accompanied by a diminution of the blood alkali reserve. It is possible that the factors lowering the alkali reserve, or that the lowered alkali reserve itself (acidosis) furnish the chemical stimulus necessary for the production of leukocytosis. Apparently the degree of leukocytosis is in ratio not so much with the extent of the initial lenkopenia as it is with the degree of alkali reserve depression and the length of time during which it is depressed.

Effect of Mustard Gas on Antibody Formation.—The experiments made by Hektoen and Corper tend to place mustard gas in a class with the leukotoxic agents: benzene, the radioactive preparations of which thorium X is an example, and the roentgen ray, all of which, though probably differing in the details of their mechanism, have a profound effect on the hematopoietic organs, the leukocytes and specific antibody formation.

Effect of Mustard Gas on Tubercule Bacillus.—Mustard gas dissolved in 25 per cent. glycerol is bactericidal toward virulent human tubercle bacilli after an exposure in vitro of at least one-half hour to 0.1 per cent. and after two hours to 0.01 per cent. A virulent human and bovine tubercle bacilli seem to be slighty less sensitive, these organisms requiring an exposure of from four hours to one day to obtain the same results. What part, if any, the hydrolysis of mustard gas in the glycerol played in this experiment was not determined. Mustard gas in 0.1 per cent. strength in 25 per cent. glycerol containing virulent human tubercle bacilli and injected immediately subcutaneously into guinea-pigs entirely prevented the development of systemic tuberculosis in these animals; even 0.01 per cent. mustard gas has a distinct retarding influence on the development of tuberculosis in these animals. This action could not be due to the tissue destructive action of the mustard gas in these concentrations, since the same results were obtained in the absence of ulcers. Mustard gas given subcutaneously to guinea-pigs in amounts consistent with life (0.001 c.c. in glycerol) in a single injection or repeated, at four day intervals for three or four injections, had no appreciable effect on the amount of anatomic tuberculosis resulting from the subcutaneous injections of virulent human tubercle bacilli.

Fate of India Ink Injected Into Blood.—The mechanism of the accumulation of ink granules in the interior of cells would seem to be similar to that of vital staining by soluble dyc, being governed largely by physical conditions. The granules being nondiffusible, are not discharged from the cells by any excretory process, but liberated only on disintegration of the cell. The base granules which adsorb ink granules appear to be produced in large numbers by the cells after the injection so that the cell becomes filled with ink granules, but in such cases the newly produced granules seem to be more irregular than those present before the injection.

Medical Record, New York

March 19, 1921, **99,** No. 12

*Tea Intoxication. M. A. Starr, New York.—p. 463.
Diagnostic Points of Value Found in Urine. W. H. Porter, New York.—p. 465.
*Alveolectomy; for Treatment of Trifacial Neuralgias of Local Origin. S. S. Gross, New York.—p. 470.
*Relation of Pulmonary Infections to Calcium Metabolism: Suggestions for a New Method of Treatment. G. D. Palacios, Carcacas, Venezuela.—p. 475.
Concept of Roentgen-Ray Pathology. IX. Fractures. A. J. Pacini, Washington, D. C.—p. 478.
Appendicitis, and Some of Difficulties Attending Its Diagnosis. A. W. Hammer, Philadelphia.—p. 481.
Roentgen-Ray Treatment of Acne Vulgaris. W. D. Witherbee and J. Remer, New York.—p. 482.
New Broad Street Hospital Technic in Roentgenography. W. H. Dieffenbach. A. J. B. Savage and L. Fox, New York.—p. 483.

March 26, 1921, **99,** No. 13

*Myelocytic Variations in Leukemic Blood During Treatment. E. Schisler and E. E. Brown, St. Louis.—p. 505.
*Bordet-Gengou Reaction in Aortic Lesions. E. Goynaroff, Geneva, Switzerland.—p. 510.
*Diagnosis of Intrathoracic Neoplasms. M. Fishberg and M. Steinbach, New York.—p. 513.
*New and Simple Tests for Alkaline Carbonates in Urine. C. Mitchell, Chicago.—p. 516.
Etiology of Multiple Sclerosis (Spirochaetosis Argentinesis). W. H. Hoffmann, Havana, Cuba.—p. 519.
Pauperizing the Public. G. L. Servoss, Reno, Nev.—p. 521.
Concept of Roentgen-Ray Pathology. IX. Fractures. A. J. Pacini, Washington, D. C.—p. 522.

Tea Intoxication.—It is well known, Starr says, that the mental effects of tea can be measured. There is a more rapid train of thought, an increased association of ideas, keener appreciation of things read or heard or seen—and a mental stimulus which they estimate as an increase of mental activity during the first hour of from 5 to 8 per cent. There is a sense of increased power which is attended by a pleasurable sensation, a feeling of brightness, cheerfulness, and mental activity—not perhaps as rapidly developed or as intense as that produced by alcohol, but quite comparable. It explains the growing and almost universal use of tea, especially in the late afternoon when the fatigue, both physical and mental, of the day seems to make one desirous of an artificial stimulant. In Starr's opinion, it would be foolish to assert that this is in any way harmful in moderation. But an occasional case of tea intoxication may occur, and unless the physician is aware of this possibility it may be overlooked. On the other hand, general experience, clinical and laboratory, derived from the study of cases, and personal from the social use of tea leads to the conclusion that much solace and satisfaction is to be obtained from "the cup which cheers but not inebriates."

Alveolectomy for Trifacial Neuralgia.—Gross points out that diseased teeth may be directly or indirectly responsible

r a greater number of trifacial neuralgies than all other uses combined. The regions from which these teeth have en extracted may retain pathologic tissue or the alveolus ay have been injured to such an extent as to have caused a gged condition thereof, over which the mucoperiosteum has aled. These conditions then act as local irritants to the ready hyperstimulated peripheral nerve endings. Alveoctomy is the surgical procedure proven to be of great value the treatment of trifacial neuralgias of local origin.

Calcium Metabolism and Pulmonary Infections.—Palacios aims that the radical indication to prevent or to cure pneuonia, influenzal or otherwise, is to provoke a rapid decalcication from the body of abnormal lime retention. This can done, as established by the author's clinical experience, by: 1) Suppression of milk and other dairy products during the sease and convalescence. (2) Repeated purgatives, at least ne every day. The selected purgative has been castor oil, hich has been employed until all the fever is gone, the ngue clean, and the appetite reestablished. (3) Prolonged sting until the same phenomena of returning health are well stablished. (4) Plenty of pure filtered, or thoroughly boiled ater. In order that the water be entirely lime-free, distilled ater is preferred above all other. To this system may be dded, when deemed necessary, the indicated drugs to modrate fever or remove pain.

Myelocytic Variations in Leukemic Blood During Treatent.—An attempt was made by Schisler and Brown to deterine the extent and nature of the action of benzol and the entgen ray, separately and combined, on the blood picture a rather severe case of chronic myeloid leukemia. The entgen rays and benzol together produced a rapid permaent fall in the white count, while the roentgen rays alone roduced an immediate rapid fall, with a subsequent rise, in ne first instance to the same count as before exposure and in ne second trial a decrease, with a subsequent rise to about ne third the count preceding exposure. The red count and emoglobin were not markedly affected by either benzol or oentgen ray but increased steadily as the patient's condition mproved. The differential count showed a more or less coninuous relative increase of polymorphonuclear leukocytes vith a corresponding fall of myelocytes. The relative lymphoytic count after a slight initial increase remained more or ess stationary. The roentgen rays seemed to destroy polyorphonuclear leukocytes or to slow up their production, but elatively had no such effect on the red cells or their producion. After roentgen-ray exposures the blood smear showed umerous disintegrating white cells. Since the spleen was xposed they were seemingly destroyed within the spleen, ence producing a relative decrease in the circulating blood. Myelocytes showed a tendency to give way to an increase of arge mononuclear cells whos nuclei in turn became lobulated, longated, and horseshoe-shaped, with a relative increase in olymorphonuclears. After the roentgen rays, the myelocytes were still persistent in the blood picture and in the various eutrophilic, basophilic and eosinophilic forms, the eosinohilic persisting longer than the basophilic. Polymorphic osinophils persisted until late in the course, until only neurophilic myelocytes were present. After the first two weeks osinophils were found only occasionally. The roentgen rays n every trial produced a decrease in the absolute number of mall lymphocytes but had no constant effect on the relative ount. Myelocytes were not so affected, relatively they were lecreased by the roentgen ray with no constant effect on the bsolute. Benzol, on the other hand, caused a steady fall in he absolute count but did not affect the relative myelocytic ount. Polymorphonuclears were destroyed constantly and apidly by each dose of the roentgen rays. The absolute count was affected more markedly than the relative. Benzol gave a slighter absolute decrease of polymorphonuclears than the oentgen rays, and a more constant and rapid increase relaively. Basophilic myelocytes disappeared readily under enzol, only to reappear temporarily after each dose of roentgen rays. As the blood picture approached normal limits, the asophilic myelocytes were reduced under benzol, reappearng when benzol was discontinued and again being present ollowing roentgen-ray irradiation; on resumption of benzol hey again disappeared. In variation of the myelocytes, the eosinophilic count conformed generally with the neutrophilic change, but increased or appeared with each administration of the roentgen ray. Neutrophilic myelocytes showed a gradual steady fall under benzol with a corresponding increase in polymorphonuclear leukocytes relatively. On discontinuing benzol, a distinct and marked absolute increase occurred but was controlled with repeated doses of roentgen rays. The roentgen rays had less effect on reducing the myelocytes than the lymphocytes and leukocytes.

Bordet-Gengou Reaction in Aortic Lesions.—An attempt was made by Goynaroff to ascertain if in all cases of aortitis syphilis must necessarily be regarded as the cause even when no clinical sign of the disease existed, and if this be not the case to determine the factors which might explain the positive character of the reaction in a certain number of subjects with aortic lesions. Out of forty-six subjects with disease of the aorta, only three admitted syphilitic infection, all others—forty-three in number—denied it or at least did not suspect having it. Of forty-three patients, tweny-seven gave a positive Wassermann. Twenty of these are clinically suspicious since they presented nervous disturbances, polymortality of their children, absence of offspring, miscarriages, etc. Eliminating these twenty cases, seven others nevertheless remain who gave no suspicion of syphilis, yet in spite of this fact fixation of the complement in the blood was positive. Goynaroff in convinced that not a few aortic lesions, regarded until now as specific simply because the fixation seroreaction is positive, are not in reality the result of syphilis. This applies especially to atheromatous lesions in elderly subjects even when the Wassermann is positive.

Diagnosis of Intrathoracic Neoplasms.—Thirty-three cases of primary malignant neoplasms of the bronchi, lungs and pleura were analyzed by Fishberg and Steinbach. There are two early symptoms which are hardly ever seen in early phthisis, namely, dyspnea, and pain in the chest. It is important to think of a pulmonary neoplasm when a patient in the cancer age, showing no symptoms of cardiac, renal, or arterial disease, begins to cough, and is short winded, or when one side of the chest is flat and offers the characteristic resistance to the pleximeter finger from the clavicle to the base. Likewise, absence of breath sounds over one entire side of the chest, excepting cornage, if not due to a pneumothorax, which is excluded by percussion, is almost invariably due to a tumor of the lung or pleura with an effusion. Withdrawing the fluid and immediately taking a roentgenogram will show a tumor which is otherwise obscured by the fluid.

New Tests for Alkaline Carbonates in Urine.—Mitchell claims that the presence of alkaline carbonates in the urine is inferred when a dark precipitate forms after addition of a few drops of a 1 per cent. solution of mercurous nitrate to a few cubic centimeters of the urine. The presence of ammonium carbonate in urine is shown when a red precipitate forms after addition of a few drops of urine to a few cubic centimeters of Nessler's solution. In the absence of ammonimum carbonate a positive reaction with mercurous nitrate points to the presence of sodium carbonate or bicarbonate, the latter being inferred when the patient presents the history of having taken "soda bicarb." or baking soda recently. Rarely a positive reaction with mercurous nitrate is due to soluble sulphides, in which case acetic acid (50 per cent.) does not change the color of the precipitate. Drugs taken by the patient, especially iodids and intravenous medicaments, may lead to erroneous conclusions when the mercurous nitrate test is employed; hence, knowledge of what the patient is taking should always be had by the physician employing the test.

Tennessee State Medical Association Journal, Nashville

February, 1921, **13**, No. 10

Sketch of Life of Dr. J. Marion Sims. J. M. King. Nashville.—p. 361.
Needs of Medical Profession in Tennessee. L. L. Sheddan, Knoxville.—p. 368.
Use of Malt Soup—Buttermilk Feeding in Athrepsia. R. H. Perry, Nashville.—p. 373.
Surgeon, Profession and Public. C. N. Cowden, Nashville.—p. 376.
Congenital Cataract. J. P. Crawford, Nashville.—p. 383.
New Clinical Classification of Neoplasms. W. C. MacCarty, Rochester, Minn.—p. 385.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Experimental Pathology, London

February, 1921, **2**, No. 1

*Measurement of Capillary Blood Pressure in Man. L. Hill and J. M. McQucen.—p. 1.
*Spontaneous and Artificial Pulmonary Lesions in Guinea-Pigs, Rabbits and Mice. H. B. Maitland, M. L. Cowan and H. K. Detweiler.—p. 8.
*Nature of Effect of Blood Pigment on Growth of B. Influenzae. P. Fildes.—p. 16.
*Hemagglutination and Its Medicolegal Bearing; Theory of Isoagglutinins. H. Schütze.—p. 26.
*Presence of Hemolytic Substances in Human Urine. E. Ponder.—p. 34.
*Sachs-Georgi Syphilis Reaction and Its Relation to Wassermann Reaction. T. Taniguchi.—p. 41.

Measurement of Capillary Blood Pressure.—That pressure which stops the flow through and expresses blood from the skin has been generally taken as signifying the capillary blood pressure. In truth it indicates the pressure in the small arteries which feed the compressed part after an allowance has been made for error arising from the pressure required to deform the convez horny layer of the skin. The method devised by Hill and McQueen measures this error and arrives at the true pressure in the small arteries. The relation of the swelling of the tissue cells to the capillary circulation in inflammation is discussed, also the relation of the pressure of the cerebrospinal fluid, aqueous humor and salivary secretion.

Spontaneous and Artificial Lesions.—A pulmonary lesion in guinea-pigs is described which was characterized by hemorrhage into the alveoli and sometimes into the bronchioles. There was no leukocytic reaction in the lung tissue, and no hemosiderin was present in the cells of the lung. This lesion is an agonal phenomenon. A second type of lesion has been noted which is essentially a slow proliferation of endothelial cells. It is a spontaneous animal disease whose origin is undetermined. The hemorrhagic and proliferative lesion frequently occurred in the same area, but neither was dependent on the other.

Nature of Effect of Blood Pigment on Growth of B. Influenzae.—Growth of *B. influenzae* has not been observed by Fildes to occur in the total absence of blood pigment. The quantity of blood pigment necessary is small, but larger than has been stated. Probably oxyhemoglobin and carboxyhemoglobin are incapable of allowing growth, the feeble multiplication in these pigments being due to a spontaneous change to methemoglobin. Hematoporphyrin also fails to permit growth, but hematin allows a copious growth. The feebleness of the growth on unchanged blood compared with that on changed blood is due to a deviation of the oxygen, activated by the iron of the pigment, from the bacillus through the oxygen affinity of the unchanged pigment.

Hemagglutination and Its Medicolegal Bearing.—The possibility of grouping dried human blood specimens by reconstructing the serum for agglutination and using the undissolved residue for absorption has been demonstrated, Schütze says. Forensically, the test would be of most importance when proving dissimilarity between two specimens alleged to be derived from the same source. To prove their similarity would probably only be to furnish circumstantial evidence of more or less value according to the group in question and the frequency of the occurrence of that group in the population concerned. The Landsteiner theory that two substances, "A" and "B," with their corresponding agglutinins, "a" and "b," are concerned in the isoagglutination of human bloods has been confirmed by absorption tests.

Presence of Hemolytic Substances in Human Urine.—Hemolytic activity was observed by Ponder as a regular ocurrence in the urines of insane persons, when tested for by a sensitive method. Such activity was also found to occur in the urines of healthy persons. The hemolytic substance appeared to be a stable chemical compound, capable of being extracted from the urine with various solvents. Its activity was inhibited by various substances, notably blood serum. There seems to be sufficient evidence to justify the suggestion that the hemolytic power of urine depends on its containing minute traces of bile acids or their salts, and that the occurrence of hemolytic activity in urine is physiologic.

Sachs-Georgi Syphilis Reaction and Its Relation to Wassermann Reaction.—Two hundred and ninety-six human serums were examined by Taniguchi by the "incubator method" for Sachs and Georgi's reaction and simultaneously for the Wassermann reaction. The hundred and seventy cases gave the same result with the two reactions, comprising 104 positives, 164 negatives and two suspicious. In general, differences have been observed only in the case of weak or doubtful reactions.

British Medical Journal, London

March 5, 1921, **1**, No. 3140

Influence of War on Modern Treatment of Fractures. H. Wade.—p. 327.
International Organization and Public Health. G. S. Buchanan.—p. 331.
*New Principle in Surgical Treatment of Congenital Cleft Palate, and Its Mechanical Counterpart. H. D. Gillies and W. K. Fry.—p. 335.
*Treatment of Sprue by Massive Doses of Sodium Bicarbonate. A. Castellani.—p. 338.
*Case of Angina Pectoris with Auricular Fibrillation. H. M. Sandison.—p. 339.
Aneurysm of External Carotid Artery Treated by Ligature of Common Carotid Artery and Internal Jugular Vein. W. A. Peverley and J. K. Haworth.—p. 339.

Treatment of Congenital Cleft Palate.—Gillies and Fry consider that closure by means of an efficient dental plate is by far the most simple and efficient mode of treatment of cleft palate; it gives least trouble and provides all that is required of a hard palate as regards feeding, speaking and breathing, and is applicable in some form or other from earliest infancy. Its very nature prevents any interference with the maxillary growth and eruption of teeth, and saves part of an operation from which the mortality is not inconsiderable. Having decided to make good the hard palate defect by a removable prosthesis, it is suggested that the two halves of the soft palate be united in as far back a position as is possible. This maneuver leaves a larger hard palate defect than prior to operation, and to prevent the raw anterior edge of the newly made soft palate scarring over and so contracting forward, two methods have been practiced—one to take a small flap of mucoperiosteum from the hard palate, leaving it attached to the soft, and wrap it over the raw area; the other, to overlay a skin graft (Thiersch) held in position by an apparatus. The latter is more applicable to those cases in which the musculo-mucous-membranous remains of a previously and poorly operated palate have deliberately been detached from a surgically closed hard palate, and made to lie in juxtaposition to the pharyngeal wall. The gap between the hard and soft palate is more efficiently filled by the dental prosthetist than is the usual posterior defect of the soft palate by means of an artificial velum; and the muscular and movable portion of the soft palate works with much greater efficiency as regards speech and deglutition in its new position. The congenital type operation results in a muscular, movable soft palate sufficiently near the pharyngeal wall to control air and food, having its palatal aponeurosis represented by the posterior border of the dental appliance, and in a hard palate absolutely closed by the rest of the dental plate.

Sodium Bicarbonate in Sprue.—The routine method of treatment used by Castellani in sprue is generally the following: The patient is kept at complete rest in bed and is placed at first on a strict milk diet. The mouth is kept scrupulously clean by using a diluted alum-phenol mouth wash. And when painful patches on the tongue are present, a cocain-phenol mouth wash is useful. In addition to these measures, the patient is placed on an intensive alkaline treatment, which is carried out (*a*) by giving very large doses of sodium bicarbonate by the mouth, and (*b*) by intravenous injections of a 2 or 4 per cent. sodium bicarbonate solution. In a number of cases the administration of large doses of sodium bicarbonate by the mouth is sufficient. It is given in dram doses, 1 dram, three times daily, for the first three days; 2 drams, three times daily, for eight or ten days, and afterward 3 drams, or more, three times daily, for several weeks. No untoward effects are noticed, but not rarely the patient feels and looks somewhat drowsy for a few days. If the drowsiness becomes marked, the dose should be decreased. When the diarrhea is very severe, from 5 to 10 grains phenyl salicylate

y be added to the sodium bicarbonate, but powerful astrin-nts should always be avoided. The addition of a little enyl salicylate to the powders is also useful when the urine comes too strongly alkaline. In those rare cases in which re is constipation, magnesium carbonate, from 10 to 20 ains, may be substituted for phenyl salicylate. Castellani s used intravenous injections of sodium bicarbonate in six ses, always in combination with the internal administration large doses of bicarbonate. From 10 to 20 ounces of a or 4 per cent. solution is given slowly every day, or every ier day, until twelve injections have been given; then the tient has a rest, but the intensive alkaline treatment by the outh is continued. After an interval of one or two weeks other course of injection is given, and a third course may necessary after a further interval. Castellani's experience s been that the sprue patients receiving this sodium bicar-nate treatment, in addition to the usual dietetic measures, prove more rapidly than patients having only the dietetic eatment.

Angina Pectoris and Auricular Fibrillation.—The diagnosis angina pectoris in Sandison's case was based on the breath-sness on exertion, palpitation, frontal and occipital head-hes, and several paroxysmal attacks of pain of varying verity. This pain was situated in the region of the heart; was sudden in onset, and associated with a feeling of tight-ss in the chest, mental perturbation, intense anxiety, d a sense of numbness in the left arm. The pulse was com-etely irregular, with a ventricular rate of 124, many of the ntricular contractions not being registered at the wrist. ne systolic blood pressure was raised, most of the beats gistering 210 mm.; the wall of the brachial artery was ickened. The left border of the heart was one fingerbreadth tside the nipple line, the right border two fingerbreadths to e right of the sternum, and the note in the neighborhood of e junction of the manubrium sterni and right intercostal rtilages and spaces was impaired. There was an apical stolic murmur, propagated to the axilla, and the second und in the aortic area was rather accentuated. There was absence of albumin in the urine. Tincture of digitalis was dministered during the first week in 15 minim doses, thrice ily. At the end of the week, as there was no appreciable provement, the dose was increased to 18 and ultimately to minims. During the second week there was obvious provement, the ventricular rate gradually falling to 84. s there was now some complaint of general depression, adache and giddines, the digitalis was stopped for forty-ght hours, and then recommenced in 15 minim doses. It as found possible to continue with this dose, and the ven-icular rate ultimately diminished to 74, and the pulse became uch less irregular. The systolic blood pressure came down 180 mm. Coincident with the remarkable slowing and eadying of the heart's action there was a most gratifying provement in the patient's general condition.

March 12, 1921, **1**, No. 3141

ndications for Cholecystectomy. K. W. Monsarrat.—p. 371.
Asthma and Anaphylaxis. F. Coke.—p. 372.
Chronic Retention of Urine Arising from Prostatic Disorder: Its Cause, and Treatment by Practitioner without Operation. H. T. Herring. —p. 376.
Renal Decapsulation for Chronic Parenchymatous Nephritis. F. Kidd. —p. 378.
Reconstructive Aneurysmorrhaphy in Third Part of Axillary Artery. C. J. Marshall.—p. 379.
Fracture of Femur: A Simple Method of Extension. B. F. Pendred. —p. 380.
Unusual Case of Myelocele. A. J. Cokkinis.—p. 380.
Action of Intrinsic Muscles of Foot and Their Treatment by Electricity. G. M. Levick.—p. 381.
Labor in Case of Lethargic Encephalitis. W. F. T. Haultain and G. O. Thornton.—p. 382.

Asthma and Anaphylaxis.—Coke is of the opinion that by e skin reactions half the cases of asthma can be proved to due to some foreign protein. If these causes can then be moved the patients are relieved of their asthma at once. uch can be done to relieve or even cure other cases which o not give positive skin reactions, by the usage of various roteins, such as antigens, to effect desensitization. Asthma, ay-fever, urticaria, eczema, migraine, epilepsy, and parox-mal hemoglobinuria, have many common traits, Coke says, nd will probably all be proved eventually to be symptoms of naphylaxis and not separate diseases at all.

Decapsulation of Kidney in Nephritis.—Kidd is convinced that some cases of chronic nephritis are greatly benefited and may even be cured by stripping the capsules of both kidneys.

Extension for Fracture of Femur.—The method advocated by Pendred is for fractures above the middle, where the upper fragment is flexed forward. The patient is placed in bed on his back, the head and shoulders being supported by two or three pillows. The knee of the injured limb is raised until the femur is at the required angle, which is generally from 30 to 40 degrees to the horizon. It is maintained in this position with a knee pillow, or better still by a pyramid of sand bags. A ring-shaped air cushion is slipped over the foot, drawn up to the knee and inflated as fully as possible, the foot being allowed to fall back on the bed. A strong bandage is tied round the air cushion exactly opposite the knee and the other end carried to a pole or mast fitted to the foot of the bed; strong traction is made in the line of the upper fragment, lower fragment, diameter of cushion, bandage and point on mast, until the ring becomes definitely oval, when the bandage is fixed to the mast. The extension is procured by a pneumatic pad in the flexure of the knee, and the strain is transmitted to the femur through the head of the tibia and the ligaments of the knee joint.

Case of Myelocele Not Immediately Fatal.—Cokkinis reports a case of myelocele in which life was prolonged for twenty-three days. There was a deficiency in the neural arches and failure of closure of the neural groove, opposite the lower three lumbar and upper two sacral bodies. The open spinal cord was seen in the middle line at the upper part of the defect, while the nerves of the cauda equina could be distinguished in the lower part. The myelocele narrowed and deepened as it was traced upward into the funnel-shaped termination of the central canal. Cerebrospinal fluid was constantly dripping out of the apical opening. During the third week, meningitis set in, and the baby died in a storm of convulsions.

Labor in Case of Epidemic Encephalitis.—In the case recorded by Haultain and Thornton pregnancy seemed to be unaffected by the disease, but the lethargy was exaggerated for the first few days after labor, and especially for the first twenty-four hours. The patient slept through the first stage of labor without giving any sign that labor was in progress, and the end of the second stage was delayed on account of defective expulsive efforts. The third stage was normal in every respect and no excess of blood was lost. The puerperium was uneventful and the uterus underwent normal involution.

Dublin Journal of Medical Science

February, 1921, **4**, No. 12

Medical Reform in Ireland. R. J. Rowlette.—p. 49.
Existing Hindrances to Public Health Work in Ireland. J. W. Moore. —p. 56.
Case of Bubonic Plague in Dublin. A. Ball and H. C. Drury.—p. 63.
Sixty Cases of Sudden or Violent Death: An Analysis. M. F. Moloney. —p. 68.
Case of Carcinoma of Antrum of Highmore. F. T. Morrin.—p. 79.

Lancet London

March 5, 1921, **1**, No. 5088

Cause and Prevention of Myopia. F. W. Edrige-Green.—p. 469.
*Sequels of Congenital Syphilis. H. Rolleston.—p. 471.
*Nutrition in Vienna. M. R. Gribbon and M. I. H. Ferguson.—p. 474.
*Bacteriologic Investigation of Case of Plague. V. M. Synge and J. W. Bigger.—p. 477.
*Influence of Aeration on Stability of Antiscorbutic Factor. S. S. Zilva. —p. 478.
Mental Tests. W. A. Potts.—p. 478.
*Case of Lethargic Encephalitis Complicating Pregnancy. J. B. Banister and G. Sophianopoulos.—p. 481.
Case of Acute Diverticulitis. W. F. A. Clowes.—p. 482.
Case of Schlatter's Disease. I. Eban.—p. 482.

Sequels of Congenital Syphilis.—Rolleston discusses the limits of the Wassermann reaction as a means of diagnosis; he says that it appears that at the present time it is impossible to accept as absolute the proposition that in the presence of syphilitic stigmata a negative blood Wassermann eliminates the possibility of exiting syphilitic infection. In dystrophies which may be due, in a secondary and delayed manner, to the effects of syphilis, but may equally be a

legacy from the influence of other infections, on the pituitary, thyroid, testes, or other endocrine glands, the presence of a positive Wassermann reaction in the blood would be a very definite indication for antisyphilitic treatment, though it should not put into the background the obvious need for pituitary, thyroid, or some other or combined form of endocrine medication in addition. And in the absence of a positive blood Wassermann reaction the presence of stigmata of congenital syphilis should point to the advisability of antisyphilitic treatment, as was the custom in the pre-Wassermann days. The influence of syphilis in leading to lesions of the endocrine glands, and so indirectly to syndromes which are necessarily specific is also discussed; likewise, the influence of congenital syphilis in relation to various diseases which are not generally regarded as due to syphilis, and are not obviously due to lesions of the endocrine glands, such as chronic interstitial nephritis in early life; multilobular or portal cirrhosis in young children; chronic peritonitis, anemia, mitral stenosis and rickets. Congenital malformations may occur in the subjects of congenital syphilis, and the question arises how far the intra-uterine activity of congenital syphilis is a cause of these defects.

Nutrition in Vienna.—A study was made by Gribbon and Ferguson of the food supply and state nutrition of the working classes in Vienna. The points dealt with in this report are: (1) the energy intake of the diet; (2) the height and weight of the children; (3) the income and expenditure upon food; (4) the composition of the diets, i. e., the actual foodstuffs used; (5) the nature and extent of the mission help; and (6) rickets—a comparison of the two sets of dietaries. These studies show how very inadequate is the diet of the working classes in Vienna at the present time. Were it not for the generosity and devotion of the Society of Friends and the American and Dutch missions, their condition would be one of actual starvation. It is hopeless to expect from a population on such diets the initiative and vigor by which alone the country can be saved from ruin. While there is an all-round shortage of food materials, meat, fats, sugar, and milk are almost unobtainable. Most of the budgets included a small amount of pork, horse meat, of sausage during the week of study, and only ten had fresh milk, though most procured condensed milk from the Friends' Relief Mission.

Isolated Case of Plague.—Synge and Bigger record the occurrence of plague in a patient who resided within about a quarter of a mile of the docks, but had no connection with shipping or sailors, is unusual. The locality in which she resided has been free from plague both before and after her infection. The organism found was a true *B. pestis*. The method of infection is unknown. The fact that the patient owned a cat which alternately went on hunting expeditions and slept on her bed, may possibly be a link in the chain of infection. Nearly five months have now elapsed since the occurrence of this case, and no further cases have been recorded.

Influence of Aeration on Stability of Antiscorbutic Factor.—Zilva describes the results obtained from some experiments instituted with the object of studying the influence of air on the antiscorbutic factor at ordinary temperature as well as at 100 C. The inquiry was pursued as an outcome from observations made that ozone inactivated this and the fat-soluble factors at ordinary temperature. The experiments revealed that bubbling air at ordinary temperature through an antiscorbutic solution inactivated it. It was found, on the other hand, that on boiling an active solution for two hours in an atmosphere of carbon dioxid no marked diminution in the activity could be recorded, while on boiling a similar solution for one hour during which time air was bubbled through almost the entire activity was lost.

Epidemic Encephalitis Complicating Pregnancy. — The patient whose case is reported by Banister and Sophianopoulos was a primigravida, aged 31, in the thirty-sixth week of pregnancy. The induction of labor was decided on in view of the following facts: (*a*) The patient's condition was becoming continually worse; (*b*) the baby was alive; (*c*) it was hoped that the removal of the fetus might influence the patient's metabolism for the better. The very definite improvement for the first thirty-six hours after delivery gave rise to great hopes of recovery, but the experience of this case leave the question of interference with the pregnancy sub judice The patient died three weeks from the onset of the disease.

Mareh 12, 1921, **1**, No. 5089

Neurologie Aspeets of Shoek. F. Mott.—p. 519.
*Intravenous Injeetion of Antimony Tartrate. J. B. Christopherson.—p. 522.
Outpatient Treatment of Bilharziasis, with an Analysis of 1,000 Cases H. B. Day.—p. 525.
Mosquito Nets: Their Use in Past. P. Hehir.—p. 529.
*Tree-breeding Anopheline:. B. Blaekloek.—p. 530.
Study of Sanatorium Results. E. Ward.—p. 531.
Case of Idiopathie Dilatation of Bladder and Ureters. S. R. Tattersall —p. 534.
Cigarette-holder in Larynx. N. H. Bolton.—p. 535.

Intravenous Injection of Antimony Tartrate.—Christopherson states that experience seems to show that a few grains of antimony tartrate (from 5 to 8 grains) by intravenous injections may be sufficient to cure leishmaniasis of the skin; larger doses (from 20 to 30 grains) are necessary, as a rule, to bring about a cure in bilharziasis, and still larger doses (60 grains, perhaps, and more) are necessary for leishmaniasis or kala-azar, and possibly still more (probably in repeated courses) for the cure of trypanosomiasis. Antimony tartrate (potassium or sodium), when given intravenously in appropriate dilution, and administered with care, may be given in larger total doses than is generally supposed. The cure of parasitic diseases, such as bilharzia, kala-azar, trypanosomiasis, filariasis, dracunculus medinensis, by a drug given intravenously (the drug itself if it acts directly, or a derivative if it acts indirectly) depends on: (1) the permeability of the enclosing membrane (or skin) of the parasite; (2) the penetrating power of the drug which in turn depends on its physical condition or chemical structure; (3) the toxicity of the drug to the parasite.

Tree Breeding Anophelines.—Blacklock draws attention to the necessity of taking tree breeders into consideration, and to urge the view that even with present limited knowledge of their powers of transmission they constitute a factor which must not be ignored, whether in making anopheline surveys or in dealing with anophelines from the sanitarian's standpoint.

Medical Journal of Australia, Sidney

Jan. 29, 1921, **1**, No. 5

Treatment of Egyptian Bilharziasis by Tartar Emetic. W. Summons and H. Irving.—p. 83.
Radiologie Note. K. S. Cross.—p. 85.
Cystoscopie Appearanees in Bilharziosis. C. G. Shaw.—p. 85.

Feb. 5, 1921, **1**, No. 6

Surgieal Problems of Stomach and Duodenum. H. B. Devine.—p. 103.
Gallstones. F. H. Langlands.—p. 110.

Siamese Red Cross Medical Journal, Bangkok

August, 1920, **3**, No. 2

*Treatment of Eezema by Radium. P. Sakdabolraksh.

Radium Therapy of Eczema.—The type of eczema most commonly seen in Chulalongkorn Hospital is the scaly eczema and next to it is the vesicular type. The latter sometimes yields to calamine lotion. The scaly or chronic form is the worst type and hardly yields to ordinary treatment except by radium rays. The preparation used is a crystallized radium bromid, weighing 18.95 mg. and is contained in a closed glass tube, which is again contained in a sealed silver tube. When it is used, this silver tube is placed in an aluminium roller with a handle, the attendant holds the handle and passes the roller over the lesion. Of twenty-three patients, ten were cured, the remainder were relieved of the itching and failed to return for further treatment.

South African Medical Record, Cape Town

Feb. 12, 1921, **19**, No. 3

Epithelioma of Lip and Its Treatment by Roentgen Rays. S. P. Impey. —p. 41.
Case Illustrating Modern Methods of Treatment in Fractures of Femur. H. Griffiths.—p. 44.
Remarkable Shrapnel Wound. W. H. H. Croudaee.—p. 47.
Salvarsan Treatment of Human Anthrax. H. B. Van der Merwe and A. Pijper.—p. 47.
Carl Spengler's Work on Syphilis Micro-organisms. J. B. Anderson.—p. 48.

Annales de Médecine, Paris

December, 1920, **8**, No. 6

Eosinophilia in Ankylostomiasis. Lemierre and Lantuéjoul.—p. 409.
*Thyrotuberculosis. W. Janowski (Warsaw).—p. 418.
*Primary Cancer of Lung. E. Cottin. A. Cramer and C. Saloz.—p. 435.
Friedländer Bacillus Septicemia. Lutembacher and Debains.—p. 460.
*Cancer in Animals. G. Roussy and M. Wolf.—p. 462.

Pulmonary Tuberculosis Simulating Exophthalmic Goiter.—In 17 per cent. of 3,000 tuberculous patients, Janowski found symptoms suggesting exophthalmic goiter. In 10 per cent. the symptoms of hyperthyroidism had preceded all symptoms of the tuberculosis by a few months to two years. In another 10 per cent. the tuberculous lesion in the lung had long persisted in a latent phase until the onset of the excessive thyroid functioning, and this had whipped up the pulmonary process. Even the slightest infection with tuberculosis seems to be enough to sensitize the nervous system so that any physical or emotional stress, intercurrent infection, abortion, parturition or an operation may be followed by symptoms suggesting exophthalmic goiter. In every tuberculous suspect, the thyroid should be investigated, and the lungs in every case of hyperthyroidism. Women were affected about ten times more than men. Many of the patients in this category were being treated for hysteria, neurasthenia or heart disease, as some one symptom had predominated and misled the diagnosis. The variations in temperature, the sweats, had not been heeded, and the lungs had been examined only perfunctorily if at all. In 90 per cent. the pulmonary lesions were minimal, with every prospect of a cure under appropriate medical treatment, with rest and quiet. If the goiter is very large, from four to eight weekly exposures to the roentgen rays may prove useful.

Primary Cancer of the Lung.—The cancer escaped detection in 80 per cent. of the 29 cases described from the Geneva public hospital. In 19 of the 29 the temperature was above normal; in a few with a septicemic curve. In 6 there was a tuberculous process in the lung, but in only one case was the process in an active stage. None of the signs and symptoms are pathognomonic except possibly intense local pain. But in 2 cases there was no pain and in others it was more a dull ache, suggesting rheumatism. Dyspnea was the most constant symptom; a cough was an early but not a constant symptom; it was never spasmodic. There was no expectoration in about 33 per cent. and in the cases with expectoration it proved the principal factor in misleading the diagnosis, especially when the sputum was blood streaked. The classic currant-jelly sputum was found in only 2 cases. Cytologic study of the sputum gave negative findings in 8 of 9 cases, even when the diagnosis of malignant disease was beyond question at the time.

Cancer in Animals.—Roussy and Wolf survey what has been learned in this field to date, in various countries and in a long list of species. Cancerous tumors have been found even in oysters, and in the larvae of the fly, drosophila. In animals, the skin and the urogenital organs are almost invariably the seat of the cancers, although the nature of the food swallowed would seem to invite lesions in the digestive tract. The research of Borrel, Fibiger and Stahr has apparently established that the development of cancer is favored by the action of parasites, nematodes of the liver in the rat, ankylostoma of the intestine in the horse. To date there is no evidence proving the contagiousness of cancer, but the facts observed with heredity of mouse cancers are suggestive.

Archives des Maladies de l'Appareil Digestif, Paris

1921, **11**, No. 1

*Gastroradiculitis and Enteroradiculitis. L. Bouchut and M. Lamy.—p. 1.
*Fat Acids and Ammonia in Stools. J. C. Roux and R. Goiffon.—p. 25.
Dextrocardia from Megacolon. A. F. Hurst.—p. 47.

Gastroradiculitis and Enteroradiculitis.—Bouchut and Lamy explain how any inflammation of the posterior roots is liable to irritate the sensory fibers in them which are connected with the digestive tract. The gastric crises of tabes are the extreme type of the sensory disturbances liable to result from this radiculitis. The radiculitis may be of various origins, but in the mild cases here described syphilis was undoubtedly the cause, and pronounced benefit followed specific treatment, amounting to a cure in the more recent cases. The pains may suggest ulcer, cancer, gallstones, neuroses, dysentery, colitis, etc., but they shift about, sometimes deep, then superficial, radiating in unusual directions, accompanied or alternating with pains in the limbs, and the usual measures for ulcer or hyperchlorhydria produce no effect. The clinical polymorphism is the main feature of this gastroradiculitis.

Fat Acids and Ammonia in Stools of Adults.—Roux and Goiffon have found that measurement of the volatile fat acids and the ammonia in the stools has thrown light on the bacterial flora and its mode of action, and is thus a convenient index of putrefactions and fermentations. The bacterial flora is one of the most sensitive reagents of the intestinal milieu. They have simplified the technic for determination of both the volatile fat acids and the ammonia, as they describe, and analyze the significance of the various findings, especially in colitis, as a guide to treatment.

Bulletin de l'Académie de Médecine, Paris

Feb 22, 1921, **85**, No. 8

*Sugar in Infant Feeding. P. Nobécourt.—p. 224.
*Insufficiency of Liver with Stomach Disease. P. Le Noir.—p. 227.
*Gangrene of Pharynx. E. de Massary and R. Boulin.—p. 230.
*Absorption of Hot Drinks. M. Boigey.—p. 233.
*Mycosis of Oysters. A. Pettit.—p. 235.
*Typhoid Fever. Courtois-Suffit and F. Bourgeois.—p. 239.
*Therapeutic Anaphylactic Shock. F. Arloing, A. Dufourt and L. Langeron.—p. 241.

Sugar in Infant Feeding.—Nobécourt recalls that infants get about 8 to 12 gm. of lactose per kilogram daily in breast milk, and he thinks that more use should be made of sugar in infant feeding. Saccharose in large doses is useful to give more nourishment when the food has to be restricted in fats and proteins, and also when forced feeding is needed. He adds 10 or 15 gm. of sugar to 100 gm. of the food being used, or if the child is breast fed, gives a few teaspoonfuls of highly sweetened boiled water. Habitual vomiting is often arrested by this highly sweetened food. The weight is often brought up to normal when the food is highly sweetened, and the sugar is borne without inconvenience in acute and subacute gastro-intestinal disease, with or without fever. It tides the child along to a more nourishing diet, and seems to promote the disappearance of the diarrhea. He has always found the sugar borne without disturbances in all pathologic conditions; a counter test is found in the evil effects that follow deprivation of sugar, as in feeding with albumin milk.

Insufficiency of the Liver with Stomach Disease.—Le Noir has recently been emphasizing the importance of latent insufficiency on the part of the liver in cases of gastric ulcer, etc., especially when an operation is contemplated. He urges the importance of testing the functional capacity of the liver as a routine measure before attempting an operation of the kind, urging study of the proteopexic function of the liver (described in these columns, Jan. 22, 1921, p. 275), alimentary glycosuria and similar tests. He refers in conclusion to recent research which has demonstrated transient damage of the liver under arsphenamin treatment. This might render it wiser to defer an operation on a syphilitic already under the influence of arsphenamin.

Gangrene of Pharynx.—The young man developed an ulcerous sore throat with the spindle-shaped bacilli, with rapid local gangrene and profuse hemorrhages. Under intensive serotherapy the gangrene subsided, but secondary extensive foci developed elsewhere, probably from inoculation. The serotherapy did not prevent the complications but there is no doubt the man would have succumbed without it. The antigangrene serum was a mixture of three antiserums against the more common gangrene-inducing bacteria. The first symptoms in the case had been pain in the joints and legs, and the case ran a two months course before final healing.

Absorption of Hot Drinks.—Boigey gave 600 gm. of cold water, sweetened 1:20 and tinted with 0.1 gm. of methylene blue, to four young men who had been marching 13 km. without drinking. The urine looked green in half an hour, blue at the end of an hour and a quarter, and deep blue at

the end of the second hour. Ten days later the same test was repeated with the same subjects only the water given to drink was hot. By the fourteenth minute the urine began to look green, and in three quarters of an hour to an hour it was intensely blue. By the end of two and a half hours the urine was of normal aspect again. This shows that the absorption and elimination of hot fluids is more rapid than of cold. Hot drinks thus favor elimination of fatigue products better than cold. Langlois confirmed these statements in respect to the more rapid diaphoresis with hot drinks, and urged that in treatment of heat stroke, hot drinks would be preferable to cold. The absorption of 250 gm. of water at 10 C. draws from the organism 29 times 250 = 7,250 microcalories. Ingestion of the same amount of hot water, which is rapidly eliminated in the form of sweat and evaporated, exerts ten times as much cooling power, thus lowering the temperature by a whole degree Centigrade.

Mycosis of Oysters.—Pettit relates that there has been an epizootic disease in the oyster beds of France which has killed off in some places fully 50 per cent. of the oysters, and the same has been reported from Holland, England and Italy. He has been making an official investigation, and found a fungus in the oysters. It seems to be a nocardia. He adds that the ingestion of the diseased oysters does not seem to be harmful for man; for more than six months, oysters with this epizootic have been eaten, but no injurious consequences have been reported.

Typhoid Fever.—In the 118 cases of typhoid described at Paris in a recent nearly two year period, in thirty-five cases the infection was traced to oysters; 17 per cent. in this group died, and 71 per cent. developed complications. The corresponding figures in eighty-one cases in which the typhoid was of other origin, were only 1.2 per cent. and 9.8 per cent.

Therapeutic Anaphylactic Shock. — The experimental research reported confirms the clinical observation that it may be possible to cure certain infections by inducing an anaphylactic shock. The research was done on guinea-pigs inoculated with pyocyaneus septicemia. Even a slight shock was enough to arrest the infectious process. The clinical cure was accompanied by the destruction of the germs in the blood and by the acquirement of immunity.

Bulletin Médical, Paris

Feb. 12, 1921, **35**, No. 7

*Separation of Pubic Bones in Riders.—L. Bérard.—p. 121.
Training of Visiting Nurses for the Tuberculous. XIX. G. Kuss.—p. 123.
*Practical Urology. R. Le Fur.—p. 125.

Separation of Pubic Bones in Riders.—Bérard describes the case of a man of 63 with sudden disjunction of the symphysis from a severe jolt on horseback. As there were no signs of intraperitoneal effusion or laceration of the bladder or urethra, Bérard merely immobilized in a Bonnet splint, although roentgenoscopy showed that the left pubic bone had been somewhat displaced downward and forward. This corresponded to a subluxation of the left sacro-iliac articulation, but healing was complete with satisfactory functional results in about fifteen weeks, no disturbance in gait even in climbing stairs. The man experienced merely a little oppression in the region of the pubic symphysis and the articulation, without true pain, although palpation revealed disjunction of the symphysis with gap wide enough for two fingers. Bérard knows of about thirty-five cases on record in France, but the list includes only six in which the pommel of the saddle was responsible for the injury.

Practical Urology.—Le Fur compares the different methods of exploring renal functioning, saying in conclusion that the portion of the kidney not affected by tuberculosis always functions well. Hence nephrectomy need not be decided on in haste, as uremia is scarcely ever to be feared in tuberculosis of the urinary apparatus.

Bulletins de la Société Médicale des Hôpitaux, Paris

Feb. 4, 1921, **45**, No. 4

Multiple Hydatid Cysts of Liver. Coyon and J. de Massary.—p. 89.
*The Sphygmometrograph. L.-A. Amhlard.—p. 94.
Case of Bubonic Plague at Paris. P. Teissier.—p. 98.
*Uremic Pericarditis. A. Chauffard and J. Huber.—p. 101.
Vaccine Therapy of Asthma. J. Minet.—p. 106.
Vaccine Therapy in Typhoid. Le Blaye.—p. 113.
Serotherapy in Typhoid. Le Blaye.—p. 115.
*Edema in a Syphilitic. F. Trémolières and E. Schulmann.—p. 117.
*Uremia and Digestive Hemolysis. P. Le Noir, C. Richet, Jr., and A. Jacquelin.—p. 121.

The Sphygmometrograph.—Amblard gives an illustrated description of an apparatus designed to record the maximal and minimal arterial pressures.

Uremic Pericarditis.—The young woman developed pericarditis with dorsal friction sound in the course of chronic nephritis. The pericarditis subsided completely but the woman succumbed nearly three months later to the progress of the uremia. Chauffard and Huber know of only eleven cases on record in France of dorsal pericardial friction sounds such as were found in this case.

Edema in a Syphilitic.—The edema was evidently of nervous origin and was restricted to one side in the young woman with syphilis acquired three years before and inadequately treated. The onset was with diffuse pains in the limbs and generalized edema, both predominant on the left side. The location of the violent neuralgia revealed the radicular origin. After withdrawal of 50 c.c. of spinal fluid, both pains and edema were attenuated, and they disappeared completely in thirty-six hours.

Uremia and Digestive Hemolysis with Gastric Ulcer.—Insufficiency of the liver and kidney may develop silently in the course of gastric ulcer, and only biologic signs will reveal it. In 38 ulcer cases uremia was pronounced in 15, and attacks of digestive hemoclasis were constant in 75 per cent. of 20 ulcer cases. In 5 of these patients the hemolysis was intense, the drop in the leukocytes amounting to over 3,000 after taking 200 gm. of milk, fasting. This confirms the authors' previous statements in regard to the frequency of derangement of the liver and kidney in cases of gastric ulcer, the hemoclasis and the uremia disclosing otherwise possibly latent derangement.

Feb. 11, 1921, **45**, No. 5

*Epidemic Encephalitis. F. Rathery and F. Bordet.—p. 128.
Mesocephalic Syphilis Simulating Epidemic Encephalitis. C. Achard and J. Rouillard.—p. 130.
Roentgenoscopy of Pneumonia. G. Paisseau and I. Solomon.—p. 133.
*Plague Bacilli in Blood. P. Teissier and others.—p. 136.
*Plague at Paris. P. Teissier, L. Tanon and P. Gastinel.—p. 139.
The Glucose, Albumin and Urea Content of Cerebrospinal Fluid in General Paresis. M. Briand and A. Rouquier.—p. 145.
*Spirocheturia in Secondary Syphilis. Fiessinger and Huber.—p. 146.
Pneumoperitoneum and Pneumocolon. L. Ribadeau-Dumas.—p. 150.
*Amebic Abscess. L. Rénon and P. Blamoutier.—p. 152.
*Tuberculin Reaction and Ovarian Function. E. Coulaud.—p. 155.
Primary Pneumococcus Septicemia. Oettinger and Deguignand.—p. 159.
Angina Pectoris as Sign of Tuberculous Mediastinitis. L. Ribadeau-Dumas and Vigneron.—p. 162.
*Erysipelas in the Newly Born. L. Boidin and Tierny.—p. 165.
*Coagulation in Erythremia. C. Laubry and E. Doumer.—p. 170.

Epidemic Encephalitis.—In the case described, after a week of malaise there was almost continuous hiccup for five days, and then three weeks of apparent health. Then a severe myoclonic form of epidemic encephalitis developed. As this subsided, there was a period of somnolence, but recovery was complete about two months from the onset of the hiccup. No cases of hiccup or encephalitis were known in the environment.

Plague Bacilli in the Blood.—In 3 of 12 certain cases of bubonic plague at Paris, the blood seemed to be sterile. In the 9 other cases plague bacilli were cultivated from the blood during the first days of the infection, in the mildest cases as well as in fatal plague septicemia.

Plague at Paris.—In the 66 cases of supposed plague at the Claude-Bernard Hospital, the diagnosis was disproved in 23. No primary pulmonary case was encountered. The lymphatics around the bubo may feel large and hard, and a woody inflammatory reaction in the tissues around is characteristic and instructive. The connected glands may be massed and painful even when the bubo is insignificant. The bubo was in the inguinal region in 67 per cent.; in the axilla in 11 per cent. and once in the neck. In 29 cases the bubo retrogressed spon-

taneously, and in 3 of the 14 suppurating cases, it opened spontaneously. An early incision or other local measures did not seem to modify the course. Moderate polynucleosis seemed to be constant; eosinophilia ranged from 2 to 8 per cent. Antiserum given early and perseveringly, in large doses, is very effectual. There were no deaths except 3 patients who died in a few hours after reaching the hospital. In the graver cases sometimes 100 c.c. of the antiserum was given by the vein twice a day. Serum reactions were common, and they actually seemed to exert a certain favorable influence on the bubo.

Spirocheturia in Syphilis.—Fiessinger and Huber never found spirocheturia in their twelve cases of syphilis in the secondary phase during the last three years. But recently they found the spirochetes in the urine of a young man with a roseolar syphilid, about a month after the primary lesion.

Amebic Abscess of Liver.—This is a new case in which clinical recovery was obtained under emetin alone, without puncture or other intervention.

Tuberculin Reaction During the Menses.—Coulaud presents evidence that the menstrual periods and the menopause represent periods of lessened resistance to tuberculosis, like childbirth. His data also show that these three, parturition, the menopause and the menses, are periods of extra activity on the part of the thyroid. The response to the skin tuberculin test is less pronounced during these periods of anergy. This hyperthyroidism can be effectually combated by ovarian treatment, which seems to rest the thyroid. It may likewise exert a favorable influence on the tuberculosis. Jacquerod has reported its success in combating hemoptysis and menstrual fever in the tuberculous. Everything seems to show, Coulaud adds, that intensive functioning of the thyroid body is an important factor in the weakening of acquired immunity. And we know that the thyroid strives to function more to make up for any loss of ovarian functioning.

Erysipelas in the Newly Born.—Boidin and Tierny report seven recovering among twelve infants, all only a few days old, with erysipelas, given Delbet's bouillon-vaccine treatment. Only one recovered of twelve treated by the ordinary measures.

Coagulation in Erythremia.—Laubry and Doumer found the coagulating time considerably retarded in five cases of erythremia and also in two of congenital cyanosis. The overproduction of erythrocytes seems to be responsible for the delay in coagulation.

Paris Médical

Feb. 19, 1921, **11**, No. 8

The Lesions and Symptoms in Organic Psychiatry. Dupré.—p. 145.
*Gaps in the Skull. P. Mauclaire.—p. 153.
Autogenous Vaccine Therapy of Sycosis. Renaud-Badet.—p. 157.

Gaps in the Skull.—Mauclaire reviews the outcome to date in the cases of skull wounds treated by different surgeons by implantation of bone, cartilage or an endoprosthesis. If the skull alone was injured, almost any technic gave excellent results, but the injury of the skull was generally accompanied with injury of the meninges or brain below. Hence the neurologists soon quenched the enthusiasm of the surgeons. The best results with small defects were realized with a bone-periosteum graft taken from the vicinity or from the tibia. For a large defect, a broad pedunculated bone-diploë flap from the vicinity has proved most satisfactory. Cartilage grafts are resorbed so frequently that there is no implant left. An ivory or other endoprosthesis may render good service with a small gap. In two of Mauclaire's cases, a fenestrated ivory implant, 2 by 3 cm., has answered the purpose for three years to date. In a third case, the implant was cast off after six months; probably the edges were not embedded deep enough. Closing the gap in the skull after a wound has a favorable influence both subjectively and objectively.

Presse Médicale, Paris

Feb. 23, 1921, **29**, No. 16

*Uric Acid in the Urine. A. Chauffard, Brodin and Grigaut.—p. 153.
Cerium Salts in Treatment of Tuberculosis. Grenet and Drouin.—p. 153.
*Diseases Seen Through the Treatment. G. Leven.—p. 156.

Uric Acid in the Urine in Gout and Gravel.—The disturbance in metabolism is first manifested as hyperuricacidemia; then appears hypercholesterinemia, then the Ambard constant rises, and bilirubinemia follows. The uric acid content of the blood is always abnormally high in gout and gravel, but not in the urine. In thirty-six cases, in twenty-three it was within normal range, and in only three it surpassed 1 gm. It is thus impossible to estimate from the urine the concentration of uric acid in the blood. Each of the multiple forms of combined uric acid is eliminated independently of the others, and certain forms seem to escape completely the excreting action of the kidneys. The tabulated findings show the facility with which uric acid is retained in the organism, and how little the content in the urine is influenced by an increase in the blood.

Disease Seen Through Treatment.—Leven cites a number of instances to show the unintentional modification of the disease by our therapeutic measures. For instance, the old idea that typhoid begins with diarrhea was due to the fact that every indigestion used to be treated with a purge. As indigestion was the first manifestation of typhoid fever, the effect of the purge was regarded as forming part of the typhoid picture. The dilatation of the stomach, that used to form part of the typhoid picture, is no longer observed, as the patients are fed better from the start; the dilatation was the result of the underfeeding. The so-called anaphylaxis from eggs can often be warded off, he says, by eating the egg with a very small spoon. Persons unable to bear eggs can often eat them without the least disturbance if they eat them with a salt spoon. The small masses of the egg are thus better mixed with saliva, and are more readily attacked by the digestive juices. The symptoms of "the idiosyncrasy" were thus manufactured by the mode of eating. In experimental work, the distance of the fistula in the bowel from the pylorus may vary in the animals, and thus different workers may obtain entirely different results.

March 2, 1921, **29**, No. 18

Treatment of Hemorrhoids. R. Bensaude and H. Ernst.—p. 173.
*Temperature in Incubation of Typhoid. M. Roch and C. Saloz.—p. 175.
*Scarlet Fever and Angina. T. Mironesco.—p. 176.

The Temperature During Incubation of Typhoid Fever.—Roch and Saloz give a chart showing a peculiar change in the temperature which is characteristic of the prodrome of typhoid fever. In eleven cases of hospital contagion, six of the seven nurses who took their temperature regularly had showed this irregular curve, and it had warned of the impending typhoid fever. The incubation in these cases was from eight to twenty-two days before the actual typhoid curve began. The prodromal temperature was the same or higher in the morning than in the evening, with series of plateaux with an occasional abnormal small peak.

Scarlet Fever and Angina.—Mironesco reports experiences which show that during an epidemic of scarlet fever the disease in some cases may be limited to what seems to be an ordinary sore throat but these cases can infect others as well as the frank cases.

Progrès Médical, Paris

Jan. 22, 1921, **36**, No. 4

*Serologic Tests for Tuberculosis in the Elderly. G. Ichok.—p. 35.
Enophthalmos. M. Morax.—p. 36.
Anthropologic Problems of Heredity. Manouvrier.—p. 37.
*Rat-Bite Disease. Dalous and Stillmunkés.—p. 39.

Necessity for Serologic Tests for Tuberculosis in the Elderly.—Ichok found the tuberculin intradermal test negative in all of twelve inmates of two Paris hospitals for skin disease, known to be free from tuberculosis. The complement fixation test showed negative findings also in forty-eight elderly persons known to be free from tuberculosis. It was constantly positive in fifty-two with signs of tuberculosis except a few in very advanced stages. This specific response and the constancy of the complement fixation renders it a valuable aid in detecting otherwise unsuspected tuberculosis in the elderly, which is liable to be dangerous for the environment.

Rat-Bite Disease.—Dalous and Stillmunkés report a mild case of rat-bite fever. The bite was deep in the thumb, pierc-

ing the nail. The period of incubation ended, the patient presented a slight increase in temperature for a few hours, but the next day all was normal again. In Piazzi's case there was a two years' course, with serious ocular phenomena, and Blakc's compilation shows a mortality of 10 per cent. They mention the cases of three soldiers in the trenches who were bitten by rats but presented no signs of infection.

Schweizerische medizinische Wochenschrift, Basel

Feb. 3, 1921, **51**, No. 5

Life and Its Manifestations. G. F. Lipps.—p. 97.
Treatment of Defective Labor Contractions. H. Guggisberg.—p. 105.
The Cultivation and Treatment of Psychic Symptoms in the Insured. H. W. Maier.—p. 107.
Treatment of Epilepsy. E. Christin.—p. 111.

Policlinico, Rome

Feb. 14, 1921, **28**, No. 7

*Edema with Pleurisy. F. Lussana and P. Arrigoni.—p. 217.
*Etiology of Epidemic Encephalitis. P. Almasio.—p. 222.
*Mediogastric Stenosis of Mechanical Origin. L. Vaccari.—p. 225.

Edema with Pleurisy.—Lussana and Arrigoni have been unable to find in the literature any case like the one they present in which subcutaneous edema accompanied pleurisy with effusion. The pleurisy was of the serofibrinous type, the fluid of the effusion so thick that it was misleading in radioscopy. The edema extended from the scapula to the sacrum in the man of 46, with simple acute bilateral pleurisy, free from tuberculosis and nephritis and from constitutional taint or diathesis. The rapid and complete recovery confirmed the diagnosis of simple pleurisy without suppuration. The edema had the characteristics of edema from stasis.

Etiology of Epidemic Encephalitis.—Almasio gives charts which show the flaring up at Turin of influenza and the nearly parallel curve of epidemic encephalitis, a total of 138 cases of the latter and 1,058 of influenza during the spring of 1920. The majority affected were between 20 and 30, and in many cases the encephalitis developed in houses in which there had been cases of influenza. He thinks there is much to sustain the assumption that encephalitis is a closed form of influenza.

Stenosis from Umbilical Hernia.—Vaccari reports a case which he thinks is unique as the roentgen rays and laparotomy showed that the hour-glass constriction of the stomach was caused by hernia of Richet's fascia, the fold of extraperitoneal fascia, enveloping the obliterated umbilical vein. The woman was 50 at the time, and the pain after eating had been first noticed at 16. The stomach seemed otherwise practically normal.

Riforma Medica, Naples

Feb. 5, 1921, **37**, No. 6

*The Policlinic and Medical Training. G. Zagari.—p. 121.
*Ligation of the Jugular Vein in Otitis. G. Gradenigo.—p. 126.
Bacteriology of Influenza. Durand.—p. 126.
Pseudo-Tuberculous Broncho-Alveolitis. A. Furno.—p. 127.
Microbiologic Diagnosis of Amebic Dysentery. R. Leone.—p. 129.
*Gastric and Duodenal Ulcer. S. Menghetti.—p. 131.
Nosography of Human Trypanosomiasis. I. Jacono.—p. 132.

The Policlinic and Medical Training.—Zagari explains the origin of the word "policlinic" from *poli*, "city," as used in Italy, Germany and Switzerland for organized treatment of the sick both in the dyspensary and in the home, where medical students can inspect and follow the sickness. The first medical policlinic was organized at Jena, in 1796, and a number have long been working in Italy. He has charge of the one at Naples, and extols the great work it accomplishes for the sick poor and for the training of young physicians. It enables the study of the disposition and predisposition to discase, and of the pathologic conditions which the practitioner encounters most frequently in his daily work.

Ligation of Jugular Vein in Otitis.—Gradenigo reports a case of otitic pyemia in a young woman, following tonsillitis. Exploratory opening of the sinus showed it normal, and a ligature was thrown around the jugular vein. The infectious process was arrested at once, and no untoward by-effects were observed from the ligation. Repeated examinations with the ophthalmoscope failed to show any changes in the circulation in the eye as compared with the other eye.

Gastric and Duodenal Ulcer.—Menghetti analyzes the outcome in 700 operative cases of gastric and duodenal ulcer in Pauchet's service at Amiens and Paris. The mortality after simple thermocauterization was 1 per cent. and the same after gastro-enterostom but the mortality with gastrectomy was 5 per cent. The latter cures the patient definitely. Balfour has reported only 80 per cent. definitely cured by simple thermocauterization.

Archivos Españoles de Pediatría, Madrid

January, 1921, **5**, No. 1

*Bone Implants in Pott's Disease. A. López Durán.—p. 5.
Congenital Hemimetameric Verrucosis. V. Juaristi.—p. 22.
*Bismuth to Expel Oxyurids. Nieves Gonzáles Barrio.—p. 25.

Bone Implants in Pott's Disease.—López Durán has applied operative treatment in 24 cases of Pott's disease since early in 1917; 8 of the patients were children under 12, 7 were between 13 and 20, and 9 between 21 and 53. This experience has warned that children under 6 should always be treated by conservative measures, and usually all other children, unless the disease is progressing under careful conservative treatment. No operation should be attempted with an active abscess, even though there is no fistula; all his operations in such cases were comparative failures. On the whole, he prefers conservative measures for the well-to-do while the necessity for speedy recovery may turn the scale in favor of intervention in the working classes. Not until radiography confirms a good function of the bone should they be allowed to resume work; in the postoperative period orthopedic apparatus may be useful.

Bismuth to Expel Oxyurids.—In this report of a successfully treated case, the writer says, "Having just read in the *Journal of the American Medical Association*, Loeper's statement in regard to the efficacy of bismuth carbonate in expelling oxyurids, we applied this method in treatment of a rebellious case in a woman of 22. After a week of strict milk diet, 5 gm. of bismuth carbonate were taken morning and evening in a glass of water for three days. This was followed by a purge and local mercurial salve. The course was repeated a month later without dieting, but followed by a calomel purge, and the patient has been permanently relieved of the helminthiasis that had tormented her for months." Loeper casually discovered the efficacy of this drug in giving a contrast meal in two cases of gastric or duodenal ulcer.

Repertorio de Medicina y Cirugía, Bogotá

December, 1920, **12**, No. 3

Hookworm in Colombia. F. A. Miller.—p. 118.
*Tuberculous Meningitis Diagnosed by Eye Findings. A. Arboleda.—p. 126. Idem. V. Ribón.—p. 130.
Treatment of Leprosy. F. De P. Barrera.—p. 135.
*Alcoholism and Pellagra. G. Olózaga.—p. 143. Conc'n.

Tuberculous Meningitis Diagnosed by Eye Findings.—In the case described, the choked disk explained as probably due to tuberculous meningitis the intense headache and cerebellar disturbance in gait, which had developed eleven days after removal of a tuberculous kidney. This was confirmed by necropsy, as the woman of 34 died two days later.

Pellagra from Chronic Poisoning from Corn Liquor.—Olózaga here concludes his study of the disease known in Colombia as chichism, as it is the result of abuse of the cheap native beverage known as chicha, made from maize. The manufacture in certain regions includes putrid fermentation, and it is in these regions and among the poorer classes that the disease prevails. He presents evidence to demonstrate that this chichism is in reality pellagra, developing in consequence of the toxic action of the chicha, analogous to poisoning from ergot, the chick-pea and buckwheat. Under arsenic, nourishing food and abstention from the liquor, the curable cases throw off the disease in a few months, but the grave cases progress to a fatal termination. The city of Medellín has stamped out the disease by raising the license for the sale of chicha to a prohibitive figure. The chicha drinkers are found among the poorest paid laborers, and they have little money left for food after buying their liquor, which hastens the onset of the fatal chichism-pellagra. A few typical cases are described.

Revista Médica del Uruguay, Montevideo

January, 1921, **24**, No. 1

Rapid Treatment of Scabies. C. E. Paz Soldán.—p. **1.**
Modern Treatment of Leprosy. P. E. Duprat.—p. 6.
Epidemic Encephalitis. F. Abente Haedo.—p. 13.
Measles. V. Escardó Anaya.—p. 22.
Vulvar Dystrophia. C. Stajano.—p. 27.

Epidemic Encephalitis.—Abente Haedo found from 65 to 75 per cent. polymorphonuclears in epidemic encephalitis. He has been impressed with the benefit from intravenous injection of a 4 per cent. solution of ammoniated copper (*sulfato de cobre amoniacal);* giving from 4 to 8 cg. daily by the vein.

Vulvar Dystrophia.—Stajano gives a number of illustrations of leukoplasia and vitiligo associated in vulvar dystrophia. The symmetry, the regularity of the shape, and the well-defined limits point to a nervous distribution, probably central. Nine cases are described. He explains these morbid changes as the result of traumatic injury irritating the nerve centers through the peripheral nerves, and thus entailing abnormal trophism, if the traumatizing cause persists, and if the nerve center is vulnerable. In one case the traumatism in the vulvar region had induced a hematoma which persisted for several months. This was followed by vulvar pruritus treated for a year by various measures without success, then extensive leukoplasia developed. The woman's mother had died of vulvar cancer. Stajano published in 1919 a study of vulvar precancer, and the present article confirms his conclusions in regard to the participation of the nervous system.

Semana Médica, Buenos Aires

Jan. 20, 1921, **28**, No. 3

*Parenteral Injections of Milk in Eye Disease. R. Argañaraz.—p. 57.
Color Reaction of Nicotin and Conin. J. A. Sánchez.—p. 61.
Training of Medicolegal Experts. G. Bermann.—p. 64.
Ferrán's Therapy of Tuberculosis. M. Rodríguez Castromán.—p. 68.
Fitness for Military Service. Clemente Trejo.—p. 76.
The Electron Theory. J. Regnault (France).—p. 81.
Musical Sense in Deaf-Mutes. V. Ribón (Bogota).—p. 83.

Parenteral Injections of Milk in Eye Disease.—Argañaraz describes two rebellious cases of a suppurating process in the eye in which, after failure of all other measures, the symptoms rapidly disappeared under parenteral injection of 10 c.c. of milk. In one case the serpiginous ulcer after injury of the eye with scissors, had progressed to grave panophthalmitis. The second patient had orbital cellulitis. Three injections on alternate days of 10 c.c. of fresh milk, boiled for four minutes and cooled, were made in the gluteal region, and by the third day thereafter recovery was practically complete. This measure has been recently applied with success by Noceti in cases of hypopyon, and others have reported success with gonococcus conjunctivitis. The various suppurative inflammations of the eye and chronic inflammatory processes in the endocular membranes are likewise amenable to this milk treatment. The milk should not be heated to over 120 C. or it will lose its therapeutic properties. Schwarte has published twelve cases of ocular suppuration, including some of conjunctival diphtheria, in which the milk injections were followed by a prompt cure. He suggests that the milk may have some specific action against diphtheria, such as we find with horse serum. He noted high leukocytosis as a feature of the treatment—a stimulation of the normal defensive processes.

Siglo Médico, Madrid

Jan. 29, 1921, **68**, No. 3503

Large Sublingual Dermoid Cyst. J. Blanc Fortacín.—p. 93.
*Bone Implants in Potts' Disease. Idem.—p. 94.
The Mineral Waters of Spain. Rodríguez Pinilla.—p. 102.

Bone Implants in Pott's Disease.—Blanc Fortacín reports a successful case of bone implant in a man of 30 with angular gibbus in the lowest dorsal and upper lumbar vertebrae. A recent photograph shows the man stooping almost to touch his feet, his back nearly straight. In a second case, in a boy of 9, the operation performed the same day, the following morning the blood pressure suddenly dropped, with coma. The temperature ran up high and the boy died the same day. An operation for surgical tuberculosis in two other cases was followed in a few hours by this same clinical picture of hypotension, coma and death. Some latent focus, possibly at the base of the brain, may have been reactivated by the operation, and thus have been responsible for the fatal outcome.

Deutsches Archiv für klinische Medizin, Leipzig

Jan. 25, 1921, **135**, No. 1-2

*Residual Nitrogen in the Tissues. E. Becher.—p. **1.**
*Edema. K. Beckmann.—p. 39.
*Measurement of the Venous Pressure. L. Fuchs.—p. 68.
*Bilirubin in the Blood. G. Lepehne.—p. 79
Intrathoracic Pressure as Modified by the Heart Action. F. Klewitz and F. Baumm.—p. 108.
*Epidemic Encephalitis. F. Palitzsch.—p. 115

Residual Nitrogen in the Tissues.—Becher's research has confirmed the importance of the tissues as the storage place for the incoagulable nitrogen with insufficiency of the kidneys. He gives the details of about twenty cases in which the clinical course is compared with the necropsy findings. The tissues in normal conditions seem to contain much more abiuret nitrogen than the blood. The content seems to stand in some relation to the protein, water, and fat content, edematous tissues having a low and the protein-rich tissues a higher residual nitrogen content. No exact parallelism between the development of symptoms of uremia and the amount of the retained residual nitrogen could be discovered, except that the most retention was found with true uremia. Even high retention of residual nitrogen in the body was not always accompanied with high blood pressure.

Edema.—Beckmann reports research which shows that the protein content of the edema fluid is an index of the nature of the edema. The lowest protein content is found with tubular disease of the kidneys and amyloid kidney, generally under 0.1 per cent.; the highest protein content in glomerular nephritis, with an average of more than 1 per cent. Between these extremes lie the cardiac and the mechanical forms of edema, the cardiac usually showing above 0.4 per cent. The sodium chlorid metabolism confirms the protein findings; with tubular kidney disease and amyloid kidney, the derangement of the tissues, and with glomerular nephritis the disturbance in the capillaries is the predominant factor. He found that the intermediary metabolism of water is dependent on the manner of the distribution of the elimination of water to the various emunctories. In three cases after drinking considerable water at one time there was much increased elimination, the water deposits of the body having evidently been thus mobilized. The sodium chlorid content of the edema fluid was higher than in the blood as a rule. There seemed to be deposits of water and of sodium chlorid in the tissues, in addition to those in the edema fluid, and these require certain influences before they can be mobilized.

Measurement of the Venous Pressure.—Fuchs has found the Moritz and von Tabora method reliable enough for practical purposes, but his experience with 120 persons tested shows that little if any information is to be derived from measurement of the venous pulse.

Bilirubin in the Blood Serum.—Lepehne discriminates between the stasis bilirubin, which accumulates in the blood from mechanical obstruction to the flow of bile, and the functional bilirubin, which passes into the blood serum when the bilirubin is produced in excess, or the liver cells are incapable of taking care of it. The stasis bilirubin gives a rapid and maximal diazo reaction, while with functional bilirubin the reaction is slow and sluggish. The stasis bilirubin oxidizes much more rapidly and it is adsorbed by the precipitate of serum protein more rapidly than the functional bilirubin. He reports his research in detail in 3 cases of jaundice; 13 of liver tumors; 4 of cholelithiasis; 4 of choloroform anesthesia; in 24 pregnant women, including 3 with eclampsia; in 11 cases of various infectious diseases; 2 of malaria; 4 of polycythemia; 7 of jaundice in the new-born; 14 cases of heart disease, and 10 of pernicious anemia. Among the conclusions from his research is that latent jaundice of the functional type is found in pernicious anemia, while with secondary anemia the findings are normal in this respect. He discusses the influence of splenectomy, of silver salts by the vein, and of the remissions in pernicious anemia on the behavior of the bilirubin in the blood. With jaundice in the new-born, the direct diazo reaction was exceptionally retarded. He says that this controverts all the theories which have been advanced to explain icterus neonatorum by stasis of bile. It is evident that it is more like hemolytic icterus. In both there is increased hemolysis in the spleen and liver, with possibly

functional disturbances in the liver cells. The acholuria in each is probably due to the binding of the functional bilirubin with certain substances for which the kidneys are not permeable.

Epidemic Encephalitis. — Palitzsch comments that his twenty-seven cases were all from different parts of the city. There were five deaths among them. Some of the patients had entirely recovered in one or two weeks, but others are not entirely well even yet, after many months.

Deutsche medizinische Wochenschrift, Berlin

Dec. 2, 1920, **46**, No. 49

Physiology of Smooth Muscle Fibers. A. Pick.—p. 1349.
*Muscular Tone and General Metabolism. E. Grafe.—p. 1349.
*Reduction of Suprarenals in Epilepsy. Brüning.—p. 1351. Idem; Effect on Blood Sugar. W. Bausch.—p. 1353.
*Experimental Ventricular Fibrillation. S. de Boer.—p. 1353.
Silver Arsphenamin in Syphilis. E. Zurhelle.—p. 1354.
Experiences with Lumbar Anesthesia. A. Mayer.—p. 1356. Conc'n.
Biology of Influenza Bacillus. H. Tocunaga.—p. 1357.
*Tests for Spasmophilia in Infants. J. Ibrahim.—p. 1359.
Value of Revaccination Against Smallpox. Paschen.—p. 1359.
Incarceration of Uninflamed Appendix. M. Rosenberg.—p. 1360.
The Actinimeter for Dosage in Phototherapy. R. Fürstenau.—p. 1362.
Poisonous Beans. Dienemann.—p. 1364.
Present Conception and Treatment of Eclampsia. R. Jolly.—p. 1364.
Iritis and Glaucoma. Abelsdorff.—p. 1365.

Muscular Tone and General Metabolism.—Grafe says there is considerable evidence for believing that not only muscular contraction but also relaxation of the muscle is produced by a special nervous impulse. If the second impulse, owing to certain pathologic processes in the nervous system, is not forthcoming, then the muscle remains taut, like a stretched rubber band. It is highly probable that the shortening is brought about by a process resulting from the formation of acid in the sarcoplasm. During this first stage there is probably no consumption of oxygen. The absorption of oxygen begins with the stage of relaxation. If relaxation does not take place, it becomes at once plain why an increased consumption of oxygen beyond the normal consumptions for the rest period does not occur. It remains to be seen whether this hypothesis can be supported by establishing the existence of nerves whose function it is to cause relaxation of muscles.

Reduction of the Suprarenal Glands in Treatment of Epilepsy.—An abstract of a similar article by Brüning will be found on p. 692, current volume.

Experimental Ventricular Fibrillation.—In No. 43, 1920, of the *Deutsche medizinische Wochenschrift* de Boer reported that he had produced ventricular fibrillation in the frog by an induction shock applied at the beginning of the irritable ventricular period. By his recent investigations he has shown that the same phenomenon can be produced by indirect stimulation. If, namely, the auricles are stimulated at the beginning of the irritable auricular period by an induction shock, an extrasystole of the auricles occurs, and the stimulation is transmitted to the ventricle. If this stimulation reaches the ventricle immediately after the refractory period has passed, it may cause ventricular fibrillation.

Overexcitability of Nerves as Indication of Spasmophilia in Infants.—Ibrahim thinks that testing the motor excitability by tapping the radial and the external popliteal nerves is a most useful method by which the general practitioner may discover spasmophilia in infants. He wonders that the method is not used more than it is; especially in view of the fact that we now have various ways of treating spasmophilia successfully. The tapping is done in the upper arm or just below the head of the fibula. The responses here may be characteristic even when the facialis phenomenon cannot be elicited.

Münchener medizinische Wochenschrift, Munich

Dec. 3, 1920, **67**, No. 49

*Imbibition Power and Osmosis. A. Ellinger.—p. 1399.
*Late Effects of Epidemic Encephalitis. F. Hofstadt.—p. 1400.
*Objective Test for Power of Audition. O. Löwenstein.—p. 1402.
Sensitiveness of Muscles in Incipient Scoliosis. K. Port.—p. 1403.
*Results of Roentgen Irradiation of Myomas. E. Zweifel.—p. 1405.
Vagotonia as a Constitutional Problem. F. Heissen.—p. 1406.
Stalagmometric Investigations on Urines. W. Schemensky.—p. 1407.
Artificial Breathing in Tetanus. G. Leendertz.—p. 1408.
*Suprapubic Prostatectomy. R. Oppenheimer.—p. 1409.
The Fürstenau Actinimeter in Phototherapy. F. M. Meyer.—p. 1410.
Muscle Shifting for Grave Talipes Equinus. Gretsel.—p. 1412.

Capacity for Imbibition of Protein Bodies in Blood Serum.—Ellinger discusses the importance of the *quellungsdruck*—the amount of water that can be absorbed—of the protein bodies in the blood serum as affecting the osmosis between blood and tissues and the excretion of urine. It is particularly important in the resorption of edema. He has found that diuretics reduce the imbibition capacity of the protein bodies in the serum, and that hypertonic grape sugar-Ringer solution by the vein aids in freeing the lungs in pulmonary edema.

Sequelae of Epidemic Encephalitis in Children.—Reviewed editorially, p. 934.

Determination of Objective Power of Audition and Differentiation of Organic from Psychogenic Deafness.—Löwenstein describes his method of differentiation of organic from simulated and hysteric impairment of audition. He bases his test on the finding that every mental process, whether thinking, feeling or an act of will, is accompanied by certain slight unconscious movements of the head and extremities. For the registration of these movements he has devised a special apparatus. He can also determine to what extent the power of audition is affected by hysteria.

Results of Roentgen Irradiation in Uterine Myomas and in Other Pathologic Conditions of the Uterus.—Zweifel states that in myoma patients in the University Woman's Hospital, Munich, they achieve by means of roentgen irradiation not only a stoppage of the hemorrhage but in most cases also a diminution in the size of the tumor, the same as by surgical treatment. Out of the forty-three patients who had received roentgen-ray treatment with the "Apex" apparatus, reduction of the myoma could be demonstrated on reexamination in thirty-seven cases, or 86 per cent. Of the fifty-three patients who had received roentgen-ray treatment with the "Symmetry" apparatus, thirty-three revealed on reexamination a reduction of the myoma; in a few cases the uterus had assumed its normal size.

Forty Suprapubic Prostatectomies Without a Death.—Oppenheimer states that since the suprapubic operation for prostatectomy was first introduced in Germany at the beginning of the century, the mortality has been gradually reduced. The average mortality in 807 cases since 1915 seems to have been about 12 per cent. He reports his forty operations without a fatality. Many of the patients were in a bad general condition and twenty-eight were over 60 years old, the oldest being 76. In twenty-eight cases, or 75 per cent., infection was present. There were other more or less serious complications.

Wiener klinische Wochenschrift, Vienna

Nov. 4, 1920, **33**, No. 45

Classification of Pulmonary Tuberculosis by Rate of Elimination of Bacilli. A. Winkler.—p. 981.
Intermittent Ileus, Caused by Murphy Button Thirteen Years After Operation. H. Neuberger.—p. 984.
*Eye Symptoms in Syphilis. L. Stross and A. Fuchs.—p. 986.

Eye Symptoms in Syphilis.—Stross and Fuchs examined for eye symptoms 84 cases of syphilis with positive spinal fluid. There were 49 recent cases—under two years—and 35 over two years. Of the 49 recent cases, 17 (6 men and 11 women) presented eye symptoms. Of the 34 old cases, 19 (12 men and 7 women) showed eye involvement, being a much larger percentage than in the recent cases. The ocular symptoms found are described in detail. It was noticeable that among the recent cases the women presented eye symptoms more frequently than the men. Impairment of the optic nerve was the most common finding. In 8 of the more recent cases there was a mild papillitis without impairment of vision, and 7 in this group were women. In the old cases, however, pupillary changes, and especially immobility of the pupil, were frequent.

Zeitschrift für Tuberkulose, Leipzig

November, 1920, **33**, No. 2

The Kidneys in the Tuberculous. O. Kieffer.—p. 65. Cont'n.
Increase in Tuberculosis Mortality in Women. G. Müller.—p. 77.
*Trauma and Tuberculosis. J. Orth.—p. 81.

Trauma and Tuberculosis.—This communication presents five reports made by Orth as expert in deciding claims for workmen's compensation when tuberculosis developed after a

rauma. His previous reports covered forty-five such cases. n the present group the connection was accepted in some ınd rejected in the others.

Zentralblatt für Chirurgie, Leipzig

Nov. 13, 1920, **47**, No. 46

Exstrophy of the Bladder; Modification of the Maydl Operation. O. Kleinschmidt.—p. 1386.
*Acceleration of Coagulation by Raying Liver. H. Tichy.—p. 1389.
*Operation for Hydrocele. A. Rumpel.—p. 1390.
*Costal Cartilage as Support for Eyeball. J. F. S. Esser.—p. 1392.
*Prevention of Amputation Neuroma. H. Gretsel.—p. 1395.

Acceleration of Blood Coagulation by Roentgen Irradiation of Liver.—Tichy verified the statements of Stephan and Jurasz in regard to the acceleration of blood coagulation by roentgen irradiation of the spleen. Using the Fonio method, he found the normal coagulation time for their laboratory to be from ten to fourteen minutes. Following irradiation of the spleen with the "Intensiv-Reform" apparatus and the Fürstenau-Coolidge tube, at 23 cm. focal distance from the skin, with 3 mm. aluminum filter, size of field 6 by 8 cm.; length of application eight minutes (about one third of an erythema dose), an acceleration of coagulation equal to 43.4 per cent. occurred, on the average. The acceleration became evident in from three to four hours and persisted usually for forty-eight hours, and in some cases for nearly three days. He also experimented with irradiation of the liver, the mode of application being the same as for the spleen, and the acceleration of the coagulation time was, on the average, 51.6 per cent. The acceleration was still manifest in almost all cases the third day after the irradiation. Tichy thinks that irradiation of the liver is theoretically just as well founded and for practical purposes possibly more effective than irradiation of the spleen.

Operation for Hydrocele.—Rumpel describes Kirschner's method of operation for hydrocele, introduced in 1918, and states, after having used it in several cases (four of which date back two years and have been recently reexamined and found in fine condition), that if the method is carefully carried out it gives excellent results and deserves wide application on account of its simplicity, shortness of the operation, and its reliability.

Free Transplant of Costal Cartilage as Support for the Eyeball.—Esser recommends the use of costal cartilage for nasoplasty, for restoration of portions of the zygomatic bone, reconstruction of a missing portion of the orbit and for auroplasty. Cartilage has the advantage, as it contains no blood vessels, of receiving its nutrition from the surrounding tissues by imbibition and osmosis. It is, therefore, especially adapted for free transplantation, and heals in place more readily and under more favorable conditions than a bone implant. Esser describes in detail three cases in which he used costal cartilage to restore the floor of the orbit.

To Ward Off Amputation-Neuromas.—Gretsel says that amputation-neuromas of the leg and thigh may be prevented (or cured) if the amputating surgeon, at the time of the operation, takes carefully into account, from what point on, the infected nerve ceases to be of value for the functioning of the stump, and at that point interrupts the continuity of the nerve by excising a portion. The saphenous nerve may be excised at any point in its course. The nerve gives off, at about the level of the gluteal fold and just above it, the motor branches for the flexors of the lower leg. From there down it is of indifferent value as regards the motion of the lower leg. The surgeon will, therefore, cause no motor injury to the stump of the lower leg or the thigh if he wards off or interrupts possible suppuration in the nerve sheath by excising a portion of the nerve, 1 cm. long, at the gluteal fold. This procedure protects against amputation-neuromas much more than if the nerves in the amputation stump were merely pulled out and excised as high up as possible. If an amputation-neuroma has already formed and is causing trouble, this procedure is likewise indicated, for, by interruption of the continuity, the peripheral portion of the nerve ceases to cause trouble and the weight-bearing power of the stump is restored. Gretsel has never observed any bad effects on the amputation stump resulting from this procedure.

Zentralblatt für Gynäkologie, Leipzig

Nov. 20, 1920, **44**, No. 47

*Blood Pressure in the Newborn. A. Seitz and F. Becker.—p. 1338.
*Diagnosis of Hydrops Universalis Congenitus. V. Kafka.—p. 1343.
On Sex Determination. W. Buchacker.—p. 1345.
Significance of Social Gynecology. M. Hirsch.—p. 1348.
Effect of Influenza on Pregnancy. T. Seitz.—p. 1351.

Blood Pressure in the Newborn.—Seitz and Becker, finding in the literature no systematic measurements of blood pressure in a large series of healthy new-born infants, have undertaken to supply the deficiency, and now report their results; 102 normal new-born infants were examined. The blood pressure the first day after birth averaged 43 mm. of mercury. Up to the third day, blood pressure rose relatively rapidly. From then on the pressure increased more slowly but steadily until the end of the first month. At the end of the first week it was 60, at the second, 70 mm. of mercury. At the end of the first month the pressure averaged 82 mm.

The Differential Diagnosis of Fetal Hydrops Universalis.—Kafka states that this condition has heretofore been diagnosed only during or after birth. As the general dropsy of the fetus, and especially the large quantities of fluid in the abdominal cavity, lead to a considerable enlargement of the maternal abdomen, the diagnosis in both pregnancy and birth was usually hydramnion. There seemed to be no way of telling whether the free fluid was within or without the fetal organism. But an early recognition of fetal dropsy is important. Kafka made the observation in a clinical case that the heart sounds of the fetus, which in marked hydramnion are notoriously weak—in fact, often imperceptible—could be heard with particular clearness at all points of the uterus. At birth the child presented hydrops universalis. The abdomen was 40 cm. in diameter and seemed filled with fluid up to the thorax. There was marked edema of the extremities. The physical explanation of the phenomenon is doubtless simple. Sound is more readily conducted through solid bodies than through liquids. In hydramnion there is a more or less extensive layer of amniotic fluid between the child and the uterus, whereby the heart sounds are muffled or even obliterated. In hydrops of the fetus, the body of the child lies close to the stretched wall of the uterus. The distended uterus occupies a large part of the abdominal cavity and the taut abdominal walls constitute a favorable medium for the conduction of heart sounds.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 22, 1921, **1**, No. 4

*Diaphragmatic Eventration. D. J. Steenhuis.—p. 400.
*The Gaseous Interchanges in Rowers. M. N. J. Dirken.—p. 404.
*Subcutaneous Injection of Oxygen. W. M. Naessens.—p. 410.
*Hysteric Attitudes. J. F. O. Huese.—p. 413.
Dermoid Cyst Complicating Appendicitis. J. M. M. Indemans.—p. 415.

Diaphragmatic Eventration.—Steenhuis reports a case in which an evidently congenital slit in the diaphragm has caused such slight disturbance that operative treatment has not been required, although quite lately the left half of the diaphragm shows increasing insufficiency. In another case the man was exhibited at so many different clinics that he finally developed a roentgen ulcer on the back.

The Gaseous Interchanges in Rowers.—Dirken reports the results of systematic study on forty occasions of four students training for a rowing match.

Subcutaneous Injection of Oxygen.—Naessens has applied this treatment in twenty cases of children with pneumonia. The results are most striking when there are dyspnea and cyanosis, but they are good likewise even without this. The oxygen serves apparently as a stimulant and as an antitoxic adjuvant. No alarming incidents were ever witnessed, while in some cases the effect seemed an actual resurrection. He remarks in conclusion that this subcutaneous injection of oxygen has proved useful in so many pathologic conditions that the list must make the mouth water of a manufacturer of patent medicines.

Hysterical Attitudes.—In one of the two cases described the hip has been drawn up so that the young woman has been bedridden for five years since an appendicectomy.

Acta Chirurgica Scandinavica, Stockholm

Jan. 20, 1921, **53**, No. 3

*Actinomycosis of Salivary Glands. G. Söderlund.—p. 189.
*Detachment of the Head of the Femur. H. Abrahamsen.—p. 230.
*Cultivation of Nerve Tissue. P. B. Henriksen.—p. 265.

Actinomycosis of Salivary Glands.—This is Söderlund's fifth publication on primary actinomycosis and calculi of the salivary glands. He describes four cases here; three in the submaxillary gland and in the parotid and cheek in one. In all there was diffuse, inflammatory enlargement of the entire gland, relatively painless. This is characteristic of ductogenous actinomycosis of these glands. When secondarily involved, only the part of the gland invaded shows the lumpy tumor. Including these cases, there are now on record ten cases of submaxillary and seven of parotid gland actinomycosis anatomically confirmed, but probably certain cases of sialolithiasis and of Küttner's tumors belong in this category. The primary focus is often small and limited to the excretory duct at first. When this small focus is excised, the inflammatory swelling of the whole gland generally retrogresses under potassium iodid, with or without moist heat. There is no need to excise the tumefied gland. A calculus in the excretory duct, containing actinomycetes, is found in some cases; the tumor subsides after the duct is cleared out or the small abscess around the scrap of grain is drained. (In German.)

Separation of the Head of the Femur.—In Abrahamsen's four cases of epiphyseolysis of the head of the femur, the contusion had been comparatively insignificant. One child of 10 did not experience any pain at the time or during her play and exercise later; limping was the only symptom. One girl of 13 heard and felt the cracking at the accident. In two of the cases a second contusion probably completed the epiphysiolysis. The nature of the disturbance had not been suspected in some of the ten cases of the kind in which he was called in consultation during the last two years. Even radiography may not clear up the diagnosis. The experiences related and the findings in eleven cases of alleged idiopathic coxa vara seem to demonstrate that separation of the epiphysis is probably the primary cause of coxa vara in all cases, the causal contusion or damage from some sudden movement not having been noticed at the time. Radiography is indispensable after every contusion of the hip with symptoms, even if no more than a slight tendency to limp. Reduction and a Lorenz-Löfberg bandage should follow at once when the epiphysiolysis is discovered, even in old cases. If the head is not restored to place it becomes much deformed. (In French.)

Cultivation of Nerve Tissue Outside of the Body.—Henriksen discusses what this has proved in regard to regeneration of a severed nerve, reporting his own extensive research, with twenty-seven fine photomicrograms, most of them in colors. (In English.)

Hospitalstidende, Copenhagen

Jan. 5, 1921, **64**, No. 1

*Action of Visible Rays on Temperature. C. Sonne.—p. 1.

Measurement of Temperature Action of Visible Rays.—Sonne has been investigating the effect on the temperature of the deeper tissues and of the body in general from the visible heat rays. The work issues from the Finsen Light Institute. The tabulated details show that the temperature is higher in the depths than at the surface after exposure to the visible heat rays. With the ultra-red rays, the reverse occurs, the difference averaging 3.2 degrees C. less than at the surface. With the visible rays there was an average increase of 1.6 degrees above the surface temperature. Experiments on guinea-pigs showed further that while the skin temperature was much higher under the action of the ultra-red rays, the temperature of the body as a whole was 3 degrees higher under the action of the visible rays. Blisters developed sometimes on the shaved backs of guinea-pigs after exposure to these ultra-red rays for thirty minutes, but this never occurred with the visible rays under the same conditions.

Ugeskrift for Læger, Copenhagen

Jan. 27, 1921, **83**, No. 4

*Fluctuations in Weight with Pulmonary Tuberculosis. C. F. Møller.—p. 105.
Experiences with Carrel-Dakin Technic. C. de Fine Licht.—p. 119.

Fluctuations in Weight of the Tuberculous.—Møller is chief of a mission tuberculosis sanatorium in southern India, and he compares experiences there with those reported from Sweden and Finland in respect to fluctuations in weight. They seem to occur alike in these three countries from week to week, but in the hot climate, conditions were worse in summer and better in winter, which is the reverse of what is observed in northern Europe.

Feb. 10, 1921, **83**, No. **6**

*Pathogenesis of Sciatica. H. Jansen.—p. 191.
Film for Roentgen-Ray Work. P. G. K. Bentzon.—p. 198.

Sciatica.—Jansen says that, besides sciatica for which neuritis, pressure on a nerve or nerve root, chilling or toxic action is responsible, there are groups of cases in which muscular strain from overexertion or from some unusual attitude—assumed to ward off pain elsewhere—may be incriminated. A muscular effort may induce lumbago and, in the severer cases, sciatica. A tendency to anesthesia, paresis or loss of the Achilles reflex suggests a neuritis origin. When sciatica persists, it is either secondary to some persisting cause or it has become a traumatic neurosis. In this case treatment by suggestion is indicated, but in all cases of sciatica, the neurasthenic element must be kept in view. Bromids are useful on this account, and this explains why recovery may follow the most widely diverse treatments. Injection of saline has an immediate but transient sedative action. Heat and massage aid in relieving the muscular contractions and cramps; the massage is applied to the lumbar and gluteal region. Rubbing and other stimulating measures applied to the course of the nerve are worse than useless. Atrophy of muscles must be combated by massage and the function of the limb restored by exercise and correction of faulty attitudes.

Upsala Läkareförenings Förhandlingar

Feb. 1, 1921, **26**, No. 1-2

Optic Illusions from Spreading of Light. H. Ohrvall.—p. 1.
Influence of Reduced Atmospheric Pressure on Isolated Heart of Frog. J. H. Hindmarsh.—p. 25.
*Vaccine Therapy in Epidemic Paradysentery. W. Karström.—p. 57.
*The Respiratory Phenomena with Pneumothorax. H. Laurell.—p. 83.
*Indiarubber Ball Sound After Cough. G. Bergmark.—p. 127.
*Function of the Corpus Luteum. J. Näslund.—p. 157.

Vaccine Therapy in Epidemic of Paradysentery.—Karström relates that about four years ago an epidemic of febrile diarrhea developed at two Swedish sanatoriums and in the adjoining region, and the epidemics returned the following summers until stamped out with an autogenous vaccine. The paradysentery bacilli involved were of the Y and the Kruse E bacilli types. In 1919 about 150 persons were treated with the vaccine, and nearly 100 the following year. It proved practically harmless, and seemed to confer a brief immunity, but the benefit from it was most evident in curing the chronic cases.

Respiratory Phenomena with Pneumothorax.—Laurell's explanations of the phenomena observed conflict with those generally accepted.

Rubber-Ball Sound After Cough as Sign of a Cavity.—Bergmark found Bruce's india-rubber ball sound, or double cough sound, as he prefers to call it, in every case of cavity in a lung. It was distinct in fifty-six of 130 patients in the third stage of pulmonary tuberculosis, and in twenty of thirty-nine cases in which the cavity was confirmed at necropsy. It was distinct also in sixteen of twenty-five cases in which the physical findings suggested a cavity. In twenty-five cases of positive rubber ball sound, symptoms of a cavity were evident in twenty-three. On the other hand, adhesions of the layers of the pleura may exceptionally induce this sound, as he found it in one of seventy-seven cases of bronchopneumonia and in one of forty-seven cases of croupous pneumonia, both with pleuritis, and also in four of forty-seven cases of pleurisy.

The Corpus Luteum.—Näslund has been studying on rabbits and white rats the effect of corpus luteum from slaughtered cattle as modifying gestation and the development of the fetus. The effect of large doses seemed to be to prevent gestation, but did not modify it if already under way.

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ADEQUATE MEDICAL SERVICE FOR A COMMUNITY

SOME FACTORS OF IMPORTANCE *

W. H. SMITH, M.D.

BALTIMORE

During four days of this week, symposiums are being held in which experts are discussing phases of medical education, both for undergraduates and graduates, medical examination and licensure, hospital service, and methods of organizing for public health service in both urban and rural communities. What is the significance of such discussions? It is all for the purpose of deciding how best to provide adequate medical service for a community. We are all working in our own special fields to accomplish that purpose, and let us hope that these meetings are indicative of a spirit of team work as a future policy. As expressed by Dr. Haven Emerson: [1]

> Three services we shall always need if we intend to provide the best that science affords to heal the sick and guard the well against disease. Each service, although indispensable by and for itself, is, however, necessarily dependent upon the other two for its complete usefulness and application, and no one can be omitted without sacrifice of much of value of the others. Diagnosis and treatment of the sick comes first to mind as it was first to be provided, but first by a narrow margin of time before the teaching of medicine. These two led by many ages the third, the prevention of disease.
>
> We have won our way from an attitude of passive submission or acceptance of disease and disability as inflections of fate, of some evil genius, or by the Gods of our own Divinity, through the self-respecting and upright position of self defense against disease, using the weapons of science, until we are now moving aggressively forward attacking disease and determined to overcome it by all the resources of society as well as by assembling, coordinating, directing, with our knowledge of preventive medicine and organized government, a continuous warfare upon all the physical, biological, economic and spiritual handicaps against which man and child cannot successfully make progress alone.

During the memory of every man here a complete change has taken place in the attitude of the public toward the hospital, in the relationship of the hospital to the community, and in the practice of medicine in its various forms.

THREE INDISPENSABLE SERVICES

In considering this subject let us get before us certain facts from which to start. Three services we shall always need: medical teaching, preventive medicine, and diagnosis and treatment. Much progress has been made in developing those three services. We are a new country; and while every phase of our development has been progressive, since we did not start out with a well defined theory to be put into practice, each step in our development has been an attempt to supply a practical solution to a new demand.

Consider the rapid growth of this country, the development of urban life, the concentration of 50 per cent. of the population within restricted areas, attended with overcrowding and unhygienic living conditions, the influx of hordes of immigrants with a total lack of any decent standards of living, the growth of great industrial centers, and we have a picture that accounts for the fact that until comparatively recently the development of our medical resources has been largely in response to the demands of the situation arising from such conditions. This has resulted in the concentration of our hospitals and other health agencies, as well as the medical profession in these urban centers, while the other 50 per cent. of the population has been largely neglected or at least inadequately provided for. Neither the urban nor the rural problems are sufficiently under control, owing to the practice of meeting demands as they arose, without any constructive program based on a vision of adequate medical service.

All of these factors, together with the overwhelming demands made on the profession, the constant effort toward reorganization of our system of medical education, the development of the science and art of medicine, have resulted in what may be called emergency organization.

In spite of the constant struggle by the medical profession to keep pace with its own development and the demands of public welfare, nevertheless we may view with pride the record of American medicine, its educational institutions, its investigators, its clinicians, its surgeons, its hospitals and its national organizations. On the other hand, we must not overlook the fact that we are far from having accomplished the best development of our resources and that there is much to be done to strengthen the weak points in our system.

I wish to touch briefly on some of the weak points. I would not presume to offer remedies or to answer the many questions raised, but rather to present a panoramic view, so to speak, believing that we must keep before us the whole problem in order that, by better coordination of the energies and resources of the various agencies, we may eventually develop a more definite, more logical, a more far-sighted and constructive program.

We have an ever increasing number of associations—state, sectional, national and international. They are no doubt useful; in fact, many of them have accomplished much good. Each is working along its own lines on

* Read before the Annual Conference on Medical Education and Hospitals, Licensure and Public Health, Chicago, March 9, 1921.

1. Cleveland Survey Report.

some phase or phases of the common problem. The result is not infrequently overlapping, duplication and occasionally a crossing of purposes with the consequent waste of time, energy, money and confusion.

Remembering that "three services we shall always need, and that each service, though indispensable by and for itself, is, however, necessarily dependent upon the other two for its complete usefulness," it is apparent that if a well-balanced program is ever developed in which all of the various activities are coordinated, as they should be, then there must be closer relationship between the many organizations and agencies in order that the three services—education, prevention, treatment—may be more helpful each to the other.

ORGANIZING FOR SYSTEMATIC EFFORT

Since the American Conference on Hospital Service came into existence, I have felt, as have many others, that it offered great promise, possessed great possibilities, greater perhaps than its name signifies. It would be a gigantic task to develop a system whereby the various movements for the improvement and conservation of health might be cleared through a central clearing house; but such a task confronts us if we wish to accomplish the best results. Is it not possible that we have in this association the adoption of such a principle and the beginning of a movement which may lead to the gradual approach to systematic effort?

Such a suggestion does not mean that the American College of Surgeons should turn over its work on standardization, or that the American Medical Association should discontinue its work of standardizing medical education, or that the American Nurses' Association, the Social Hygiene Association, the Association for the Prevention of Infant Mortality, the American Public Health Association or the American Hospital Association should discontinue or turn over to this or any other organization the special problems on which they are working; but it is essential that there be more team work. Most of these organizations are working on problems peculiar to their own special fields, but many of them also inaugurate movements from time to time which have to do with a great public problem, in which we are all interested; and I maintain that there are now too many uncorrelated efforts for the settlement of these great questions of public health, and there must be greater cooperation and more intelligent direction of these movements if we are to emerge with a general program understood and backed by all.

No one organization can develop the entire program; many may contribute a part, but in the successful carrying out of a large constructive public policy we must finally rely on the backing of all the different elements of the medical profession. For example, with all of our associations, we have not yet been able to obtain that most desirable end, the creation of a national department of health. In my judgment the main reason for such failure is to be found in the fact that as a profession we have never really organized for the effort, and have never really sold the idea. Our attitude toward our local societies is an index of this shortsighted policy; at least it is true of the East. What does the average state or city medical society amount to so far as having any influence on the forming of public policy? It exists, for the most part, for the purpose of bringing the local profession together at regular intervals to listen to papers on some medical subjects. Are those societies a force in their communities for forming public opinion, for educating public officials, as to what is needed to make life safer and to conserve health? They are not. If they were, the city and state health departments, hospitals and other health agencies would not still be subject to the pernicious influence of the political spoils system. Such is the situation all too frequently; and instead of having qualified health administrators at the head of such institutions, we find men of little or no training for their particular jobs, installed and removed at the whim of mayors and governors, which, together with frequently changing administrations, makes it impossible to formulate any broad public health program. Why is it that it is so often necessary to raise private funds for the demonstration of movements which legitimately are functions of the city or state? The situation is familiar to us all. It is absurd, but whose fault is it? The public's? Not at all, for the public has not been educated or advised by those whose business it should be to advise. We have the machinery, why not use it; or are we content to continue the policy of "let George do it?" [1]

According to Haven Emerson:

> We are emerging from the era when the health officer was a lawyer, a policeman, a scavenger, a mere clerk, to the conception of the health officer as a leader in social organization, a student of disease as it occurs in groups, an administrator of services which make life more secure and happier in every household, in reality the family physician of the community, its trusted adviser and protector.
>
> For those whom our education and our devices for prevention have been of no avail, the sick and injured of medical practice, the wastage resulting from our ineffectiveness in protection, we provide the physician, the visiting nurse, the dispensary, the hospital, the convalescent care. That there should be so much more needed to pay the cost of repair work than is thought sufficient to spend for prevention, is a commentary upon our intelligence, a sharp reminder of our wastefulness, of our undeveloped business acumen.

These are matters which are intimately associated with the effort to supply adequate medical service to a community; and unless the profession, a united profession, interests itself in their proper handling, how can we deal satisfactorily with the many other phases of the problem as a whole? We need better facilities for training men for public health work, and we need more men, but what inducement is there for men to enter this field under the present system? It is true that many do so, but it is an uncertain future under the present system, except in private or federal enterprises.

CLEVELAND HOSPITAL AND HEALTH SURVEY

But there are many other factors of importance. We have between 6,000 and 7,000 hospitals in the United States, and we have no basis of hospitalization. There exists no machinery for determining what the hospital needs of a community are, what types of hospitals are most needed or best, what organization furnishes the best results, or where hospitals should be located. Most hospitals have been created without any estimate as to the needs of the community as a whole. They are largely the result of the activities of special interests or groups of individuals whose aim was quite apart from a consideration of the community's needs as a whole. It is an unbusinesslike and shortsighted policy. Machinery is needed for determining the policy of hospitalization and for formulating standards on such points as are brought out in the Cleveland Survey, and the purpose and scope of this survey, as set forth in the report, may serve to emphasize the point which I

ake, that a general policy, a standard of approach, machinery of execution, must be provided if progress the right direction, on the right lines, is to be made. The following is the general outline laid down by the mmittee as the basis of the survey:

GENERAL OUTLINE

FOR HOSPITAL AND HEALTH SURVEY

Hospital and health activities have a common purpose.
It is better public health and fewer preventable deaths. There are ur fundamental contributing factors to the efficient work of all hos- al and health organizations working to this end.
These are:
Development of medical education, both postgraduate and undergraduate.
Development of nursing education, both general and special.
Advancement of public health and preventive medicine.
Care of the individual sick.
Due consideration must be given to each of these four factors in con- lering the work of any individual hospital or health organization or oup of such organizations or community hospital or health needs.
The work of this committee may be divided into two parts:
I. A survey and study of the existing hospital and health activities— blic or private—of Cleveland. It should determine the contribution ich is now being made to the common end by the different institu- ns individually and collectively, discover ways in which these institu- ns may be made to contribute more by reasonable changes either in e division of labor with other institutions, the volume of work done contemplated, or in the way of doing work. This involves a survey d study of:
1. Medical education in Cleveland as at present conducted.
   (*a*) Use of clinical material and facilities in Cleveland by the medical school for undergraduate instruction, for postgraduate instruction of young medical men, for instruction and development of the medical profession in general.
2. A study of nursing education as conducted at present in Cleveland.
   (*a*) Training schools giving general nursing education.
   (*b*) Facilities for providing nurses with special education and training.
3. The Division of Health of the City of Cleveland and its relation to the hospitals, dispensaries and other medical institutions and the profession in general. Its activities in the care of contagious diseases and in preventive medicine.
4. A study of the existing hospitals and their plans for extension to determine:
   (*a*) The available and contemplated facilities for:
      Pay or private room patients.
      Part-pay and ward patients.
      Free patients.
   (*b*) The probable normal needs of the community for each of these classes of accommodations.
5. A study to determine the present and contemplated facilities as well as the probable normal needs of the city for the care of certain classes of sick:
   Contagious, including venereal diseases.
   Acute surgical.
   Acute medical.
   Chronic surgical and orthopedic.
   Chronic medical.
   Convalescent:
      The immediate development of facilities for chronics and convalescent patients as a means of saving hospital space.
   Insane and mental diseases.
   Aged and infirm.
   Maternity.
   Babies and children.
   Accident and emergency.
6. Dispensaries. A study of their location as to their availability to l Cleveland citizens in need; the type of cases receiving treatment erein; the facilities of the various dispensaries to do properly the ork undertaken.

II. The second part is a more extended study of the community to termine the ideal number, grouping, location, character and functions the hospital, medical and health institutions which can best serve leveland at present and during the reasonable future development of e city. This entails:
1. Morbidity, accident and mortality rates for the city, as a whole, and by districts, based on city statistics, questionnaires to physicians, hospital and dispensary records, Industrial Commission reports, U. S. Census figures on occupations, races and ages, and morbidity census in other cities, perhaps house-to-house canvass of selected districts to learn amount of sickness, total and classified.
2. Care secured by the sick, economic ability to secure care. Home conditions affecting care. Knowledge or ignorance of existing facilities. Efforts of agencies to reach those needing their care. Constituencies of various hospitals or attraction of hospitals for various groups. Survey of adequacy of home care in typical neighborhoods.
3. Capacities and facilities of existing agencies for giving the amount of remedial care shown to be needed by studies of the amount and present care of all sickness, accidents, and by prospective increase of population.
4. The estimated reduction in sickness from extension of preventive medicine and health insurance, based on European experiences.
5. The medical school's relation to present and future hospitals, dispensaries sickness prevention and the health department.
6. The relation of nursing training schools to present and future hospitals, dispensaries, sickness prevention and the health department.

Therein we see a recognition of the importance of ie questions involved and the comprehensive study ecessary to the formulation of a definite constructive rogram. This work, undertaken at the instance of the leveland Hospital Council, should have far-reaching results. It is the most enlightened and far-sighted action yet undertaken in any community in the United States. It points the way for the guidance of other communities, and it is an example to all as to the kind of constructive effort, based on searching investigation of the factors involved, which must become more or less standard procedure. It is this sort of policy which we should stand for rather than the haphazard, unsystematic, unregulated growth which has prevailed heretofore. It is in the formulating of such policies that the American Conference on Hospital Service should be of great benefit to the country at large.

HOSPITALIZATION

We must realize that there are innumerable problems to be dealt with, for which standards of procedure are lacking. It is worth while to discuss some of them more specifically.

Hospital service has become very costly. Generally speaking, the support of our hospital system has developed according to the English system of voluntary support but with certain characteristic differences. We have relied on drives, tag days, large donations and bequests, and on state or city subsidy. The burden in the main falls on private funds. Neither the English nor the American method is entirely satisfactory. What is to be the future of our hospitals, as to support? It is a serious question. How far is it desirable or right that hospitals be supported by the city and state? How far would such a system of support make it necessary (it certainly would not be desirable) to turn over the management of all hospitals receiving such support to city and state authorities? Many states and cities now contribute to the support of corporate hospitals either by lump sum appropriations or on a per capita basis. In the one instance, appropriations vary not according to the work or merit of the institution, but according to the influence or pull which can be brought to bear on those controlling the appropriations. On the other hand, when the per capita basis is used, and it is the proper basis, the per capita allowance is usually about a half or a third of the actual cost. The whole system is an unbusinesslike, illogical method of dealing with a problem vital to the community. Some more adequate and more assured method of providing financial support for hospitals must be found, else hospitalization will fall far short of what the community needs. The medical profession is vitally interested because it affects not only beneficiaries of hospitals but also medical education, public health organization, nursing education and the public at large.

Are we to go on with our present methods of hospitalization, or shall we determine what is needed to strengthen the present system and attempt to supply the deficiencies? There are points to be considered.

For example, the hospital is now looked on as an essential public service institution. It is the place of first resort in sickness or injury of any very acute or serious nature. The hospitals provide for the poor and the well-to-do, but make no special provision for that large class of persons of moderate means who do not want charity, but who can neither afford the expensive private service nor bring themselves to accept the conditions of the charity ward. They suffer in every way. not only by the lack of provision in the hospital, but by the development of the present-day methods of practice. This is an age of specialization. There is evidence to support the charge of overspecialization. There is too great a tendency to relegate the general

practitioner to the background. To get a competent opinion, it is very frequently considered necessary to obtain the opinion of one or more (usually more) specialists. The expense of such service is too great for the poor and the people of moderate means. As a result, they are forced into hospitals or must be content with the services of men of limited ability, often due to limited opportunity. In this connection it is important to remember that 75 or 80 per cent. of sickness is cared for in the home. What is the remedy —for a remedy must be found if adequate medical service is to be provided? One thing is certain: The hospitals should be adapted to all classes. Possibly some hospitals should be entirely for people of moderate means. How can private practice be so adapted? By the group system? Possibly; but not as the group system is now generally operated. One method of supplying the advantages of the group system which must be more generally adopted is that of the diagnostic clinic for people of moderate means. This should be organized and operated in much the same manner as the free dispensary. How far it should go with treatment remains to be seen. But it should afford opportunity for persons able to pay a moderate fee for a diagnosis, where they may present themselves and, for an inclusive fee, obtain the attention of such specialists as are necessary, in order to arrive at a diagnosis and advice as to treatment. Generally speaking, these applicants should bring a note from their physicians or, better still, be accompanied by their physicians, who should be privileged to watch and have explained to them the various steps, and finally they should be given advice as to how to proceed in the further treatment of the case. Such clinics will not only serve this class of society now neglected, but will also prove an invaluable method of contact between the average physician and well-trained experts, which will serve to keep the average physician informed as to the most approved and correct methods of diagnosis. This would be postgraduate training on a scale worth while. Only a few of these diagnostic clinics would be needed in even a large community, and can be organized with entirely competent, younger men, who should receive modest salaries which, together with the opportunity, would make such service well worth while. At the same time this clinic could be made self-supporting.

The dispensary, however, should be both for diagnosis and for treatment. Its methods have been too slipshod; but, if properly organized and managed, it should be and can be one of the most important health agencies in the community. It is likewise a very important factor as a field for teaching medicine.

In dealing with the need of reform in hospitalization, one of the most important problems is how to provide adequate medical service to the rural community, now too frequently without either physician or hospital. Is every little struggling hamlet to improvise something in the way of a hospital, or must the county or the state provide such facilities? If the hospital is provided, where is the medical or surgical talent to be obtained? Must the rural population still depend on the hospital of the city, often too remote for emergencies, or is the traveling clinic to be relied on? It is a vitally important question to the rural sections, which until now have been almost entirely neglected.

The solution has been attempted in various ways. One method has been the establishment of small hospitals to which weekly or biweekly visits are made by physicians and surgeons of skill from the larger centers. Some states have established large central state hospitals where people from all over the state may be sent at the expense of the individual, the town, the county or the state. In some places a district of the state has organized for the support of a hospital and health center. An excellent example of this is to be found in Creston, Iowa. One is at once struck with the fact, however, that in this particular instance its success has depended largely on the enthusiasm, the force and the capacity for common sense organization of one individual. These schemes are successful in varying degrees. Obviously the answer has not yet been found.

Reference has been made to the fact that 75 or 80 per cent. of sickness is cared for in the homes. Much of this work is done by medical men who have no hospital connection whatever. No one will deny that one of the most important factors in the development of leaders in medicine and surgery is and always has been the hospital service with its large opportunity for experience and its facilities for complicated work of all kinds. I have no sympathy with the point of view of the man who is prone to dwell on the service which he has done the hospital, for rarely has he given more than he has received. What is to be done for the average man cut off from hospital privileges? For it is contrary to all principles of good organization and good management to open the doors of the hospital to any and every physician in the community, if it is a large community.

It is obvious that something should be done for him and may it not be possible and worth while to establish clinics for the profession, clinics as carefully worked up and as competently given, in order to supply the information and stimulus needed by the average man as when given to the student in school?

It would seem to be a short-sighted policy to continue to spend millions for the benefit of the young men learning to become physicians and to pay no attention to them after graduation, with no provision for continuing the education of the average man whose opportunities are limited and who is bound to fall behind unless some means are found to keep him abreast of the times. Some, of course, would have to be spoon-fed; but the majority would eagerly seize upon the opportunity of keeping fresh and up to the times were that opportunity presented. Are we not overlooking an important factor by continuing to neglect this large element of the profession, probably as large as 50 per cent.?

While alluding to the subject of medical education may a mere medical administrator venture an opinion that overspecialization is tending to fill the curriculum of the average medical school with too many specialized courses. The result is that the student is crammed with facts and theories by enthusiastic specialists in this and that field to the extent that he cannot absorb it all, let alone correlate it and assign to it the proper value which it should bear to the whole subject. It would seem that it might be well to revert somewhat to a system which guarantees a more thorough grounding in general principles. The man who has acquired a thorough knowledge of the general, fundamental, accepted principles and the ability to reason from them, is a much better trained man than he who has acquired a smattering of alleged facts relating to every phase of medicine and its special branches. Furthermore, another result of the present system is that men are trained to rely more and more on the laboratory findings and the mechanical tests, and less and less on careful, painstaking

stories, inspection, thorough physical examination, ie ability to reason from accepted principles and thus arrive at a diagnosis. It goes without question that boratory findings and mechanical tests are essential ds; but they should not supplant but merely supple- ient the older principle of careful physical diagnosis ised on the findings of personal examination and ear thinking. Hospital experience should broaden man's vision and ability, not render him less self- liant and less capable of meeting situations, wherein e must rely chiefly on his mental equipment and quired technic.

In the average hospital the intern or resident is left o much to his own devices, to pick up what he can s an underling dancing attendance on his busy chiefs, ho hurry through the hospital with little thought of ny responsibility for giving any time to directing long proper lines the training of these young men, who ould be receiving the finishing touches to their pro- essional equipment.

In the various efforts at standardization of hospitals, uch good has been accomplished. One result has been ie preparation of a list of hospitals acceptable for nternship. But it is useful in the main in that it indi- ates a list of hospitals, the scope of whose work and ie equipment of which make them acceptable, as ossessing adequate facilities. But it does not take into onsideration sufficiently the other question which is qually important, namely, whether or not any effort is ade to instruct and train the intern, or whether the xample of the visiting staff is good or bad. The list s excellent so far as it goes, and it serves a good pur- ose; but it is far from perfect or even accurate, and his effort can go farther and insure better results.

Among other efforts at standardization is that of the American College of Surgeons, the result of which has een the adoption of a minimum standard which has ndoubtedly accomplished a great deal of good; in fact, has done more in a short time to raise the standard f hospitals in general than any other movement. There s much still to be done, however.

There are innumerable systems of organization and anagement. Undoubtedly there must be some varia- ion to suit local conditions, but not the wide variation t present. There must be a choice between the divided, otating service for the visiting staff, the continuous ervice, and the open door policy. They are not all of qual merit: at least that is the consensus; yet we go n forming these various organizations with all sorts of odifications.

We still find appointments made because of social restige, political influence or clique feuds, ignoring eal merit and to the detriment of the service to the ublic. Is there any way of correcting this evil other han by education to a better standard of professional thics, and the education of trustees? We see men of lipshod methods and actual incompetence continue to old important and coveted hospital positions to the xclusion of others much more competent with no ffort by their colleagues to call them to account or to ring about their removal, except occasionally as the esult of factional fights. Is this sound professional thics, is it in the interest of the public service?

THE HOSPITAL ADMINISTRATOR

The one medical man in the organization whom no ne hesitates to attack in public and in private, whom here is no hesitation in removing whenever the staff hinks it desirable to do so, is the medical director or superintendent. Wherein lies the difference? He may deserve removal, but why not the same ready treatment for offending clinicians? There is a principle involved in such a system which is not sound and cannot be justified.

It is high time that we become alive to the importance of this point, for the status of the administrator must be clearly understood and acknowledged, else we shall have no administrator worthy the name. Hospital administration is a specialty and an important one in our scheme of hospital development. Few clinicians have any conception of the load which he carries, in making the hospital most effective in its service to the community. In a few places his position is one of dignity and his status unquestioned and entirely satis- factory; but in most places this is far from the case, and he is as popular as the umpire at a ball game, and his life about as safe. I speak feelingly on the subject because I have seen too many of my colleagues harassed and made miserable by the members of the staff or of the trustees or both. I am not referring to instances in which such treatment was warranted, but to instances in which it was contrary to all principles of fair play. I dwell on this as one of the factors which is responsible for the difficulty in attracting first class medical men, nurses or laymen into administrative work.

A year ago the Rockefeller Foundation called a con- ference of administrators, clinicians and medical teach- ers to discuss the question of the training of hospital administrators. It was a very gratifying experience to hear such expressions as the following:

Dr. Ray Lyman Wilbur, President, Leland Stanford Junior University: The great problem is to develop medical men with inborn administrative capacity, so that they can run a hospital and make the conditions the most favorable for the patients, the physician and for the advancement of medical knowledge. There are two general problems involved: first, the develop- ment of high grade administrators with a medical education who can serve as the leaders in medical education and public health.

Dr. Haven Emerson: The hospital is now accepted as a public service institution; and the hospital superintendent is a most important agent in public health protection and in education in public health matters.

Dr. David Edsall, Dean, Medical School of Harvard Uni- versity: I, too, have felt that one of the most important things is to adopt means of getting the right kind of men into this work, and I quite agree that medical schools have been in some degree at fault in this. . . . The hospital administrator in hospitals connected with medical schools is of extreme importance in the proper development of medical education and medical research; in other words, he is of very great importance to the future of medicine, for he can do as much as any one in the whole system to further or to block develop- ments in the clinical branches especially. I thoroughly sym- pathize with Dr. Emerson's suggestion that these men should be trained in the important principles of general public health, as they have, all told, most important opportunities to further general public health. It is likewise important that they be trained in relation to a medical school so that they may likewise comprehend the needs of medical education, and med- ical research can be coordinated. When suited for it, their positions in relation to any of these activitis should be digni- fied, and opportunity should be given to them to be influential in the whole public health movement, in medical education and in furthering the progress of medical knowledge.

A committee was finally appointed by the foundation to study the question and report with recommenda- tions. It is to be hoped that much good may come of this study.

There is hope that the lot of the administrator, lay or medical, may be made more attractive. In the judg-

ment of many it is important to the successful development of our larger hospitals, teaching hospitals in particular, that medical men of the best type and ability should enter this field. But if such men are to be obtained, it must be made more attractive as a career, it must be recognized as a career more generally by the profession, and it must be held up as a career by our teachers in schools of medicine, a career fully as attractive, fully as important and equally remunerative as any other branch of public health work.

LIMITATIONS OF STANDARDIZATION

The term standardization is much used these days and it is much abused. It has a perfectly proper significance, and is a perfectly good term, but it is used much too loosely in connection with many functions which cannot and should not be standardized. We may set standards which a hospital or medical school should meet. We may even set a standard of conduct, if necessary, as to the number of hours a visiting physician should spend at the hospital, or the number of lectures which the professor should deliver in a given course; but we must be sane about it. It is one thing to set up a standard of equipment and of administrative procedure in general, but it is quite another thing to fix a standard of professional procedure or technic, a standard of professional responsibility or a standard of diagnosis and treatment. In an article entitled "The University Brickyard," by Grant Showerman, appears the statement: "It may be disappointing and it may be inconvenient, but there is no such thing as a brick or a unit hour in education. The only unit in the intellectual life is the man. In the determination and the evaluation of that unit, the use of the steelyard, the straight edge, the two foot rule and the framed square is not only futile, but pernicious. The colleague, the department chairman, the dean, the president, the board member who is unable to measure men without the employment of these tools of other trades or who does not possess the courage to act without falsely flourishing them as a means of justification has not yet found his place of least uselessness." There is much truth in that statement.

Given a physician or a surgeon with a due sense of the responsibility of his position, of duty to his service, of honor, fair dealing and self-respect, and measurement by such tools is unnecessary and pernicious. If he has not those qualities, standardizing will not improve him sufficiently. Standardization is all right in its place, but it should not be too loosely or carelessly applied. I refer to standardization in this way, not to disparage legitimate efforts in the proper place, but to point out the chances of being carried away with an idea which may not take into consideration the fact that there are legitimate variations in human behavior, in methods of approaching and of handling a problem, and that individual initiative allowed to develop in its own way has been responsible for much that is best in every phase of activity.

NURSING

Returning for a moment to the consideration of specific problems, I wish to say a word about nursing, using the term inclusively. The rapid development of nursing as a profession to its present status, a development in step with the development of medicine, and in response to its demands, should be a matter of pride to all medical men. It is a development essential to the practice of modern medicine, surgery and public health. As medical men we have not much to be proud of in the manner in which we have dealt with the movement; out efforts cannot be said to have been constructively of very much asssistance. The credit is due almost solely to the nurses themselves.

That reforms may be indicated, that errors have been made, that improvements can be made, I have no doubt; the same has been true of the medical profession; but that a solution will be found and that the leaders of the nursing profession will still play a major part in finding that solution, I have no doubt. There are many who believe in high standards of nursing education, of whom I am one, but we do not necessarily think that changing conditions and new demands should not bring about modifications or supplementary procedures.

There are many, other than nurses, who believe firmly that the standards for the education and training of the expert trained nurse should be maintained, indeed raised in many states, and they believe that this is in the interest of the medical profession, of the hospitals and of the public; but they also believe that the changed conditions, the growth of the public health movement and the public demand, make it necessary to consider as soon as possible the trainiing of a group of women who will supplement the trained nurse, a group of women called practical nurses or attendants or by some suitable term, who can be trained in a much shorter time and in larger numbers to perform the simpler tasks in caring for the sick and to act as aids in the carrying out of the public health program.

In brief, we believe that training schools for nurses should be safeguarded, that they should be considered as educational departments in the hospital rather than purely utilitarian, that the hospital organization should be so constructed as to relieve the nurses of much of the purely utilitarian work in order that their time may be devoted more to actual nursing, to the end that the course of training may be shortened to two years or two years and four months, and the balance of the three year period be devoted to training in public health nursing or other special fields, by those who elect such training. We believe that this will attract more young women to the schools, although it must be borne in mind that there are now more pupil nurses in training that at any previous time, loose statements to the contrary notwithstanding.

We believe that it is imperative that due consideration be given the training of this attendant or practical nurse class, providing a course of from six to nine months in appropriate institutions, in order that a much larger group of women than is now provided by the trained nurses may be available for the simpler procedures, and in order to release the trained nurse for the more expert service for which she is needed and thus, by training these two classes, supply to the public the much larger number of women required for the care of the sick and the prevention of sickness. It is generally conceded, however, that before steps are taken to turn large numbers of this class into the field, regulatory measures must be adopted which will make it necessary for these women to practice under the appropriate designation and render it as nearly impossible as can be done for them to swindle the public by posing as something which they are not. The inauguration of this movement, unless safeguarded by such legislation, and unless receiving the cooperative backing of the medical profession, will be followed by disastrous consequences and the destruction of the nursing profession, results which the medical profession cannot afford to contemplate.

We also believe that the time has come for the establishment of definite training centers and definite courses for training in public health nursing, and that this is one of the most urgent problems.

Here are matters of concern to us all and worthy of the most careful thought in the formulation of a policy which shall preserve all that is good and supplement that which is lacking, in dealing with the whole problem of nursing throughout the United States.

THE CONVALESCENT AND THE PHYSICALLY HANDICAPPED

One more topic and I am through. There is one phase of providing adequate medical service to the community which has been almost entirely overlooked, and yet is of the utmost importance to any system of thoroughness. I refer to the necessity of provision for the convalescent and the physically handicapped.

Scarcely any large city, no matter how well supplied with hospital beds, has anything like adequate facilities for handling convalescents. They are discharged in large numbers daily, in order to make room for the acutely ill, many of them in no condition to care for themselves and with no place to which to go where they can receive proper attention. Not only is this provision necessary, but it can and should be provided as the logical extension of our hospital system. With proper convalescent hospitals, the turnover in the main plants would be much more rapid and the results more satisfactory, both professionally and economically. It should be a definite part of the hospitalization program of a city, to supplement and extend its expensive, fireproof city hospitals by the erection of less expensive, less elaborate, better adapted convalescent branches or centers in the suburbs or country.

The physically handicapped present another problem, but one definitely associated with that of adequate hospital service. We continue to discharge from our hospitals every day thousands who are suffering from some form of permanent physical handicap, and we give them advice which they cannot or have not the intelligence to follow, with the result that they often return again and again for the same treatment for the same condition, or else after a while sink into lives of invalidism or dependence. On the other hand, if the proper machinery existed, they could be saved as useful members of society. Just what the machinery should be I do not pretend to say; but it should at least provide for placement in suitable employment, for that is all that is needed in many cases, and for reeducation either in training institutions or in selected industrial plants, for those whose condition prohibits return to the old employment. This is not the problem of any one hospital: it is the problem of *all* hospitals, and it therefore becomes a community problem.

If hospital service is to be made thoroughly and finally effective, the machinery or organization for taking the physically handicapped as they leave the hospital and carrying them to the point of final adjustment must be supplied. It is now, one may say, entirely lacking, although some feeble efforts are being made, but too often without adequate backing and without sufficient vision.

It was expected that the federal government would point the way in dealing with the crippled soldier, but that expectation has not been fulfilled. It is not a new problem resulting from the war, for the number of physically handicapped and disabled, products each year of modern industry and modern life, is larger than the number resulting from the war. It is a problem worthy of careful study by this conference.

NEED OF CONSTRUCTIVE COOPERATIVE EFFORT

These are some of the factors which are of importance in developing adequate medical service for a community. We are all, physicians, surgeons, educators and administrators, directly concerned in seeing that these problems are satisfactorily handled, for the success of any one factor in the whole program is affected for good or ill as the other factors are dealt with successfully or unsuccessfully. Are we to continue the haphazard policy of dealing with this problem by one organization, that problem by another, this city copying what has been found fairly successful in that city; or is it worth while to try through some method to visualize the whole problem and to deal with the different phases by assignment or by common consent, through the various organizations now existing, or to be created as needed, but according to a constructive, inclusive, coordinated program? The promptness and efficiency with which such a program is developed will influence, if not control, the extent to which state medicine, health insurance and similar movements are to develop with whatever the effects might be on private practice, its development and its independence. It is inevitable that state medicine and similar movements will prevail unless the medical profession, through its own initiative, finds a better way of supplying adequate medical service. Possibly they should prevail, but at least it is advisable that the medical profession understand the trend.

Are the best results to be obtained by continuing our present methods, or is it possible that better results can be obtained by a pooling of individual efforts in the formation of some central agency? Is the American Conference on Hospital Service possibly a step in that direction, and is it likely to function efficiently as now constituted? I believe there are great possibilities in this hospital conference as a clearing house, a unifying or directing organization. But I do not believe that a conference composed of delegates from some twelve or fifteen organizations which meets periodically merely to discuss the different problems, helpful as that may be, will accomplish all that could be expected, unless the constituent organizations recognize the conference as a clearing house and instruct their delegates definitely to present questions to be decided in the interest of common policy, and are prepared to accept, within reason, the assignments and decisions of the conference, as to standards, as to problems to be studied, and as to the selection of the organizations to study them. It seems to me that this is one thing much needed right now to make the American Conference on Hospital Service effective for dealing with the many questions in which we are all so vitally concerned.

I refer to the conference in this connection not as antagonistic to other associations in any way, not as supplanting them in any field, but, on the contrary, as an organization representing these other associations in regard to common interests, in large matters of public policy, for the purpose of establishing more effective machinery for dealing with such problems. It should be looked on as a cooperative, not an independent, enterprise. It was not my intention to present a long list of matters to be taken up at once by this conference, but rather to call attention to some of the more important questions in order to demonstrate the need of cooperative effort in constructive planning. Many

matters of importance have not even been referred to. Some of the matters mentioned are already receiving attention, others doubtless this conference may wish to consider; but I suggest that for the coming year one of the most important studies which the conference could undertake would be the development of a constructive program for the pooling of interests and unification of efforts for the handling of these and the many other problems relating to medical service in general.

ALCOHOL AND SYPHILIS AS CAUSES OF MENTAL DISEASE*

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Alcohol and syphilis have long occupied a position of special prominence among the known causes of mental disease. In modern psychiatric literature, they have been universally recognized as two of the chief causes of mental disorder; not infrequently they have been described as the only causes known to be definitely and specifically responsible for any considerable number of psychoses.

Many observers have been inclined to see a certain interrelation between alcohol and syphilis as causes of mental disease: use of the former perhaps tending to increase the chances of infection and subsequent inebriety, through a lowering of resistance, general or local, predisposing to invasion of the central nervous system by the syphilitic organism. Such a relationship would be difficult to establish and could hardly amount to anything more than a general tendency or contributory influence among other determining factors. However, Kraepelin and others have pointed out that syphilis runs an especially severe course in alcoholic persons, and that among certain peoples, for instance, the abstemious Oriental Mohammedan groups, paresis is very rare, although syphilis is widely prevalent.

In recent years, there has been general acceptance of the statement, based on statistics published by American and European observers, that alcohol and syphilis together were undoubtedly the cause of from one fifth to one fourth of all cases of mental disease that required hospital care and treatment. Among male patients admitted to psychiatric hospitals the proportion given was much higher, one fourth to one third being attributed to alcohol and syphilis. It is of interest to note that a few years ago there was a fairly close agreement of figures showing the combined proportion of alcoholic and syphilitic psychoses (paresis) found in various mental hospitals among first admissions. The following are given as representative ratios: New York state hospitals (1911), 23.7 per cent.; Massachusetts state hospitals (1911), 21.1 per cent.; Munich Psychiatric Clinic (1909), 25.2 per cent.

As regards syphilis, the etiologic relationship to mental disease has come to be accepted as a simple and direct one. Since the discovery of *Spirochaeta pallida* and its demonstration in the central nervous system, it has been known that syphilis of the brain and of the membranes accounted for paresis and other syphilitic psychoses.

* Read in abbreviated form before the New York Neurological Society, Jan. 4, 1921.

In respect to alcohol, on the other hand, there has always been a divsion of opinion as to its real etiologic significance, with a tendency on the part of many psychiatrists to place most emphasis on its rôle as a secondary or contributory factor, if, indeed, alcoholism could be regarded in many psychoses as anything more than a symptomatic manifestation of an underlying mental condition or psychopathic constitution. Be that as it may, and I do not intend to discuss the causes of inebriety itself, there can be no denial of the fact that in a large group of mental disorders alcohol figures as an essential causative agent; it brings about the mental breakdown, and without its influence certain types of psychosis would not develop.

The special questions which I shall discuss arise from the fact that during the last decade or more there have been certain developments in medical science and in our social life which, in all probability, must exercise a great influence on the prevalence and potency of these two outstanding causes of mental disease. Certain results are already in evidence, and it is to these that I shall draw particular attention. This will require a brief survey of the present rate of incidence of alcoholic and syphilitic psychoses, with a consideration of data showing what has been happening during the last decade in respect to the occurrence of these disorders.[1]

RATE OF INCIDENCE OF ALCOHOLIC PSYCHOSES

First as to alcohol, there can be little doubt that during the last fifteen years or more there has been a general reaction against the intemperate use of alcohol. The habits and social customs of people have appreciably changed, while a gradual shifting of public sentiment in respect to drinking has taken place. This new attitude has been concretely expressed by an ever-increasing application of local option, passage of statewide restrictive laws, and finally a culmination is seen in the adoption of the prohibition amendment to the federal constitution. It is not within the scope of this communication to discuss the factors underlying this movement, which apparently finds no parallel in the annals of history. A development, leading to the overthrow of established social customs of such great antiquity, must have roots deep in the emotional life of a large body of the people and is probably linked up with subconscious determinants which are at most only vaguely appreciated. These are undoubtedly reinforced by various other trends apparent in modern American life, for example, the higher industrial standards set by corporations and other employers of labor, and a greater interest on the part of the public in health and social welfare problems generally.

From the standpoint of medical data, one of the most striking illustrations of this trend against inebriety is revealed by a study, over a series of years, of the admissions to Bellevue Hospital in New York City. The figures relating to Bellevue, I have been able to gather through the courtesy of Drs. M. S. Gregory and George O'Hanlon.

Table 1 shows the percentage distribution by years of 77,334 cases of alcoholism (exclusive of psychoses) treated in the Bellevue alcoholic wards. The comparison is made with the total number of patients treated annually in Bellevue Hospital exclusive of cases of accident and injury. The period covered is twelve years.

1. The system inaugurated in 1908, whereby uniform statistics are collected in all of the New York state hospitals, has made possible the analyses on which this study is based. The writer desires to express his appreciation of the assistance given by Dr. Horatio M. Pollock, statistician of the state hospital commission.

This table shows a remarkable fall from the high point of 1910, when 31.7 per cent. of all cases passing through Bellevue Hospital were diagnosed as "alcoholism," to the low point in 1920, when only 5.8 per cent. were so diagnosed. The actual number of alcoholic cases in 1910 was 10,691, whereas in 1920 the number had declined to 2,001, the lowest on record.

The continuous decrease in the ratio of alcoholic cases is all the more significant when we take into consideration the fact that the population of New York City has been steadily increasing and that there has been apparently no important shifting of alcoholics to other hospitals or institutions for treatment.

The main points of interest contained in Table 1 are graphically represented in Chart 1. The slight upward

TABLE 1.—NUMBER AND PERCENTAGE OF CASES OF ALCOHOLISM AMONG TOTAL NUMBER OF PATIENTS TREATED AT BELLEVUE HOSPITAL

	Total No. of Patients Treated in Bellevue Hospital*	Number of Cases of Alcoholism†	Per Cent. of Alcoholism
1909	35,295	9,607	27.2
1910	33,677	10,691	31.7
1911	30,151	8,348	27.7
1912	32,541	8,000	24.6
1913	32,712	7,732	23.6
1914	34,073	6,869	20.1
1915	43,111	6,157	14.3
1916	40,562	7,086	17.5
1917	40,605	5,849	14.4
1918	37,222	2,525	6.7
1919	33,826	2,469	7.3
1920	34,034	2,001	5.8
Total	427,809	77,334	

* Exclusive of traumatisms.
† Cases diagnosed acute and chronic alcoholism, the definite alcoholic psychoses, are not included.

turn of the curve in 1919 is due to a relative increase of cases of alcoholism, the result of a falling off of the total general admissions to Bellevue Hospital. As a matter of fact, the actual number of alcoholics in 1919, as shown in Table 1, was less than in the preceding year, and the number for 1920 is the lowest yet reached.

A point of interest in the Bellevue curve is the noticeable rise in 1916. This will be referred to later

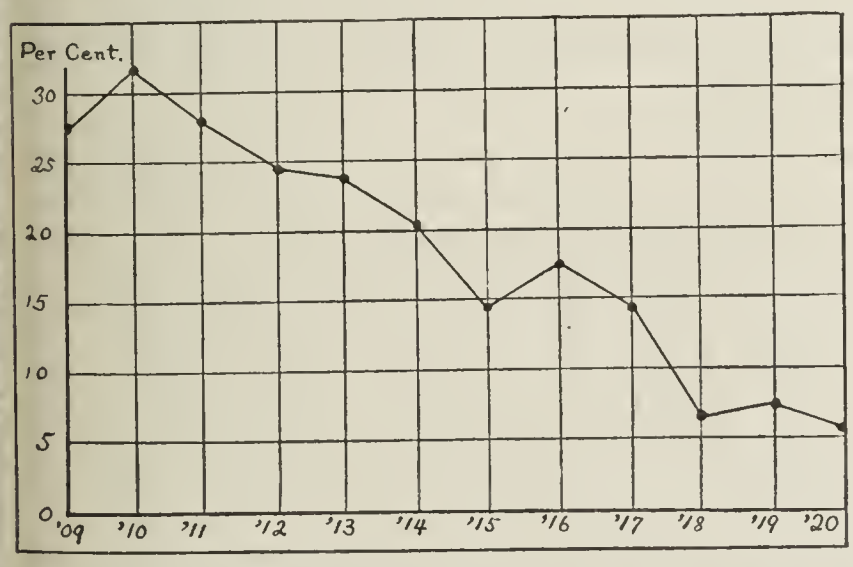


Chart 1.—Annual percentage of cases diagnosed as alcoholism among total patients treated at Bellevue Hospital.

in connection with a corresponding rise and fall noted in the curve for the alcoholic psychoses, the next group to be discussed.

The data collected regarding the rate of incidence of alcoholic mental disturbances are given in Table 2, which shows the percentage distribution by years of the cases of alcoholic psychoses admitted to all of the New York State hospitals, comprising thirteen institutions located in various parts of the state. The period covered is twelve years. Five thousand, three hundred and seventeen cases of alcoholic psychoses were admitted during this time. The state hospital year ends June 30, so that when we refer, for instance, to the year 1920, we mean the hospital year ending June

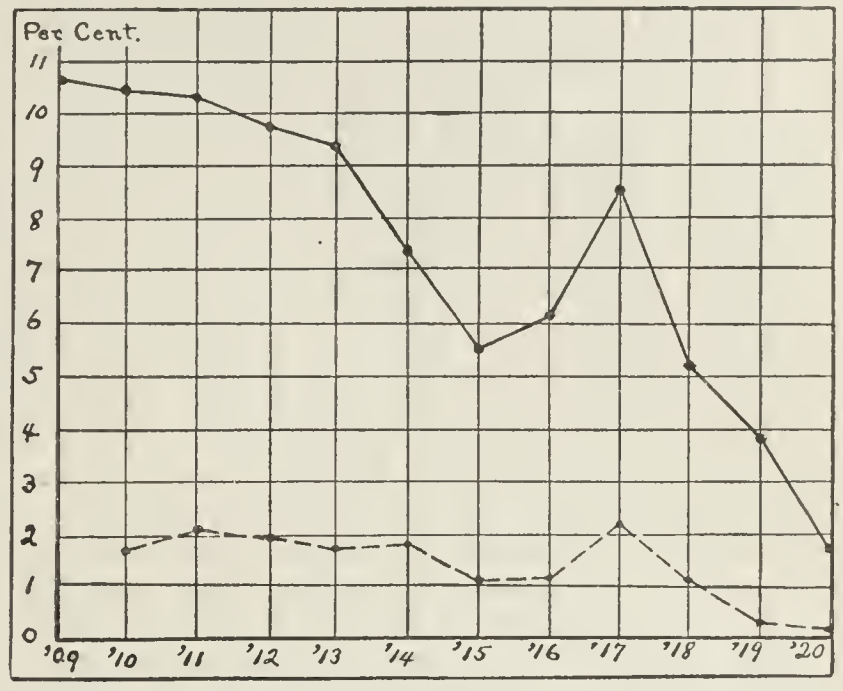


Chart 2.—Annual percentage of alcoholic psychoses among first admissions to New York state hospitals: solid line, total alcoholic psychoses; broken line, Korsakoff's psychosis.

30, 1920. In this table, comparison is made with the total annual first admissions to the state hospitals. The accuracy and significance of these data are enhanced by the fact that the figures include only *first* admissions, represent persons and not cases, which means that no

TABLE 2.—NUMBER AND PERCENTAGE OF ALCOHOLIC PSYCHOSES AMONG FIRST ADMISSIONS IN NEW YORK STATE HOSPITALS

Year	Total First Admissions	Alcoholic Psychoses	Per Cent. of Alcoholic Psychoses
1909	5,222	561	10.7
1910	5,564	583	10.5
1911	5,700	591	10.4
1912	5,742	565	9.8
1913	6,061	572	9.4
1914	6,265	464	7.4
1915	6,204	345	5.6
1916	4,903*	297*	6.1
1917	6,877	594	8.6
1918	6,797	354	5.2
1919	6,791	269	3.9
1920	6,573	122	1.8
Totals	72,699	5,317	

* Figures for a period of nine months only, owing to change in hospital year.

person has been counted twice. By thus eliminating readmissions we get as accurate a record as possible of the number of fresh psychoses developing each year in the community.

In Chart 2, the upper curve shows graphically the ratios contained in Table 2. The chief characteristic of this psychotic group is a marked decline from the high point in 1909, when 10.7 per cent. of all cases admitted to state hospitals were diagnosed alcoholic psychoses, to the low point in 1920, when 1.8 per cent. of the admissions were placed in the alcoholic group. The actual number of cases of alcoholic psychosis admitted in 1909 was 561, whereas in 1920, the number had declined to 122, the lowest on record.

The thought that the diminishing number of cases of alcoholic psychosis reported by the hospitals might

be accounted for in part by a change of diagnostic attitude prompted us to plot separately a curve for the Korsakoff cases, because in that type, with its characteristic physical and mental picture, the margin of diagnostic error would certainly be reduced to a minimum. The lower curve in Chart 2 shows the declining rate of the Korsakoff cases. It follows in a remarkable way the upper curve and thus confirms our belief that there has been a definite reduction in cases incontestably of alcoholic origin. Last year there were only fifteen cases of Korsakoff psychosis admitted to all of the New York state hospitals, whereas in former years the number had ranged as high as from 120 to 160.

An interesting feature of the curve in Chart 2 is the pronounced rise which interrupted the downward course in 1916 and 1917. A similar elevation is seen in 1916 in the Bellevue curve (Chart 1) when, however, it was relatively less sharp and lasted for only one year. In trying to account for the cause of this recrudescence, one naturally thinks of the mental unrest and emotional tension of the population during this period of the World War—the peak of this secondary rise in the psychotic curve (Chart 2) corresponds practically to the time of the entrance of the United States into the war. Immediately after this issue was settled in 1917, the decline, which had been going on for a number of years before 1915, set in again and has since been maintained. Other factors, such as the general economic situation, the prosperity of the working classes, interruption of immigration, and later on the draft, might also be thought of as modifying influences during this period when the curve rose and again fell. It is worth while noting that the reduction in the number of cases of alcoholic psychosis has been proportionately as great among women as among men.

In several European countries, a reduction in alcoholic insanity has been reported during recent years and has been generally attributed to the scarcity of alcohol during the war. Kraepelin has recently published some interesting figures regarding admissions to the Munich Psychiatric Clinic.[2] These show a decline of alcoholic psychoses from 15 per cent. in 1914 to 3 per cent. in 1919. In 1910 there were 300 cases of alcoholic psychosis admitted to the clinic, whereas in 1919 the number had fallen to forty-three. Kraepelin thinks the result, in Munich at least, is due almost entirely to the war necessity of reducing the amount of alcohol in beer, as the drinking of whisky has never been an important factor in the Bavarian capital.

From the consideration of the data available regarding the prevalence of alcoholism and the occurrence of alcoholic insanity, it is evident that during the last ten years there has been a marked decline in the intemperate use of alcohol and a corresponding fall in the rate of incidence of alcoholic psychoses. Analysis of the carefully collected statistics from the New York state hospitals reveals that alcoholic insanity has decreased from nearly 11 per cent. of the total admissions in 1909 to less than 2 per cent. in 1920. It will be noticed by referring to Table 2 that a consistent annual decrease had set in before the war and long before any nation-wide restrictive measures became operative. Since 1917, however, the decline has been accelerated and the present low figure which now obtains is no doubt due in part to war conditions and national prohibition.

The occasional published sensational statements that alcoholism has been increased by prohibition have no basis in fact. Some fluctuation in the number of cases admitted to alcoholic wards in the large cities has occurred during recent months, but such increases as have been reported may be regarded as temporary recrudescences which, however, fail by a wide margin to reach the figures of former years. The indications are that prohibition will result in a still further reduction of the number of cases of alcoholism and alcoholic psychosis.

We have seen no signs that other psychotic types are appearing as substitutes for alcoholic mental disturbance. The total admissions to the state hospitals have diminished in the last few years, as shown by Table 2, which is probably due in large part to the falling off of alcoholic psychoses. There has been no increase of drug psychoses; in fact, the number of cases admitted to the New York state hospitals has decreased, although these patients have always formed a relatively small group among the admissions to the state hospitals—only those cases with a definite drug psychosis being received for treatment.

FREQUENCY OF SYPHILITIC PSYCHOSES AND THE INCIDENCE OF THESE MENTAL DISORDERS

I shall now consider briefly the data relating to the frequency of syphilitic psychoses and discuss some of the factors which may affect the incidence of these mental disorders.

It is evident that during the last ten or fifteen years a number of forces and influences have come into play, which may possibly lower the rate of incidence of syphilis as a disease, or modify its course and later manifestations, especially the neuropsychotic forms with which we are here particularly concerned.

Long before the development of present methods of treating syphilis, various observers had expressed the view that a certain change was taking place in the clinical manifestations of syphilis and in the predilection of the disease for certain organs or tissues. Attention was called to a diminished frequency of severe or destructive skin and bone lesions. Oppenheim and others noted an apparent increasing frequency of syphilis of the nervous system and suggested that this was concomitant with a lessening of attack on other body tissues.

On the other hand, we have for consideration another set of facts: During recent years the public has acquired more information about syphilis, its prevention, recognition and treatment, than it ever had before. Syphilis can be diagnosed sooner and with more certainty than formerly; it can be detected in its latent stages and an invasion of the central nervous system can be determined earlier than was possible before the present methods were developed. Furthermore, the therapy of syphilis has been revolutionized since the introduction of arsphenamin in 1910, and immensely better facilities both public and private have been provided for the treatment of the disease. Finally, the decrease in alcoholism may have entered as a factor, tending to diminish chances of infection and removing a possible contributory cause in the development of late nervous or psychotic manifestations.

Have these various influences and newer modes of treatment exercised any appreciable effect on the number of cases of neurosyphilis? It may be too soon to expect to see any results, especially from treatment, as neurosyphilitic lesions are not usually brought to attention until from five to fifteen years or longer after the initial infection. Unfortunately, very few facts can be

2 Kraepelin: München. med. Wchnschr. **67**: 1235 (Oct. 22) 1920.

obtained from the case records of general hospitals or venereal disease clinics on which to base an answer to the foregoing question. Practically the only data available for study at the present time pertain to the neurosyphilitic cases, particularly the cases of paresis, admitted to the state hospitals.

Table 3 shows the percentage distribution by years of the cases of paresis admitted for the first time to the New York state hospitals. The comparison is made with the total annual first admissions to the state hospitals. The period covered is twelve years, and the number of cases of paresis admitted during this time was 9,100.

The percentage ratios indicate a marked uniformity of the admission rate for paresis—the fluctuations are within narrow limits, a little above or a little below 13 per cent. This is shown graphically by the upper curve in Chart 3. It will be seen, however, that a slight fall has occurred during the last two years from the relatively high point of 13.4 per cent. in 1918 to 12.5 per cent. in 1920. I am inclined to attach some significance

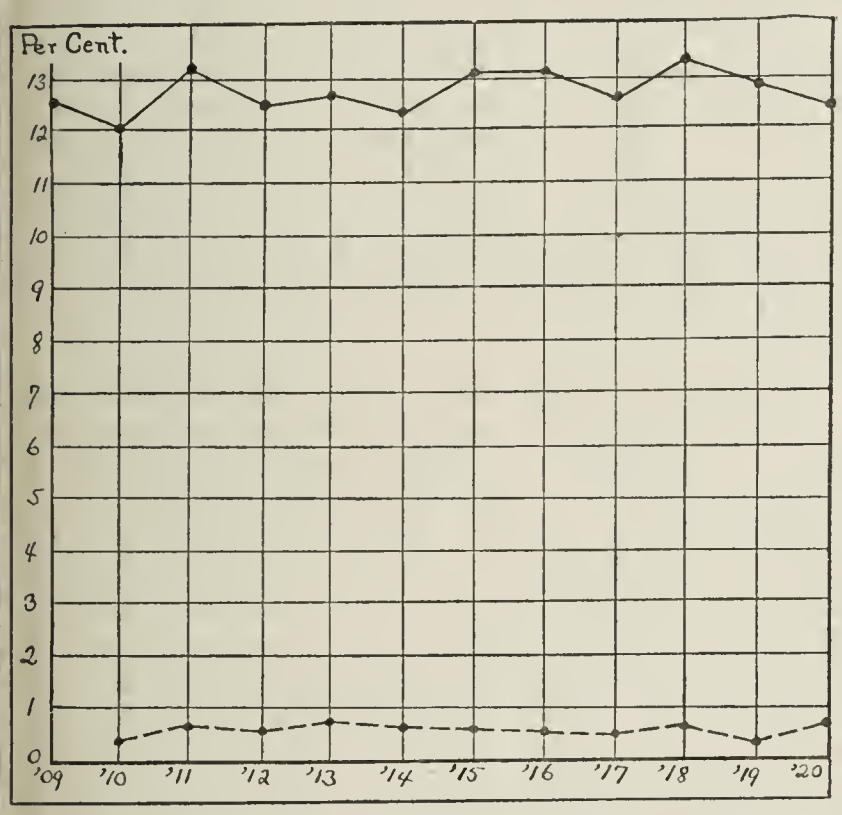


Chart 3.—Annual percentage of paresis and cerebral syphilis among first admissions to New York state hospitals: solid line, general paresis; broken line, cerebral syphilis.

to this indicated decline especially when the recent census figures are utilized and the rate of paresis per hundred thousand of the general population is computed. This computation gives, according to statisticians, a truer index of the incidence of a disease than does a ratio based on percentage of admissions.

Reference to Table 4 shows that the rate for paresis per hundred thousand of the population of New York State was quite uniform, with, however, a slight upward tendency from 1913 to 1917; in 1918, a high rate was reached, the highest on record. Since then, however, there has been a decline, so that in 1920 we have a lower rate for paresis than at any time in the last eight years. Moreover, by referring to Table 3 we find that the actual number of cases of paresis admitted to the hospitals in 1920 was less than in 1919, considerably less than in 1918, and also smaller than in 1917. This reduction in actual numbers may perhaps be all the more significant when we consider the steady increase of the population of New York State. The suggestion has been made that the indicated decline in the number of syphilitic psychoses might be due to the more frequent retention than formerly of these cases for treatment in general hospitals. If this is actually occurring, it would hardly modify greatly the figures for the psychotic group of the entire state over a period of years unless real curative results were being obtained.

TABLE 3.—NUMBER AND PERCENTAGE OF CASES OF PARESIS AMONG FIRST ADMISSIONS IN NEW YORK STATE HOSPITALS

Year	Total Number of First Admissions	Cases of Paresis	Per Cent. of Paresis
1909	5,222	658	12.6
1910	4,312*	520*	12.0
1911	5,700	758	13.3
1912	5,742	719	12.5
1913	6,061	768	12.7
1914	6,265	744	12.4
1915	6,204	814	13.1
1916	4,903†	640†	13.1
1917	6,877	866	12.6
1918	6,797	913	13.4
1919	6,791	880	12.9
1920	6,573	820	12.5
Totals	71,447	9,100	

* Admissions of one hospital not included, owing to error in reporting cases.

† Figures for nine months' period only, owing to change in hospital year.

The state hospitals also receive another but much smaller group of neurosyphilitic cases, the so-called cerebral syphilis cases with psychosis. The lower curve in Chart 3 represents these cases. The number is, however, too small for us to use for statistical purposes, the average number admitted during the last ten years being only forty-three a year. The relative proportion of these cases as shown by the curve has been a little above or below 0.5 per cent. of the total admissions for a number of years past.

CONCLUSIONS

The data presented regarding the past and present rates of incidence of alcoholic and syphilitic mental disorders in New York State would seem to justify the following conclusions:

Alcoholism has declined perceptibly in the general population during recent years, the beginning of the decline antedating by some years the restrictions due to war conditions and the passage of the federal prohibition amendment.

Coincident with this decline, there has occurred a remarkable fall in the number of alcoholic psychoses, the lowest figure on record having been reached in 1920.

TABLE 4.—RATE PER 100,000 OF GENERAL POPULATION OF NEW YORK STATE OF ALCOHOLIC PSYCHOSES AND PARESIS

Year	All Psychoses	Alcoholic Psychoses	Paresis
1913	64.1	6.0	8.1
1914	65.4	4.8	8.1
1915	64.0	3.6	8.4
1916	66.5	4.0	8.7
1917	69.0	6.0	8.7
1918	67.3	3.5	9.0
1919	66.3	2.6	8.6
1920	63.3	1.2	7.9

During the first period of the World War, there was a noticeable recrudescence in both alcoholism and alcoholic mental disturbances; but after the United States entered the war in 1917, there was again a sharp fall which, so far as alcoholic psychoses are concerned, has not been again interrupted.

Psychoses due to syphilis reached the highest point of which we have a record in the year 1918. Since

then a decline in the relative and actual number of cases has occurred which, in view of the increase of population, may be regarded as at least a hopeful sign. Whether or not the more thorough and scientific treatment of syphilis in its early stages will bring about a further reduction of neurosyphilis and syphilitic psychoses, is a question to be answered in the future.

From the standpoint of mental hygiene, the situation may be regarded as encouraging. A notable advance has been made in the direction of controlling one of the outstanding causes of mental disease, namely, alcoholism, and as regards a second great cause of mental disease, namely, syphilis, there are indications that education, prophylaxis and improved methods of treatment are beginning to yield some results, as yet slight, to be sure, but nevertheless sufficient to be considered a sign of progress.

ABRUPTIO PLACENTAE *

REPORT OF CASE

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Hemorrhage occurring from premature separation of a normally implanted placenta or, as it is more concisely termed, abruptio placentae, is one of the most serious complications of pregnancy an obstetrician may encounter. This condition was first described by Rigby, in 1776, who differentiated between it and placenta praevia, and other observers have since noted its occurrence, ascribing it to various causes; but it was not until recent years that its pathology has been studied with any degree of scientific exactness.

The term abruptio placentae is properly applied to an accident occurring in the last three months of pregnancy, for the condition arising prior to the period of fetal viability should be considered under the various forms of abortion and miscarriage.

The frequency of its occurrence is probably greater than generally considered, as many cases of mild degree are unrecognized. Williams [1] believes that it is a more frequent cause of antepartum hemorrhage than is placenta praevia. From statistics gathered by Appleton [2] at Sloan Maternity, in 5,900 labors fifty-seven separations occurred, a ratio of 1:104; at Dublin Rotunda, in 6,453 labors, seventy separations, or 1:92; at New York Lying-In Hospital, in 10,000 labors, none; in Chicago Lying-In Hospital, in 3,600 labors, six cases, or 1:600, which figures teach us that this complication is one for which we should ever be on guard.

As regards its etiology, a toxemia of whose exact nature we are as yet uninformed is the primary cause, according to most recent investigations. Trauma, nephritis, diseases of the placenta and decidua, and endometritis have all been charged as responsible. Morse [3] believes the condition due to some obstruction to the uterine circulation, the primary lesion being an engorgement of the decidual sinuses while the intramuscular hemorrhage is secondary, and he thinks that excessive mobility of the uterus predisposes to a similar acute constriction of veins in the broad ligaments. None of these causes, however, can produce a complete symptom picture of a case of abruptio placentae, and in my opinion a true toxemia is undoubtedly to blame while these other conditions are but secondary factors. The sources of this toxin are open to speculation; but from the pathologic changes produced, the evidence points to some interuterine condition, due to the pregnancy itself, and possibly being of placental origin, as has been suggested by Willson. The separation of the placenta is accompanied by hemorrhage unless the child has been dead some time. This hemorrhage may be apparent, as when the blood escapes under the edge of the placenta out through the cervix into the vagina; or it may be concealed, the blood accumulating in the retroplacental space, owing to firm attachment of the placental margin, and infiltrating the muscle fibers, thus causing an atonic area in the uterine wall, or it may also rupture into the amniotic sac. Unless, however, the separation of the placenta has been complete, the uterine wall at its site cannot retract, and there is danger of continuous hemorrhage, while the atony developing may be the cause of the woman's death after she has been delivered.

The initial lesion may be the so-called "uteroplacental apoplexy," and the small hemorrhagic areas coalesce to begin a process that, once started, steadily progresses. These hemorrhagic lesions may extend to the tubes, the ovaries, and out into the broad ligaments, giving rise to the peculiar mottled appearance of these parts on examination. Bloody fluid may be found in the peritoneal cavity, coming, most likely, from the small fissures occurring on the surface of the uterus.

The onset of a typical case is of a sudden and violent nature, the severity of the symptoms depending on the degree of separation. A woman in the last months of pregnancy, who has most likely shown signs of a toxemia with or without nephritic symptoms, complains of a sudden severe pain of a colicky nature in the abdomen, and soon shows signs of acute anemia, followed by those of shock due to the sudden distention of the uterus. A bloody vaginal discharge may or may not appear. On examination, the uterus is found larger than would be expected, very painful to the touch, and of a peculiar woody consistency. It is difficult to map out the fetus and its heart beats are rarely heard, while the examining finger in the vagina detects no placenta. With these signs present there should be no difficulty in differentiating between abruptio placentae and placenta praevia or rupture of the uterus.

The management of such a case depends on whether or not labor has begun, and the degree of cervical dilatation; but under any circumstances three indications are to be met: The uterus must be emptied, the hemorrhage stopped and the anemia combated. The best treatment is that which, with the least danger to the mother, most quickly removes the fetus and placenta, considering the life of the child a negligible quantity, as it is almost always lost.

Should the cervix be soft and easily dilatable, forceps or version may be employed; but if the cervix is firm and a concealed hemorrhage is occurring, a cesarean section is indicated, which may have to be followed by hysterectomy should the bleeding from the atonic uterus continue. The fact must be borne in mind that when hemorrhage occurs before labor has begun there is but slight tendency for the lower uterine segment to dilate and very rarely does the woman deliver herself, most patients dying of shock and hemorrhage unless prompt surgical aid is rendered. With the emptying of

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* Read before the Medical Society of the District of Columbia, Feb. 23, 1921.

1. Williams, J. W.: Surg., Gynec. & Obst. **21**: 541 (Nov.) 1915.
2. Appleton, P.: Boston M. & S. J. **180**: 718 (June 26) 1919.
3. Morse: Tr. Am. Gyn. Soc. **44**: 103-112, 1919.

the uterus, however, not all the danger is over, for the hemorrhage may persist, as Polak [4] points out, not only from the atony of the organ, but also from the fact that in certain areas blood has penetrated the muscle bundles, disassociated the fibers and rendered them absolutely incapable of contraction. Therefore, in cases of doubt a hysterectomy is the safest procedure.

The prognosis is most grave, for with the best of treatment the maternal mortality is about 60 per cent., while the fetal is about 90 per cent., and should the patient fortunately survive, her after-treatment will demand for some time the utmost care and attention.

CASE REPORT

In presenting this report a brief history of a previous pregnancy through which I attended this patient will be of interest as bearing directly on the case at hand.

Aug. 15, 1917, I was called to see Mrs. W., aged 34. She had had the usual diseases of childhood, and in 1910 was operated on for the removal of her right ovary tube and appendix. She married at the age of 30 and had had one pregnancy, beginning in August, 1916, and ending in a miscarriage the following November. She was of a fatty type, having always had a good appetite which was gratified fully. Her last menstrual period had been April 10. At this time she was complaining a great deal of nausea with constant headache, and she had had a hemorrhage beneath every finger and toe nail, causing a marked bluish discoloration which turned reddish and finally disappeared. Her urine was normal with the exception of a marked acidity, while her blood pressure was 144 systolic and 90 diastolic. Under diet and purgation her condition improved, and she progressed uneventfully until the following January, when she began to show evidences of toxemia; her legs and abdomen were edematous, she had headache, and the urine contained traces of albumin and indican, with a few casts. Dr. A. L. Stavely saw her in consultation and agreed that it was best to bring on labor. She was sent to Georgetown Hospital, January 24, and given a large dose of castor oil and quinin which accomplished nothing, and the following day I packed the cervix tightly with gauze. This was ineffectual, and was repeated the next day with no better results. January 30, her condition had become decidedly worse. She was vomiting, her legs and abdomen were very edematous, the blood pressure was 180 systolic and 120 diastolic, and the urine contained albumin and casts.

The head of the fetus was engaged and very low in the pelvis. As it was deemed inadvisable to perform a cesarean section after the repeated attempts to bring on labor, the cervix was manually dilated, the membranes were ruptured, and forceps were applied to the head, which was in a right occipitoposterior position and was rotated with difficulty. The extraction of the child proved much more difficult than had been anticipated, and a dead male infant weighing 10 pounds 4 ounces was finally delivered. The patient made a fairly good recovery, but had digestive troubles for several months.

March 18, 1920, she came to my office to engage me for an expected confinement, her last period having been Aug. 17, 1919. She had been feeling bad for some time, but owing to illness in her home had neglected to pay attention to her own condition. At this time her face and feet were much swollen, her tongue was coated, and she was constipated. Her pulse was 74 and her blood pressure 180 systolic and 120 diastolic. The urine was scanty in amount, acid, with specific gravity 1.028, and showed a small amount of albumin, with a few hyaline and granular casts. She was placed on a strict diet, saline laxatives were ordered, and an appointment was made for a thorough examination the following week.

March 20, two days later, while shopping, she began to have severe abdominal pains, accompanied by dimness of vision, which increased so that by the time she returned to her home she was practically blind, being able only to distinguish light. I was sent for and called Dr. J. L. Riggles in consultation. We saw her within an hour of her attack and took her at once to Columbia Hospital. The uterus was found to be of boardlike consistency, about the size of a full term pregnancy, very painful on pressure, so that it was impossible to define the position of the child, whose heart beats could not be heard. The cervix was high up and undilated. A cesarean section was promptly performed, and when the abdomen was opened the uterus and tubes presented a dark, mottled appearance suggestive of hemorrhage. No bloody fluid was seen in the abdominal cavity. When the uterus was incised, a large quantity of free blood escaped and the placenta was found completely separated from the uterine wall. A dead male infant weighing 4 pounds was removed, and the uterus sutured. The patient was of a hemorrhagic type, and bled freely from every cut surface, the abdominal wound oozing between sutures for several days after their removal. She was constantly nauseated, and vomited until the morning of March 22. There was a marked suppression of urine, one-half ounce being obtained by catheter at 10 p. m. following the operation, and 2 ounces at 10 the next morning. She was given salt solution and coffee by rectum, and the kidneys began to function normally, March 22. The urine contained much albumin, with a low specific gravity and many casts, but gradually improved until by April 1 the analysis was normal. Her blood pressure fell steadily, being, March 24, 146 systolic and 82 diastolic and, March 31, 128 systolic and 78 diastolic. She returned to her home, April 2, and made a slow and tedious recovery, her mentality being yet a little dull, and she is easily confused and very forgetful. An examination of her eyes by Dr. D. K. Shute showed the optic nerves in each eye quite pale, presenting the appearance of postneuritic atrophy, which may have been secondary to a possible albuminuric retinitis.

1900 S Street.

4. Polak, J. O.: Med. & Surg. **1**: 154-160 (April) 1917.

PSYCHIC MANAGEMENT OF PERSONS WITH CARDIAC DISORDERS IN FUNCTION OR STRUCTURE

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There is probably no class of disorders so likely to alarm a person as a disturbance of heart action or some subjective sensation taken to indicate heart disease. This statement is not applicable to the laity alone. I have seen this exemplified many times in members of the medical profession. Many a physician has been frightened by a recurring precordial pain or by an unexpected attack of cardiac irregularity, usually in the form of intermittence of the pulse. This makes itself known to the individual by a sensation in the precordium or by a feeling as if the heart jumped up into the throat, and is spoken of as palpitation. If the so-called heart attack displays the characters of paroxysmal tachycardia, it is particularly alarming.

Whatever may be the special features of the disturbing sensation and whether there be an organic defect or not, the attitude of the physician who happens to be consulted has much to do with the subsequent history of the case. If before making a careful examination he looks and acts as if he considers the symptoms very serious, or, still worse, if he makes a remark to the effect that the condition is serious and it is well that he was summoned in time to prevent a catastrophe, an impression is likely to be made on the patient's mind that it may take months to remove. I recall numerous instances of the kind, but one in particular. About twenty years ago I treated for a considerable period of time an impressionable young married woman who had been thus frightened by a physician hastily sum-

moned during her first attack of tachycardia. No evidence of heart disease could ever be discovered, but so greatly had she been alarmed by the physician that she never fully recovered from the conviction that her attacks of palpitation were an indication of organic heart disease, whereas they were in reality only manifestations of hysteria or at least of a highly unstable and excitable nervous system. They were nearly always evoked by a quarrel with her husband or some other emotional influence. Had the physician in that instance taken pains to calm the woman by refraining from any disturbing opinion until after a careful inquiry into the causation of the attack and a reassuring examination had been made, the woman might have been spared years of suffering.

But, it may be asked, how is one hurriedly summoned to a person having palpitation or precordial pain to tell at once that the attack does not portend danger, especially if the pulse is scarcely palpable, the extremities cold, and the countenance pinched and anxious? In reply, let us consider the steps naturally to be taken in such an emergency. A glance at the face, a finger on the pulse, and a few words of inquiry show that the patient is in distress either physical or mental. The obvious indication is to afford prompt relief both to the mind and to the body. Therefore, instead of implying by word or look that the patient is in danger, speak reassuringly and proceed to administer subcutaneously some remedy, as morphin or nitroglycerin, that is likely to induce calm and relieve pain if present, or dilate the capillaries and overcome vasomotor spasm responsible for possible cyanosis and coldness of the extremities. Then, while waiting for the medication to act, speak reassuring words to the sufferer and friends, who very likely are even more frightened than the patient, and whose words and actions have done much to increase the agitation of the patient. When at length the patient has become more or less quiet, begin your real physical examination. Now the history of how the attack began, the previous condition of the patient may be ascertained and, lastly, the examination of the heart and other parts of the body may be carried through. Do not at once call a precordial pain angina pectoris, even though the associated symptoms seem to warrant the diagnosis; but wait for a more suitable time when all alarm has subsided, for you may find later on that the painful seizure was intercostal neuralgia or myalgia dependent on some focal infection, and not organic disease of myocardium or aorta. This caution is particularly pertinent if the patient is young.

A second caution is also to be borne in mind; namely, a systolic murmur may be heard during tachycardia that will disappear after the heart has quieted down. Therefore, do not conclude from a systolic murmur alone during an attack of ventricular extrasystoles or unusual rapidity of action that a valvular disease is present or that the heart is dangerously dilated. Either condition may exist, but reserve your decision until a subsequent visit or until the attack is fully past. Even then, search for corroborative signs of a valvular lesion or of myocarditis before making a pronouncement that may instil the element of fear into the mind of the patient. If you are in doubt at the time of your first examination, suggest to the patient that it will be well for him to remain quiet until the morrow if he would ward off a second attack. In a word, remember the benefit of the psychic management of the case and, if convinced that danger to life really exists, inform the friends but not the patient at the time.

A married woman in the early thirties suffered from an attack of influenza in the winter of 1919. On recovery, a systolic murmur persisted, and her physician took it to mean a serious involvement of the heart; for he is reported to have warned her against any physical effort, and kept her in bed for six weeks. Even when allowed to leave her bed, she was told that she was liable to drop dead if she even stooped to pick something from the floor. When I saw her, no murmur was audible and the heart appeared to have regained perfect compensation. But even had obvious signs of heart disease been present, how deplorable would have been the psychic effect of a repetition of the caution given by her overcautious physician. She had suffered from fear of sudden death for months, and when assured that she had entirely recovered from the effect of the influenza on her heart and that the murmur had disappeared, she at once grew calm; and on being told that she could do anything within reason, she gave expression to her relief and left the office cured of her fear. This case not only illustrates the value of proper psychic management but shows the error of attaching too much importance to a systolic bruit taken alone, even though it develops during an acute illness and persists for some time thereafter.

In this connection it is well to repeat the admonition given by Sir James Mackenzie and often stated by the writer; namely, that auscultation of the heart should be the last step in an examination of the organ. The stethoscope should not be used until the history has been learned and careful palpation and percussion have been employed. Furthermore, too great emphasis cannot be placed on the dictum that a purely systolic murmur may not and often does not indicate a valvular incompetence. A diastolic bruit, on the other hand, always does evince a valvular defect. There is no intention of here discussing the various signs of organic cardiac disease, myocardial or endocardial, for it is assumed that physicians of experience and proper training are familiar with them. I should like, however, to call attention to the difficulty sometimes of deciding whether dilatation is or is not present when, because of fear or other cause, pronounced tachycardia is giving rise to apparent dilatation or perhaps is causing transient enlargement through incomplete emptying of the ventricles. Under such circumstances a definite statement or decision should be withheld until proper management has slowed the heart action to normal. If there is an element of fear in the case, a statement to the effect that the heart is enlarged is sure to prolong or even intensify the tachycardia. Nearly all persons—physicians or laymen—are greatly frightened at the thought of the heart's being enlarged, even though it be due to compensatory hypertrophy, a safety provision on the part of nature.

NONORGANIC CASES

Let us turn now to another phase of the subject, that is, let us try to understand the causation of the symptoms that so disturb and even alarm the patient. In the overwhelming majority of cases the tachycardia sets in either while the person is in bed or is free from physical exertion sufficient to excite rapid action of the heart. If intermittence of the pulse occurs, this is occasional, not constant, and usually ceases during exercise. Except in comparatively rare instances of paroxysmal tachycardia associated with auricular flutter or some demonstrable cardiac lesion, the heart does not of itself, so to speak, initiate suddenly great rapidity of action. That is, the tachycardia is not due primarly to

unrecognizable cardiac disease. It is secondary to some extraneous influence acting through the sympathetic nervous system. This influence may not be easy to ascertain, but I have found it to reside in chronic appendicitis or a chronic cholecystitis or in some emotional disturbance, so that I make it a rule to search for and eliminate some such factor before committing myself to the opinion that the heart itself is the sole actor at work. The foregoing is thrown out as a hint and not as a dictum.

A form of disordered heart action termed by the patient palpitation is intermittence of the pulse. This may manifest itself subjectively in several different ways. The heart seems to turn over with a peculiar sinking sensation, or it may seem to jump up into the throat or there may be a transient sensation of dizziness. But whatever the feeling, it is very alarming and may create the fear that the heart is going to stop beating altogether. Then if, as in one instance that came to my attention, the patient feels of his wrist and discovers the intermittence, the fear of sudden death takes possession of him and dominates him day and night. Inquiry brings out the admission in practically all cases that the patient studies his pulse frequently, when of course his apprehension intensifies, if it does not actually induce the irregularity anew. Consequently, the first step in the cure is to make the patient promise not to feel of his pulse any more, which promise is not always easy to obtain. However, if it is explained why this habit of introspection is pernicious and that the cause of the irregularity lies in some endogenous toxin from the gastro-intestinal tract acting on the vagus, or that the toxic agent may be tobacco, tea or coffee used in excess, compliance with the injunction not to feel of the pulse can generally be obtained. Proper therapeutic measures should be instituted, of course, but the first step must be to remove the element of fear.

Lastly, in considering these nonorganic cases in which fear is a dominant element we must consider precordial pain. As every physician knows, a sudden and still more a persistent pain in the region of the heart is not only highly alarming but is very likely to be accompanied by rapid and often irregular action of the heart as well as vasomotor phenomena, such as coldness of the extremities. These precordial pains may have various causes, neuralgia or neuritis of some intercostal nerve, generally of the fourth and fifth, when definite and diagnostic analgesic areas are present. In such the cause is usually to be found in some gastro-intestinal derangement, as demonstrated by Head of England many years ago. These precordial pains are in some instances accompanied by a sense of constriction; and if the pain extends into the arm, the symptom is suggestive of angina pectoris and is very likely to be so regarded by the physician. Cases are sometimes encountered in which the patient declares the pain is so intense that if it occurs during walking he is obliged to stop. Then, if there is demonstrable disease of heart or blood vessels or if the patient is past middle age, the differentiation from organic angina is not easy. Nevertheless, it is my belief that in the overwhelming majority of instances the symptom is not angina in the strict sense but intercostal neuralgia, and can be relieved by searching out the focus responsible for the nerve irritation and by instituting appropriate treatment. Essential to successful treatment is the emphatic declaration to the patient that the pain does not mean heart disease. Of course, this statement must follow a painstaking examination of the heart and vascular system, so that the patient is convinced that you know what you are talking about.

Cases are encountered now and then of a constrictive pain above the heart at the left of the sternum. In such there is usually tenderness of the pectoral muscles, and this can often be traced to a focal infection in the mouth or throat, that is, pyorrhea, a tooth-root abscess, or pus-containing tonsils. An illuminating instance of the kind was in a man, aged 31, whose supracardiac distress on walking was such as necessitated his stopping after he had gone only a few hundred feet. The diagnosis given him at a renowned medical center was coronary angina. Yet study and treatment demonstrated that the difficulty was attributable to an abscess at the root of a tooth. When I last saw him, some two years ago, this man was able to walk without eliciting pain, and he considered himself entirely well. In another man, careful inquiry brought out the admission that if he carried his left hand in his coat pocket so as not to swing the arm his pain did not occur. In this case the supposed angina was only a myositis of the external pectoral muscles. In both of these cases the psychic benefit of being assured that dangerous angina did not exist was very pronounced. On the other hand, it would have been easy to put such an element of fear into these men as to render life miserable. As it was, they were ready to endure the pain and proceed about their ordinary vocations until in time the pain ceased after the detection and removal of its cause.

PSYCHIC MANAGEMENT IN ORGANIC DISEASE

Let us turn now to the application of wise psychic management to cases of organic cardiac disease. Here, again, the attitude of the physician is of great moment. There are some practitioners who seem to think that the existence of a murmur is warrant for the conclusion that the heart is seriously damaged and that digitalis is imperatively indicated. Moreover, the patient is told that he has a leaking heart and is warned against much, if any, exercise. Fear is thus engendered, and the patient is likely to be converted into a neuropath. The fact is that oftentimes no symptoms whatever have led to a suspicion on the patient's part of anything being wrong with his heart. How frequently is this exemplified among applicants for life insurance. We all probably can recall instances of men, young and middle aged, who, totally unconscious of their hearts before being rejected as poor risks, have afterward had their attention so riveted on their circulatory pumps as to be greatly concerned over precordial sensations to which previously they would never have given a second thought. Thenceforth they have grown uncomfortably aware of their cardiac action, particularly of its increased rate, or even of breathlessness on running up stairs. If the physician to whom the element of fear has driven the sufferer takes pains to explain matters reassuringly, he is generally able to restore the patient's confidence in the pumping efficiency of his heart and accomplishes a mental cure. No untruth need be told, but it may be stated plainly and convincingly that a leak does not of itself denote a dangerously damaged heart. There are plenty of cases on record, and right among us every day, of persons who have lived or are likely to live to old age in spite of the existence of a defective heart valve. The proper way to look at a structurally defective heart is from the standpoint of its present potential efficiency and its future likelihood of remaining functionally competent. If good compensatory hypertrophy is present and, still better, if the leak is so slight as to have caused no appreciable enlargement,

the patient may usually be dismissed with the assurance that he need only protect his heart against further damage through neglect of focal and acute infections, evil habits and unwise physical strain. The foregoing applies particularly to cases of mitral and aortic insufficiencies. Stenosis, on the other hand, and especially mitral stenosis of the second and third degree, do not present so encouraging a prospect. Yet, even in such cases, almost no greater harm can be done than to instil the element of fear, since his physical limitations can be stated without frightening the patient nearly to death or making a hypochondriac out of him. On the other hand, a part of the proper psychic management of some of these cardiopaths is to impress frivolous or light minded patients with the necessity of moderation in all their habits of life.

The diagnosis of organic heart disease is not necessarily tantamount to pronouncing a sentence of death in the near future, or even death from the cardiac lesion per se. Many a person has carried a valvular defect from early life to old age. With the exception of stenosis of pronounced degree, the prospect of life is relatively good as regards the results of rheumatic endocarditis, provided the myocardium has escaped damage, and there are no complications that still further handicap the heart. Therefore, we are not justified in giving a pessimistic prognosis simply because we perceive a murmur. If subjective symptoms are wanting and if no obvious secondary effects are present, we may in most instances dismiss the patient with reassuring words as to any immediate danger.

Some words of caution and instruction it is usually well to give, but these should carry with them a spirit of hope and not fear. To live in a state of perpetual apprehension is like having the sword of Damocles over one's head and never knowing when the fatal stroke may come.

A young married woman exemplified the truth of the foregoing statement. She had recently come out of a hospital where she had been for a number of weeks and where she had become greatly alarmed over the state of her heart. She had a free mitral leak with marked secondary hypertrophy, with dilatation and hepatic and other signs of venous stasis. The prospect of a long life was anything but good; but such was her fear of sudden death that it was deemed wise and kind to encourage her even though truth might have to be stretched somewhat. Accordingly, her condition was minimized as far as was consistent with safety, and she was told she might count on several years of comparative usefulness, provided she exercised common sense and caution. She left the office declaring that she was so greatly relieved that she would not worry any more. She lived two years in relative comfort and happiness, and when death finally came it was in consequence of an acute pulmonary complication.

Recently a Chicago University student of 19 applied for permission to take gymnasium work in addition to her studies; but on being examined as to her physical fitness, she was denied the permission on the ground that she had a "bad heart." This statement so alarmed the young woman that, according to her father's declaration, she became hysterical and often burst into tears without apparent cause. The prospect of a second examination of her heart did not lessen her fear. Accordingly, on seating herself in my office she was so nervous as scarcely to be able to answer questions audibly and coherently. Her hands were ice-cold and dripping with perspiration, while her pulse was running 140 a minute. This patient was found to have a pronounced mitral insufficiency, with marked secondary hypertrophy of the left heart. Signs of secondary visceral stasis were wanting, and, moreover, the girl denied shortness of breath on exertion. In fact, she had danced and done other things like her mates without giving any attention to her heart. To me, compensation did not seem so defective as to warrant the alarming statement that she had a "bad heart." Nevertheless, it was apparent that gymnasium work might bring on a loss of compensation, and hence the examining physician had been right in rejecting the girl's application. The unqualified assertion of a "bad heart" had been the mistake, since it had injected the injurious element of fear. When at length the girl had had her condition explained as gently as possible and had been assured that her heart was not so bad as to prevent dancing and other forms of exercise in moderation, she left the office far calmer than she had been on entering. In fact, she declared she would try henceforth not to worry about her heart.

BLOOD PRESSURE

Before concluding this portion of our subject, let us consider briefly the subject of blood pressure. The recording of blood pressure has become so well-nigh universal that the laity has become possessed by the importance or, rather, the overimportance of knowing what their state is in this regard. When the pressure is dangerously high in any particular instance, the person should be so informed, no doubt. But does the information need to be so imparted as to carry with it the element of fear? Simply to say to an impressionable person, "You have too high blood pressure," or "Your blood pressure is too low" is likely to be so blunt as to render the statement alarming and make it do more harm than good. So many factors enter into the determination of blood pressure, particularly the systolic, among them the mental state or apprehension at the time of a first examination, that may it not be well to postpone a definite statement until a second or even third examination, and after treatment has been instituted to correct habits or unwise manner of life? So many instances of alarm over the blood pressure have come to my notice that I am sometimes led to question whether the indiscriminate taking of blood pressure may not be doing more harm than good. Only yesterday a woman of 52 was seen who had been told, yes, alarmed, by the statement that her diastolic pressure was too high. So it was, but not dangerously so, 105 with a systolic of 152; but she had grown, as it seemed to me, to attribute her whole physical condition to the fact, whereas it was of minor importance to other circumstances of her life. It may be difficult often to know just what to do or say in cases showing deviations from what is regarded as normal pressure, but let us remember the psychic element in dealing with our patients and try to impart information in a way to instruct, but not alarm.

A few words now in regard to blood pressure regarded as too low. It is not infrequent for me to be consulted by persons who are alarmed because told their blood pressure was too low. This statement is taken to mean or imply a serious, perhaps dangerous, weakness of the heart. In such cases we should consider not alone the systolic, but also the diastolic pressure; for if the latter or minimum pressure be such that the pulse pressure is 50 per cent. or more of the diastolic figure, the conclusion is justifiable that the low

blood pressure is not an indication of cardiac weakness. Generally, too, it is found in these cases that symptoms of cardiac asthenia are not present. In fact, some persons with this type of reduced pressure are capable of strenuous physical effort without symptoms of cardiac embarrassment. The condition seems to depend on some abdominal or other state that produces a general vasomotor dilatation or relaxation. Therefore, before we tell a patient merely that his blood pressure is too low, we should determine the pulse pressure and allow this, together with the history as regards the presence or absence of symptoms, to aid us in arriving at a conclusion. We may thus save our patient from being alarmed over his condition.

We all know the uncertainty of myocardial disease in persons beyond middle age, an uncertainty that is twofold, as it were. Not only do some cases terminate unexpectedly when, according to ordinary data on which to base prognosis, there may have been no symptoms to convey a warning of the near approach of the Grim Reaper; but we all see persons who, with such evident pathologic changes as to create doubt of more than a brief term of existence, yet live on for years in comparative freedom from cardiac incompetence. Therefore, in the light of such experiences, we do not need to be blunt in our manner of imparting our recognition of a myocarditis. If asked for the truth we do not need to lie in order to spare the feelings of the patient, but we can state the diagnosis in terms that convey our meaning without leading the patient to think his doom is sealed. For instance, most persons attach dire significance to the term degeneration, and yet it is not uncommon for a physician to tell a corpulent person whose chief complaint may be breathlessness on exertion, "You have fatty degeneration of the heart." Then perhaps follows a grave warning against any but the lightest forms of exercise. The physician's intentions are well meant, and both diagnosis and warning may be right. But is it not better in most instances to let the patient down easily by explaining that his heart muscle is not as sound and strong as in youth, and that he must not drive his engine too hard; that if he will remember that he is no longer a "kid" his pumping apparatus may yet serve him usefully for some years? It is kinder and better to err on the side of too great optimism, for should death take place sooner than was prognosticated, the friends are likely to excuse the mistake in judgment because possessed by the notion that heart disease may cause death unexpectedly at any time. Whereas, if a gloomy forecast is given, or if the patient is filled with fear of premature death, and yet does survive a dozen years or more, the friends are very likely to conclude that the physician did not know his business, or made a wrong diagnosis. In a word, let us remember the benefit physically and mentally of putting hope and courage into our heart patients instead of rendering their remaining years miserable by reason of fear. May not one possible explanation of the growing popularity of Mrs. Eddy's cult lie in the fact that it robs its followers of fear of deadly disease? Let us, then, within certain limits cultivate this habit of mind in our cardiac patients.

30 North Michigan Avenue.

Needs of Tuberculosis Service.—The outstanding need of today in the tuberculosis service is not so much further expenditure on material, but rather greater effort in the training of the personnel which must man the service, and coordination of the work with a well thought out and clearly defined policy.—H. Gauvain, *Brit. J. Tuberc.* **15**:2, 1921.

SENSITIZATION IN BRONCHIAL ASTHMA AND HAY-FEVER*

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There are a sufficient number of aspects common to both hay-fever and bronchial asthma to make it advantageous to consider these diseases together. The purpose of this article is essentially to point out the rôle of sensitization in both conditions. There are, however, several features incidental to bronchial asthma, which, I feel, should be dealt with separately.

In contrast to the results obtained in testing typical hay-fever patients against pollens, comparative disappointment will be experienced in this respect in cases of bronchial asthma. In attempting to summarize the results obtained in the latter condition, many difficulties present themselves which are not encountered in hay-fever. The literature on bronchial asthma, which is especially voluminous since the extensive studies of I. C. Walker,[1] in 1917, fails, in my opinion, to summarize the results in such a way as to give one a comprehensive idea of what results should be expected regarding the percentage of cases showing positive reactions and the consequent results of specific treatment in all the cases in which this method of investigation was deemed worthy of trial.

Most of the reports have dealt with those aspects which have appealed to the author as outstanding, or with the results of specific treatment as illustrated by different groups, more or less similar in some particular characteristic, such as the ten illustrated protocols of twenty cases of perennial hay-fever caused by horses, reported by Walker.[2]

The explanation of this type of report, it appears to to me, is due to the fact that bronchial asthma is a syndrome which may have widely different etiologic agents. It will frequently be found as a complication of, or augmented by, other pathologic lesions, and it may itself be accompanied by a variety of complications, such as those induced by repeated attacks of true bronchopneumonia. Under these circumstances, it seems impossible adequately to summarize one's cases of bronchial asthma under such a heading as has been adopted for this paper, without citing a mass of detail for a very large number of cases.

The problems encountered in the investigation of cases of bronchial asthma will present other features besides the possibility of sensitization to a specific protein or pollen, the proportion of these depending to a great extent upon the source of the material. This has been very noticeable in contrasting the cases seen in private practice, with those among the ex-soldiers in the Department of Soldiers' Civil Re-Establishment chest clinics. In the latter group, the greatest difficulty has been experienced in distinguishing between chronic bronchitis with exacerbations and the varied types of dyspnea incident to this condition, and true bronchial asthma with an added bronchitis. Neither the clinical history or observation nor a complete physical examination will allow one, with any great degree of certainty, to differentiate between them. Positive protein tests have been obtained in a few cases, which, on

* Read before the Academy of Medicine, Toronto, October, 1920.

1. Walker, I. C.: J. M. Research **35, 36, 37,** 1917 and 1918.
2. Walker, I. C.: Frequent Causes and the Treatment of Perennial Hay-Fever, J. A. M. A. **75**: 782 (Sept. 18) 1920.

clinical grounds, one would have been inclined to regard as examples of true bronchitis plus compensatory emphysema, and conversely, cases of typical bronchial asthma have failed to give a positve skin reaction to any protein, pollen or to bacteria or their extracts, when the former two have been repeatedly tried in large numbers and when the latter (the bacteria) have been shown by careful bacteriologic work to be constantly present in the washed sputum.

Norris and Landis[3] restrict the term bronchial asthma to "that form of spasmodic dyspnea in which the chief feature is the difficulty of emptying the lungs, that is, an expiratory form of dyspnea." In their observations on diagnosis, they mention obstructions in the upper respiratory tract, due to infections or mechanical processes, heart disease and nephritis, as capable of causing dyspnea of sudden onset; but they do not mention the difficulties of differential diagnosis between certain cases of bronchitis in which the dyspnea closely resembles that found in true bronchial asthma.

From the standpoint of sensitization, this distinction may not be so essential if one regards bacteria as capable of causing the syndrome of bronchial asthma by inducing sensitization in a manner comparable to the phenomenon as incited by the epidermal proteins. This conception is not, to my knowledge, supported by any experimental data, but is based on theoretical grounds and the clinical evidence that bronchial asthma may disappear after the removal or successful treatment of areas harboring foci of infection. In my experience, however, the results of autogenous vaccine treatment of bronchial asthma cannot be compared to the much more satisfactory results obtained in cases in which specific proteins can be used.

Positive skin reactions (cutaneous) with bacteria have been obtained so rarely in our cases at the clinic that, as a routine, it has practically been discarded. It was tried in a great number of cases suitable clinically and apparently favorable for positive tests, that is, the cases were negative to the different proteins, showed fairly constant bacteriologic findings and were asthmatic clinically.

Practically, one is inclined to try autogenous vaccines in those cases in which we fail to demonstrate protein sensitization and for which, after full and careful clinical examination, including the examination by a nose and throat specialist, we can find no definite reason for the bronchial asthmatic symptoms. The failure of vaccine, in contrast to protein therapy, is sufficiently marked to cause one to question that both are etiologic agents, acting in a comparable fashion. As a result, one feels that if progress is to be made with these (vaccine) cases we need more experimental data,[4] not only upon bacteria presumed to be acting both as the cause of subacute infections and as sensitizing agents, but also upon the effects and mode of action of the nonspecific reaction induced by any protein injection.

Some months ago, I made an analysis of 161 cases of bronchial asthma and perennial hay-fever which had been tested for sensitization by the cutaneous tests. Of this number, forty-seven (or 29 per cent.) had given positive skin reactions, among which thirty-six were cases of bronchial asthma, and eleven, bronchial asthma plus seasonal hay-fever. Sanford,[5] of the Mayo Clinic, states that in more than 800 cases tested, positive results were obtained in approximately 200, or 25 per cent. In his series, the largest number of reactions was obtained with horse dander. In 365 tests against *Staphylococcus pyogenes aureus* and *albus*, no positive reaction was found. Sanford's results and my own are practically the same. However, in my opinion, neither set of figures gives a true indication of the rôle of protein sensitization.

In explanation of the approximately 29 per cent. of positive results obtained by me, I should like to add that protein and pollen testing is but one of the methods utilized by my colleagues in the Department of Soldier's Civil Re-Establishment chest clinic. Very frequently this was undertaken as a last resort, or simultaneously with other methods of investigation, when if time had not been a factor, the cutaneous tests would probably have been omitted in a number of cases because of the demonstration of the true diagnosis by other aspects of the complete investigation.

TABLE 1.—ANALYSIS OF SIXTY-ONE CONSECUTIVE CASES IN WHICH THE PROTEIN TESTS WERE NEGATIVE

No. of Cases	No. Very Strongly Suggesting True Bronchial Asthma from the History and Clinical Observation	Type of Onset	Other (Definite) Pathologic Lesions	Treatment
61	3	War gas.. 6 Bronchitis 22 Colds .... 8 Pneumonia influenza 8 Indefinite 17	Tuberculosis, positive ..2 Tuberculosis, suspect ...1 Tuberculosis, not excluded .....8 Syphilis (Wassermann +) .....8 Obstruction of nasal passages ..4 Heart disease .....1 Aneurysm..1	25 have taken from 1 to 3 courses of autogenous vaccine

With the object of determining to what extent other etiologic features had played a more or less complete rôle in the syndrome, I made, some time ago, an analysis of sixty-one cases (Table 1), in which sensitization by the cutaneous test had not been shown. These cases all simulated, to a considerable but varying extent, the symptoms and clinical findings of true bronchial asthma. The results illustrate not only the need of the full investigation of cases of bronchial asthma, but help to explain also the low percentage of positive results obtained. The number of proteins used in this series was only twenty-four and one-half. Several of these patients returned later, when more proteins were available (from seventy to eighty), and positive results were obtained in four of these.

A review made lately of all cases in which tests had been made against proteins furnished these results, the figures indicating the frequency with which positive reactions were obtained: horse dander, 20; dog hair, 17; cat hair, 15; rabbit hair, 1; goose feather, 1; chicken feather, 11; horse serum, 6; rabbit serum, 1, egg, 5; casein, 4; milk, 3; beef, 2; lamb, 1; salmon, 1;

3. Norris and Landis: Diseases of the Chest, Philadelphia, W. B. Saunders Company, 1918.

4. F. M. Rackemann (The Relation of Sputum Bacteria to Asthma, J. Immunology **5**: 373 [July] 1920) reports 19.5 per cent. positive intradermal skin reactions with bacterial emulsions in cases of bronchial asthma. This percentage number includes both the early wheal-like and the late inflammatory reactions. He obtained success or amelioration only in those cases in which either type of positive reaction had been obtained. While I have not used the skin test, cutaneous or intradermal, as a routine, I certainly have failed to obtain any benefit in many cases giving marked reactions (early) to the intradermal test. The test is, to my mind, as much a guide to dosage as an indication of specificity.

5. Sanford, A. H.: Protein Sensitization in Asthma and Hay-Fever, Minnesota Med. **3**: 174 (April) 1920; abstr., J. A. M. A. **74**: 1421 (May 15) 1920.

barley, 3; oat, 11; wheat, 6; rye, 7; corn, 5; potato, 1; buckwheat, 2; bean, 3; rice, 1; celery, 2; tomato, 2; banana, 1; Brazil-nut, 1; cheese, 1; tobacco, 1; and *Staphylococcus albus,* 1.

These results more or less approximate those published by Walker,[2] Gottlieb,[6] Sanford[5] and others. Outstanding in frequency and importance, are, of course, the epidermal proteins. Among my present series of cases, in which positive tests have been obtained to these, the average number of different proteins to which one person is sensitive is 3.6, the maximum number in any one case is twelve.

A total of 276 cases have been tested against proteins and pollens. The indications that protein sensitization might be demonstrated have varied in each case; but analysis of the cases along the various lines indicated in this paper have left two general impressions which might be summed up thus:

1. Bronchial asthma is a syndrome with quite wide variations. It frequently requires a very broad type of investigation if all the possible etiologic factors which may be operative in the individual case are to be considered.

2. Despite the fullest type of investigation, there will remain a percentage of cases which one must regard as typical examples of true bronchial asthma, but for which no definite etiology can be demonstrated. Between these cases and those in which protein sensitization has been clearly established, there may be no detectable difference except that they are protein negative (to between seventy and eighty proteins).

I have thus far given considerable time to certain of the unfavorable aspects of protein sensitization. because I feel that unless this view and the need of careful differential diagnosis is emphasized, the profession is liable to minimize the really valuable addition we have had added to our methods of treatment. Unless careful attention is paid to this, the selection of cases for possible protein sensitization will be poor, the percentage of positive tests low and in consequence the results discouraging.

As an illustration of the wide range of clinical manifestation and the variety of pathologic and immunologic lesions, I have attempted an analysis of twenty-three cases in which positive tests have been obtained with the so-called epidermal proteins. Part of this analysis, with more especial reference to the results of the tests called reactions, is presented in Table 2.

To represent adequately the results obtained in this group of twenty-three cases, the general clinical picture, the entire extent of the lesion, so far as that can be determined, should be taken into consideration with the detailed results of the tests which later are summarized under the heading "remarks" in Table 2.

Viewed from the clinical and pathologic point of view, only eleven cases (of the group of eighteen, Table 2) could be regarded as simple, in that only in these would the protein sensitization seem to afford a full etiologic explanation of the bronchial asthma. Nine of these patients were treated, and up to date have been protected, except that in two instances, there was a recurrence which was found to be due to the additional fact that these patients were sensitive also to ragweed, for which treatment was not given. Two patients were not treated; but the knowledge of the cause of their attacks has seemed to help, especially in one instance in which marked sensitiveness was shown to be present to both cat and dog hair.

Among the remaining cases, there is such a wide variation regarding the number of offending proteins, the pathology, and the general clinical manifestation that it seems unfair to attempt to generalize. To illustrate this, three cases are cited.

CASE 1.—C. K., a man, aged 35, had suffered from asthma in early youth, had developed chronic bronchitis after being gassed in 1916, and by 1919, there was about 500 c.c. of sputum daily. Clinically the condition was considered to be bronchiectasis, which was given partial confirmation by stereoscopic plates. Cutaneous tests revealed major reactions to horse dander and dog hair. Repeated bacteriologic examination of the sputum revealed fairly constant bacteriologic findings.[7]

The pathologic lesion would seem to be infection of the bronchial mucosa plus compensatory emphysema and fibrosis, due to the bronchitis (or bronchiectasis), as distinct from the anatomic effects and clinical manifestations resulting from the protein sensitization.

Treatment with protein solutions and autogenous vaccines has been given in interrupted courses for about a year, and is being continued. It has certainly had a beneficial effect, as is evidenced by the patient's desire to continue treatment.

TABLE 2.—RESULTS OF ANALYSIS OF TWENTY-THREE CASES IN WHICH POSITIVE TESTS WERE OBTAINED WITH EPIDERMAL PROTEINS

Major reactions with horse dander...	17	Average number of reactions to all proteins tested against, 3.7
Major reactions with horse serum only	1	Average number of major reactions, 2.2
	18	Maximum number (per case) of reactions, 11 Major reactions only, 8 cases Pollen positive cases, 6, in only one of which was the hay-fever the predominant feature.
Major (or slight) reactions with epidermals other than horse.....	5	Average number of reactions to all proteins tested against, 3.6 Maximum number (per case) of positive reactions, 12 Pollen positive (hay-fever), 1 case Clinical tuberculosis, 1 case Includes one case in which the reactions (slight) seemed to be of no value
Total number of cases.....	23	

CASE 2.—X. N., a man, aged 42, had suffered in childhood from asthma, which reappeared after antityphoid inoculations in 1916; since this date he has suffered from chronic bronchitis with asthmatic-like exacerbations. The cutaneous tests revealed major reactions to horse dander, dog hair, bean, banana and lamb. Repeated bacteriologic examinations of the sputum have shown fairly constant findings.[7] The results of treatment are similar to those obtained in Case 1.

CASE 3.—M. D., a woman, aged 25, had had asthma since an attack of whooping cough and pneumonia at the age of 2. Several times since then, there have been severe attacks of pneumonia, during the last of which in 1916, a strain of streptococcus and *Micrococcus catarrhalis* were reported to be present in the sputum. Physical examination demonstrated the typical barrel shaped chest with bowed shoulders and marked convexity of the upper back. Cutaneous tests revealed major reactions to horse dander, horse serum and dog hair, with lesser reactions to casein and egg yolk, as

6. Gottlieb, M. J.: Results of Tests in Hay-Fever and Asthma, J. A. M. A. **75**: 12 (Sept 18) 1920.

7. The bacteriologic detail has consisted of the use of deep and surface colonies on blood agar and the use of six sugars as recommended by Brown and Holman. In Case 1, in four examinations, streptococcus γ was found four times, and streptococcus α and β, and a gram negative diplococcus, once each. In Case 2, in five examinations, streptococcus γ was found four times; streptococcus α, three times; streptococcus α_1, two times; streptococcus β, two times; staphylococcus, four times, and an unidentified gram-negative diplobacillus, three times.

well as to some of the pollens, although the season (January) was not favorable for a proper demonstration of these. (See remarks under hay-fever.) Two bacteriologic examinations of the sputum revealed strains of *Streptococcus pyogenes* and *M. catarrhalis.*

The pathologic lesion would include both the results of the attacks of asthma due to the specific sensitization and the anatomic changes induced by the repeated attacks of bronchopneumonia, probably arising anew from the residual areas of infection. The results of treatment were, I felt, very favorable, especially in view of the fact that treatment was not so complete as was desirable and in view of the extensive anatomic changes already established.

In the remaining cases in this group of eighteen, the rôle of sensitization would seem to have been more important than in the three cases cited in detail; or otherwise expressed, the bacteriologic factor of the bronchitis, bronchiectasis or bronchopneumonia was more amenable to natural or induced control.

In most of the patients with a coexisting infection which has led to pathologic lesions, repetition of the cutaneous tests has shown that sensitiveness tends to reappear although decreased in varying degrees as a result of treatment.[8]

One other feature that has been frequently noted in cases with coexisting and persisting pulmonary infections is the previous history of asthma in childhood or early youth. This is a very valuable indication regarding the probability of protein sensitization. There are, however, a sufficient number of cases in which it has not been possible to elicit a hereditary [9] or previous history of sensitization, so that one cannot place too great a reliance upon this evidence.

TECHNIC OF THE TESTS

Skin scarification by some instrument is the only practical means of testing one person against many proteins. A scalpel cut, as advised by Walker,[1] is the most satisfactory and less painful than the bore as originally used for the von Pirquet test. Walker states that no blood should be drawn. A series of tests performed with this point in view showed that the reactions appeared more definitely, and in slightly greater degree, if but a small droplet of blood was produced than if only serous oozing. This extent of scarification is sometimes difficult to determine. In this series of tests, reactions quite as marked were produced by cuts in which the blood escape was considerable, as in some of the cuts in which the intention was to produce only serous oozing. This is contrary to both the von Pirquet test, and, I believe, to preventive vaccine inoculation. The principles involved in all three are probably very different.

The technic which we try to achieve is this: Sets of four or five cuts are made with a scalpel on the cleansed flexor surface of the arm, of such a depth that only the minutest droplet of blood appears. With a Wright pipet and teat, a drop of 0.4 per cent. potassium hydroxid or sodium hydroxid is deposited on each cut. A glass spatula is dipped into the dried protein or pollen and rubbed into the cut, a separate spatula being used for each protein.

A positive reaction shows up in from five to fifteen minutes, or sooner, as a clear cut wheal surrounded by an areola of hyperemia. Frequently the reaction will begin to subside in from ten to fifteen minutes, although in this, there is considerable variation. The degree of the sensitization is estimated by measurement of the wheal. Especially if this is large, it is often somewhat irregular.

Occasionally, reactions will appear to which we have given the name spurious or false. All the tests may be of this type and measure from 2 to 4 mm. or more in diameter. In other cases, only certain of the tests will do this. Under these circumstances, one must rely on the control for guidance, or possibly on the probable importance of the protein or pollen, with possibly reference to the clinical history and the time of year. The distinctions I would make between a true and a spurious reaction are that the borders of the latter are less clearly defined, they seldom measure from 4 to 5 mm. in diameter, and they usually appear singly or in groups that are not in harmony with the indications in the particular case. Of course, a true reaction may appear among the spurious. Here the control and the increased size and definiteness of the true reaction will show the difference. Among 161 consecutive cases, fourteen patients showed reactions that were regarded as spurious.

Most authors state that anything below a 5 mm. wheal should not be considered. This I consider rather arbitary. If the other tests are absolutely negative and particultrly if the asthma forms only part of the clinical diagnosis, reactions under 5 mm. may be regarded as of value for therapeutic purposes.

Most of the reports in the literature indicate the degree of sensitization by referring to the highest dilution with which a positive reaction was obtained. This was the manner in which the degree of tuberculin sensitization used to be indicated. In 1908, I could find no advantage in this method over the measurement of the local reaction in relation to the quantity of tuberculin used, and this method is now fairly generally adopted. The method of making a series of dilutions and a corresponding number of cutaneous tests is tedious, and, for practical purposes, it supplies no necessary information that the dry protein or pollen test does not give. For certain experimental investigations, dilutions and the intracutaneous method is, no doubt, more exact.

Repetition of the tests after an interval of time has, with a few cases, served to demonstrate sensitization which was not shown by the first tests.

In this paper for convenience of expression, I have divided the cutaneous test reactions into major and slight. Major reactions include all those with wheals over 6 mm., and slight reactions include any under this measurement which were regarded as true, i. e., as evidence of sensitization and not spurious or false.

TREATMENT

When the offending protein cannot be deleted from the patient's food or removed from his environment, injection with protein solutions is at present the best means we have to induce desensitization.

In bronchial asthma, it has been my experience that the majority of patients need repeated courses of injections continued over long periods of time, if they are to be kept protected against the etiologic agents. Repeated cutaneous tests have shown that they often become resensitized during the interval following the treatments by which they were desensitized. In only a few cases has it apparently been possible by a comparatively few injections to protect them for long

8. It is difficult to get satisfactory percentage data on this, as patients who remain protected do not reappear at the periods when we should like to repeat the cutaneous tests. The majority of the repeated tests have consequently been performed on those for whom the protection has only been partial.

9. Cooke, Flood and Coca: Hay Fever; the Nature of the Process and the Mechanism of the Alleviating Effect of Specific Treatment, J. Immunology **2**: 217 (Feb.) 1917.

against their disease. Regarding the number of treatments and the repetition of the course, I feel that each case must be treated individually.

Based upon observations made in a series of experimental desensitizations[10] in 1915, I have assumed that desensitization would best be accomplished by observing these conceptions:

(*a*) The increase of dose ideally should be such as to produce a local reaction approximating the threshold of a slight general reaction.

(*b*) The interval should be as short as possible, and reinjection given at or about the time the local reaction completely subsides. Practically, this will vary with these injections between two and four days.

(*c*) The dose should be increased as much as possible conforming to *a* and never decreased.

With these ideas in view, I adopted the method of giving a desensitizing dose a few minutes before the treatment dose, one in each arm. I hoped in this way to be able to increase the dose more rapidly. Whether this was accomplished is difficult to determine. This method of double injections does, however, give reliable information regarding the degree of reaction resulting from a particular dose, which is of value in allowing one to determine the increase in the succeeding injection. Thus, one can fairly reliably classify the degree of reaction induced by an injection in this manner: (*a*) no reaction in either arm; (*b*) reaction in the "treatment dose" arm only; (*c*) reaction in both arms, and, (*d*) reaction in both arms plus varying degrees of general reaction.

Using the information thus obtained from the previous injection, I have had but one general reaction in my cases, and that, I believe, was due to oversight on my part in not taking cognizance of the fact that the patient had missed several treatments and that the interval had been extended to two weeks.

By this method, there is no routine manner of increasing the dose. The smallest number of doses given in any case (of hay-fever) in which complete treatment was realized was six; the greatest number in any one case in which, however, treatment was not complete was thirty-three.

The various solutions used have been the desensitizing dilution of 1:100,000; the treatment dilutions of 1:20,000; 1:1,000; 1:100; 1:10, or 1:5.

HAY-FEVER

Cases of hay-fever present much less complicated pictures than do those of bronchial asthma. Classifications are consequently much more satisfactorily made, about which the results of the cutaneous tests and the effects of specific pollen treatment can be grouped.

To date, I have had for investigation seventy cases of hay-fever or suspected hay-fever, which are classified, according to the results of the tests, in Table 3. In seven of the Group A cases, major reactions were obtained to epidermal or food proteins as well; and in these instances, the protein sensitization was an equal or more important feature of the clinical condition. In two patients of Group A, major reactions were obtained only with the pollens, although their physicians referred them to me as cases of nonseasonal bronchial asthma. The true explanation lay in the fact that both, in varying degrees, suffered from repeated colds throughout the fall and winter. The bronchitis, thus induced in these seasons, did not seem in any way different from the seasonal hay-fever they suffered from during the summer and late fall. It was noticed that in one of these patients, a boy of 10, the "asthma" was often worse after he played in the fields and the barn, which he liked to do during the summer holidays. In four cases of Group A, the history was very doubtful, and it was difficult to decide at the time whether these patients suffered from a mild hay-fever of the seasonal or perennial type (Walker) or not. Two, at least, of these should be tested at a season favorable for the demonstration of pollen sensitization. In different ways, their complaints were mild distress in some way connected with the upper or lower respiratory tract. No satisfactorily positive cutaneous reactions were obtained in any of these four cases.

The six remaining patients of the nineteen had seasonal hay-fever, which included marked attacks of asthma during the worst periods of their season. The asthma disappeared with the hay-fever, and they were sensitive only to pollens.

The remaining fifty-one cases (Group B) were typical cases of seasonal hay-fever and presented the various characteristics incident to that condition.

By the end of the season of 1920, we had forty different pollens from various trees, weeds and flowers. This was due to the generous advice and aid of Prof.

TABLE 3.—CLASSIFICATION OF SEVENTY CASES OF HAY-FEVER

		Remarks
A. 19 cases (bronchial asthma)	7	sensitive as well to proteins; 2 sensitive to pollens only, suffering as well from bronchitis or perennial distress; 4 history doubtful and tests negative; 6 asthma a complication during the seasonal attack, sensitive to pollens only.
B. 51 cases; typical seasonal hay-fever		Average number of reactions, 4.6; maximum number in any one case, 15.

R. B. Thomson,[11] Department of Botany, University of Toronto, and to a gratuitous contribution by the Lederle Laboratories. Tests made with the dry pollen from these two sources almost invariably gave larger reactions than were obtained with the commercial solutions obtained from other sources. A large series of controls showed the specificity and reliableness of the dry pollen.

Inasmuch as this number of pollens was available only by the end of the season, a presentation of the percentage of positive results recorded against each would be misleading. Major reactions were obtained against the following pollens, and treatment was given against most, if not all: alder, sweet vernal, meadow fox-tail, orchard grass, June grass, timothy, red top, daisy, dandelion, plantain, yarrow, mustard, goldenglow, dock, rye, corn, sunflower, dahlia, cosmos, goldenrod and ragweed.

With the purpose of correlating as clearly as possible the results of the tests and the clinical manifestations, periodic testing was carried out as frequently as feasible. The results are suggestive, and while closely related, may be grouped under three headings:

1. Pollen positive cases without clinical manifestations. These are well illustrated by the results obtained with the daisy pollen. This pollen was used as a test in sixty-five cases, major reactions being obtained against it in twenty-two instances, and positive (lesser) reac-

10. Caulfeild, A. H.: A Note on the Desensitization of Guinea-Pigs and Rabbits, Proc. Soc. Exper. Biol. & Med. **12**: 171-173, 1915.

11. To both Professor Thomson and the Lederle Laboratories, I wish to express my appreciation for their aid and generosity.

tions in twenty-three. The daisy pollenates here in June and July, but, in none of these cases were there clinical manifestations of hay-fever during this period, unless there was also sensitization to other pollens of the early summer type. The three cases reported herewith illustrate this, as well as the fact that tests done early in the season may fail to show sensitization to a pollen which does not appear till later in the season.

REPORT OF CASES

Case 4.—M. H. had suffered onset of symptoms sometime in August for the last four years. The patient was tested, April 20, 1920, against eighteen different pollens.

The results were: daisy, 10 mm. wheal; corn, dahlia, and timothy giving slight or questionable reactions and in this order. The patient was retested,[12] Aug. 23, 1920, against eight pollens. Up to this time he had been away and had been free except possibly for the last few days. The results were: daisy, 20 mm. wheal; ragweed, 10 mm. wheal; yarrow, 8 mm. wheal, and goldenrod, 5 mm. wheal.

Case 5.—E. F. had suffered onset of symptoms late in August for many years. When tested, June 23, 1919, against six pollens (commercial pollen solutions), the results were: daisy, 7 mm. wheal; corn and dahlia, questionable; when retested, Aug. 6, 1920, against nine dry pollens, the results were: daisy, 28 mm. wheal; yarrow, 18 mm. wheal, and ragweed, 12 mm. wheal. Partial treatment was carried out with favorable results. When retested, Sept. 16, 1920, against twelve dry pollens, the results were: daisy, 18 mm. wheal; cosmos, 18 mm. wheal; ragweed, 9 mm. wheal; yarrow, 5 mm. wheal, and goldenrod, 5 mm. wheal.

Case 6.—A. C. had suffered onset of symptoms early in August, 1919, for the first time. When tested, June 6, 1920, against nineteen pollens, the results were: corn, ragweed and goldenrod, all slight or questionable and in this order. When retested, Aug. 20, 1920, against fourteen pollens, the patient having been practically free up to this date, although he was doubtful of the last few days, the results were: ragweed, 10 mm. wheal; goldenrod, 5 mm. wheal, and corn, questionable. Partial treatment was given with favorable results. When retested, Oct. 12, 1920, against twelve pollens, the results were: ragweed, 10 mm. wheal; cosmos, 6 mm. wheal, and daisy, questionable.

2. Comparisons of the reactions obtained before and after treatment on patients who had been practically protected from any clinical manifestations have shown that in some the reactions were as large after, as before, treatment. It is true also that in others little or no sensitization was evident after treatment. The preceding protocols illustrate both the persistence and disappearance of sensitization after partial treatment. The following report illustrates both marked reduction and disappearance of sensitization after treatment in a patient fully protected.

Case 7.—J. C. had suffered onset of symptoms early in August for the last fifteen years. When tested, Aug. 8, 1920, against sixteen pollens, the results were: ragweed, 15, 15 mm., and goldenrod, 10, 8 mm. Treatment with both ragweed and goldenrod was complete. When tested, Sept. 23, 1920, against four pollens, the result was: goldenrod, 4 mm. or questionable.

3. Chance observations, such as the following, give some support to the observations in paragraphs 1 and 2.

(*a*) One of the laboratory assistants, who helped in the collection of the autumnal pollens, noticed a sense of discomfort while doing this. This then reminded him of the fact that some years before he suspected that he had hay-fever. Cutaneous tests with the pollens to which he was daily being exposed showed a major reaction to goldenrod, as large as many obtained in cases of definite hay-fever. Yet this man remained free from hay-fever, although he did experience an occasional and slight discomfort when too intimately exposed.

(*b*) Among those who have been tested are several who have said that they *used to have* definite attacks of asthma if they were near or drove behind horses, but that they did not notice this *now*. Yet among these cases, the cutaneous tests have shown both major and absolutely negative reactions to horse hair. Reassembling this data we have: (1) the daisy positive cases free from hay-fever during the maximum period of daisy pollenization; (2) the instance of the clinically hay-fever free laboratory worker, positively sensitive to a pollen; (3) both positive and negative reactions in fully protected cases after treatment, and (4) both positive and negative reactions in the cases *previously* asthmatic in the near presence of horses.

These data certainly seem to show that it is possible for an individual to escape the clinical manifestations of anaphylaxis even though sensitized (as shown by the tests) to a pollen or protein to which exposure is inevitable. The possible importance of this is considered under the discussion.

RESULTS OF TREATMENT

Because of obvious difficulties with these patients as encountered in a clinic, I feel that the results of treatment can more fairly be judged if only those cases seen in practice are used for analysis. Of such, there was a total of thirty-seven, which can be classified into three groups according to the amount of treatment given:

1. Seven patients received no treatment .

2. Seventeen patients for various reasons received but partial treatment; the results may be summarized as favorable, in that amelioration or improvement was observed in practically all.

3. Thirteen patients received full or complete treatment, by which I arbitrarily mean they received at least 0.5 c.c. of the most concentrated solution available. All were practically protected, that is, none suffered any real discomfort, although some had an occasional and transient attack. Several took journeys by train with comparatively little, even no, discomfort. All were able to continue their occupations or plans for recreation, and two stated they did not think they had had any hay-fever at all.

These cases can be summarized in greater detail thus: In one case both the history and the early tests were misleading. This was not corrected in time and the treatment omitted some of the chief pollens to which the patient was sensitive. In two cases, both the history and the tests were doubtful. In all three, the results may be regarded as nil. From two patients, I have, as yet, had no report. One patient reported the most surprising benefit after only a few inoculations. This may possibly be due to a natural recovery from the disease. Two patients were practically protected against the seasonal pollens with which they were treated. Both these cases are excellent examples of the value of the treatment, although appearing in this classification. One of these, a girl, had suffered for years with severe hay-fever, lasting from May till the late autumn. In the four testings carried out, she gave major reactions to fifteen different pollens, the late seasonal pollens giving negative results in the early testings. She received thirty-three inoculations between April 15 and August 9, and remained practically protected during this period. She then went on her vacation and came back to experience attacks in September from pollens against which there had not been time to desensitize her. With few exceptions each inoculation induced a marked local reaction, on one or both arms, with every now and then slight evidences of a general reaction. Retesting, September 29, demonstrated complete desensitization to some and varying degrees of reac-

12. Retestings always included the original positive or suspicious pollens, and, as well, any others thought advisable.

ion to others of the pollens with which treatment had been arried out. The remaining nine cases all showed pronounced mprovement and in some instances very marked protection hen compared with their experience during previous seasons.

COMMENT AND EXPERIMENTAL CONSIDERATIONS

Among some of the patients presenting the syndrome of bronchial asthma, and as well, in a very large majority of hay-fever patients, there is evidence that the esion is an immunologic one, closely analogous to, if not identical with, the experimentally produced phenomenon called anaphylaxis.

Dunbar's [13] work indicated the etiologic rôle of the pollens in hay-fever, but his hypothesis that the clinical condition was due to a toxic portion of the pollen and hat effective treatment could be induced by the use of specific antitoxin has not been given support by the experimental or empiric data available today.

As a working hypothesis, Coca [14] has proposed that he term hypersensitiveness be classified into the mutually exclusive terms of allergy and anaphylaxis. n this conception, the two clinical conditions are taken as examples of allergy. The desirability of classifying hay-fever and bronchial asthma as examples of allergy, and differentially excluding them from the phenomenon of anaphylaxis, is based chiefly on two features brought out by Cooke, Flood and Coca,[9] namely: (1) failure passively to sensitize guinea-pigs with the blood of hay-fever patients, and (2) the necessity of giving a number of injections to patients to obtain desensitization, whereas in the experimentally induced anaphylaxis in guinea-pigs only one appropriate dose is required for desensitization.

In drawing their conclusions that passive anaphylaxis could not be induced, cognizance is taken of the contradictory work of Koessler and others. Ramirez,[15] however, draws attention to the practical importance of this possibility in blood transfusion and reports an instance of passive anaphylaxis which was apparently induced by the blood of the donor. The recipient, hitherto free from any evidence of sensitization (personal or hereditary), developed [16] an acute attack of bronchial asthma after the transfusion, on being brought in contact with horses.

In a consideration of the first contention, I feel one should take cognizance of the two types of observation presented under the heading hay-fever. These observations show a lack of correlation between the results of the tests and the clinical manifestations. The demonstration of sensitization in the face of little, or even no, clinical manifestation indicates clearly that there may well be other phenomena in the clinical condition which have not been taken into account when experiments, designed to show passive anaphylaxis with the blood of hay-fever patients were carried out. If this unappraised factor is of such importance that the still sensitized host may protect himself from clinical manifestations, it would seem reasonable to suppose that it could influence the production of passive anaphylaxis, and that, until properly controlled, this may be regarded as a possible cause of the contradictory results obtained by different experimentalists in this regard. Before the possibility of passive anaphylaxis with the blood of hay-fever patients is excluded, not only specific sensitization to a definite pollen should be shown, but also regard should be paid to the possible effect of the clinical symptomatic manifestation of the patient at the time the blood is withdrawn.

In other clinical fields, the demonstration of passive anaphylaxis has had contradictory results reported. Austrian [17] reported passive anaphylaxis in guinea-pigs to tuberculin, with the blood of an excessively tuberculin-sensitive patient. Yet, it is not generally accepted that the tuberculin reaction is an anaphylactic phenomenon; and many others have failed to induce passive anaphylaxis in this way.

The second contention does not seem to me to be valid, inasmuch as I was apparently able to obtain a greater degree of desensitization [10] with repeated reinjections than with one desensitizing dose, under the particular circumstances of the experimentally induced anaphylaxis referred to.

The precise relationship of the clinical phenomenon to experimental anaphylaxis is not purely scientific or academic in character. At least two practical considerations would seem to be involved in a fuller exposition of this relationship: (1) At present, we have no satisfactory evidence that the injudicious use of a polyvalent solution may not sensitize a patient against other pollens than those to which he was originally sensitive. I have seen two patients whose medical histories strongly suggested that following a course of treatment with a polyvalent commercial solution, their hay-fever had not improved, but had extended its seasonal duration. The conception of Cooke, Flood and Coca [9] would not admit sensitization of a human being in such fashion to be possible. (2) The question of dosage we know is of extreme importance in experimental anaphylaxis; but as yet our methods of dosage in the clinical condition are largely empiric.

Such inquiry into specific treatment as a possible cause of sensitization naturally leads to the question of "group reactions." From the entire absence of correlation between different pollens to which different patients have been shown to be sensitive, the evidence at present available points strongly against group reaction and suggests on the contrary that sensitization for one pollen is entirely specific for that pollen only. This, I understand, is not the opinion of Dr. I. C. Walker.[18] On therapeutic grounds, however, I was left with the distinct impression that after a successful desensitization with one pollen, any subsequent desensitization against a different pollen was more easily and more rapidly accomplished. This type of therapeutic result might appear to be due to group reaction.

The unsettled state of our knowledge regarding the relationship of the clinical phenomenon we have been discussing, and anaphylaxis,[19] has, as mentioned, induced Coca to suggest that the former be called allergy, and that the term anaphylaxis be reserved for the latter. This use of the term allergy at once conveys to many of us prior conceptions based on the extensive studies which have been made of tuberculin sensitiveness. In any hypothesis advanced, these prior conceptions cannot be disregarded without leading to greater confusion than already exists. The cutaneous [20] or intracutaneous test is a method of investigation for

13. Cooke, R. A., and Vander Veer, A., Jr.: Human Sensitization, J. Immunology **1**: 201 (June) 1916. This article gives a very good summary of the earlier work of Dunbar, Noon and others.
14. Coca, A. F.: Hypersensitiveness; Anaphylaxis and Allergy, J. Immunology **2**: 363 (July) 1920.
15. Ramircz, M. A.: Horse Asthma Following. Blood Transfusion, J. A. M. A. **73**: 984 (Sept. 27) 1919.
16. This occurrence is regarded as accidental by Coca (Footnote 14).
17. Austrian: Production of Passive Hypersensitiveness to Tuberculin, J. Exper. Med. **15**: 2, 1912.
18. Personal communication by Dr. D. K. Detweiler.
19. Dale, H. H.: The Biological Significance of Anaphylaxis, Proc. Royal Soc. Med. **91**: 126, 1920. This article gives a very clear and concise exposition of anaphylaxis and its possible significance.
20. Kolmer, Berge and Broadwell: J. Immunology **1**: 5, 1916. In this number are a series of papers of interest in this connection.

many immunologic lesions, and with this test, one of the most striking features in which the reaction may vary is the incubation or latency period. Considered from this aspect alone the incubation period differentiates the results obtained in hay-fever, and in experimental anaphylaxis,[21] from, for example, those obtained with diphtheria toxin (Schick test), tuberculin, and smallpox virus (Tieche test). A comprehensive study with a view to a tentative classification would undoubtedly be of valuable assistance at the present time, would tend to simplify nomenclature with conflicting conceptions, and encourage a more comparable type of clinical observation and investigation.

Clinical Notes, Suggestions, and New Instruments

THE USE OF AN AGAR AGAR SOLUTION IN GASTRO-INTESTINAL ROENTGEN-RAY WORK *

JOHN TUCKER, M.D., CLEVELAND

Roentgen-ray clinics have almost universally adopted buttermilk as a vehicle for bismuth or barium salts in gastro-intestinal work. Either this medium is often difficult to obtain, and rather expensive in some communities, or the essential refrigeration facilities are not at hand for its preservation. Moreover, ordinary buttermilk is so lacking in solid material that usually it is little better as a suspension medium than flavored water would be. From a physical standpoint a uniform and smooth suspension of barium or bismuth salts can be more satisfactorily secured by certain other solutions. The molecules of various colloids are very large, and in proper concentration with water form a loosely combined jell, which, by virtue of its viscosity, is most satisfactory as a suspension medium for insoluble salts. From among these, laboratory agar agar is the most convenient substance for this purpose.

To this end a brief research was undertaken in the department of health of the B. F. Goodrich Company of Akron. A few experiments demonstrated that a 0.4 per cent. solution of the powdered, flake or shredded laboratory agar agar in filtered water made a colloidal vehicle of almost satisfactory consistency.

The method of preparation is simple. To a 2-liter flask containing 1,000 c.c. of filtered water (plus 10 c.c. to allow for evaporation) are added 4 gm. of the agar agar. A cotton plug is used as a stopper, and the water is boiled until all the agar agar is dissolved. This usually takes from five to ten minutes. The flask is then put into a cool or cold place and within six hours is ready for use. For stock, several flasks of the solution should be prepared at the same time.

For fluoroscopic or roentgen-ray examinations of the gastro-intestinal tract we have used from 350 to 400 c.c. of this agar agar colloidal solution, to which were added from 180 to 250 gm. of chemically pure barium sulphate. The amount of barium added to the agar agar solution varied according to the "thickness" of the patient. In preparing the mixture our routine method was always to pour the barium sulphate *on top* of the agar agar solution, and then stir well until we had secured a uniform, creamy material. Just before the mixture was given to the patient it was given a final stirring to assure a uniform suspension. This solution is flat in taste, but usually it is taken without reluctance. For sensitive patients, flavoring with a small amount of cinnamon water usually removes their objection.

The advantages in using a 0.4 per cent. solution of agar agar in water as a vehicle for insoluble barium or bismuth salts may be summarized briefly as: (1) ease in preparation; (2) stable qualities (the solution is sterile); (3) uniformity of suspension of insoluble barium or bismuth salts; (4) lack of gastric symptoms after ingestion; (5) lack of expense in preparation; (6) clarity of shadow of fluoroscopic or roentgen-ray plates.

21. Knox, Moss and Brown (Subcutaneous Reaction of Rabbits to Horse Serum, J. Exper. Med. **12**: 4, 1910) report that after an appropriate interval sensitization to horse serum, initially administered by the intravenous route, could be demonstrated by the intradermal test. The reaction under these circumstances did not appear at once but after twenty-four hours, and subsided in from three to four days.

DISLOCATION OF CARPAL SCAPHOID

D. A. EWING, M.D., SEATTLE

Dislocation of individual carpal bones is not of frequent occurrence. Some cases are probably overlooked unless a clear roentgenogram is secured, or when there is much swelling of the joint.

In some cases one of the carpal bones may be fractured and only one of the fragments displaced, while the other is held in place by the ligaments. Fracture with dislocation is more frequently observed than dislocation without fracture.

Of the reported cases of dislocation of individual carpal bones, the most common one is the semilunar; then the scaphoid, pisiform, trapezoid, trapezium and unciform, in the order named.

In the case herewith reported the injury was sustained by a man while riding in the rear seat of an automobile. The machine ran into a curb, and he was thrown forward; he attempted to brace himself by catching hold of the top supports, and in so doing his wrist was caught in the space between the support and the side of the car; the wrist was twisted, and the lever-like action caused dislocation of the scaphoid.

I first saw him three days after the accident, when there was marked swelling of the wrist with discoloration and evident thickening of the joint. There was a prominence just below the lower end of the radius anteriorly. The patient said there had been constant pain ever since the injury was sustained. A roentgenogram revealed the scaphoid dislocated anteriorly and rotated to about a right angle, the internal attachment holding the bone from becoming entirely displaced. The scaphoid rested on the anterior lip of the lower end of the radius and was in a vertical instead of the normal, more or less horizontal, position.

The reduction was easily accomplished by traction on the hand, with adduction and direct pressure over the displaced bone. There was immediate relief of the pain. The joint was kept at rest with a splint for three weeks, and massage was begun at the end of the second week.

705 Broadway.

NEW METHOD FOR RECOVERING RUBBER TUBE LOST IN PLEURAL CAVITY

FRANK HOLYOKE, M.D., HOLYOKE, MASS.

Nowhere in medical literature have I seen any easy method outlined for recovering with safety a rubber drainage tube lost in the pleural cavity. This accident produces an embarrassing and aggravating situation. In such an unfortunate case the surgeon should bear in mind that the specific gravity of rubber or of rubber drainage tubing is about 0.98, very nearly the same as that of water. Therefore if the patient is made to lie on the sound side of the body with the operation wound uppermost, and through this wound the pleural cavity is slowly flooded with a warm sterile or physiologic sodium chlorid solution, the rubber tube will float to the surface, accelerated all the more by the act of respiration, and at the open wound may be easily removed.

280 High Street.

Lowering of Resistance.—A great many people suffer from slightly impaired health due to some seemingly trivial cause, from which there is no danger to life, but this impaired health lowers the normal resistant powers of the body so that it is rendered vulnerable to more virulent diseases. The condition that lowers this resistance may not be disease, but be due to the environment, deficient nourishment, the kind of work, or other circumstances.—J. MacKenzie, *Brit. M. J.* **1**:106 (Jan. 24) 1920.

Special Article

THE WAR RISK ACT AND THE MEDICAL SERVICES CREATED UNDER IT

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Article III of the War Risk Act, in addition to making provisions for compensation, provides that the United States shall furnish to the injured person such reasonable governmental, medical, surgical and hospital services, and such supplies, including artificial limbs, trusses and similar appliances, as the director of the Bureau of War Risk Insurance may determine to be useful and reasonably necessary.

Prior to the armistice, Nov. 11, 1918, and the subsequent general demobilization of the armed forces, very few claims had been submitted to the Bureau of War Risk Insurance from soldiers or sailors claiming compensation because of injuries received or disease contracted while in the active military or naval service. To conduct the medical work incident to these few claims it was necessary to maintain only a small force in the medical division of the Bureau of War Risk Insurance.

Immediately following the signing of the armistice there was some increase in the number of claims filed, but it was not until approximately March, 1919, that the bureau began to receive compensation disability claims in large numbers. It had not been supposed that the soldiers, sailors and marines would be discharged from the service immediately, as it was understood to be the intention of the government to retain all those suffering from injuries or illnesses incurred in or aggravated by service until the maximum degree of improvement had been obtained. This procedure was not, however, carried out, and the Bureau of War Risk Insurance was suddenly confronted with the problem of caring for thousands of disabled ex-service men and women who were presenting their claims daily when no general hospitalization program had been mapped out, nor had any plan been made whereby general physical examinations might be conducted throughout the country to determine the immediate nature and extent of the disability from which these persons were suffering. No definite schedule of ratings for disabilities had as yet been adopted, nor did the bureau have the services of a medical personnel sufficient to cope with this grave situation.

June 30, 1919, there were approximately 39,000 pending claims of disabled soldiers calling for immediate medical attention. The daily output of cases in which medical action had been taken was at this time approximately 1,000 cases. June 30, 1920, the approximate daily output was 5,257 cases. At present it is approximately 7,000 cases daily.

It became necessary to organize the medical work of the bureau on a large scale, and at the same time to provide a medical organization in the field to make contact with, examine and provide medical care and treatment for claimants. The subject of the scheme of organization of the medical work in the bureau will be taken up in another article.

To facilitate the work, to make contact more readily with the ex-service man, and to effect examinations and treatment with the least possible delay, continental United States has been divided into fourteen districts. There are also district headquarters at Porto Rico, in the Philippine Islands, the Hawaiian Islands, the Virgin Islands and in the Canal Zone.

Each district is under the jurisdiction of a district supervisor, who is a commissioned officer in the United States Public Health Service. This officer is responsible for the care and treatment of all beneficiaries of the Bureau of War Risk Insurance in his district, and as far as possible claimants are hospitalized in the district in which they reside. When beds are not available in his own district or when for climatic reasons it is desirable to send him to another part of the country, or when the proper professional services can only be obtained elsewhere, the district supervisor may send the claimant to a hospital in another district. District supervisors are considered to be field representatives in common, of the Surgeon-General of the United States Public Health Service and of the director of the Bureau of War Risk Insurance, and they operate under the conjoint direction of the chief of the hospital division of the Public Health Service and the assistant director in charge of the medical division of the Bureau of War Risk Insurance.

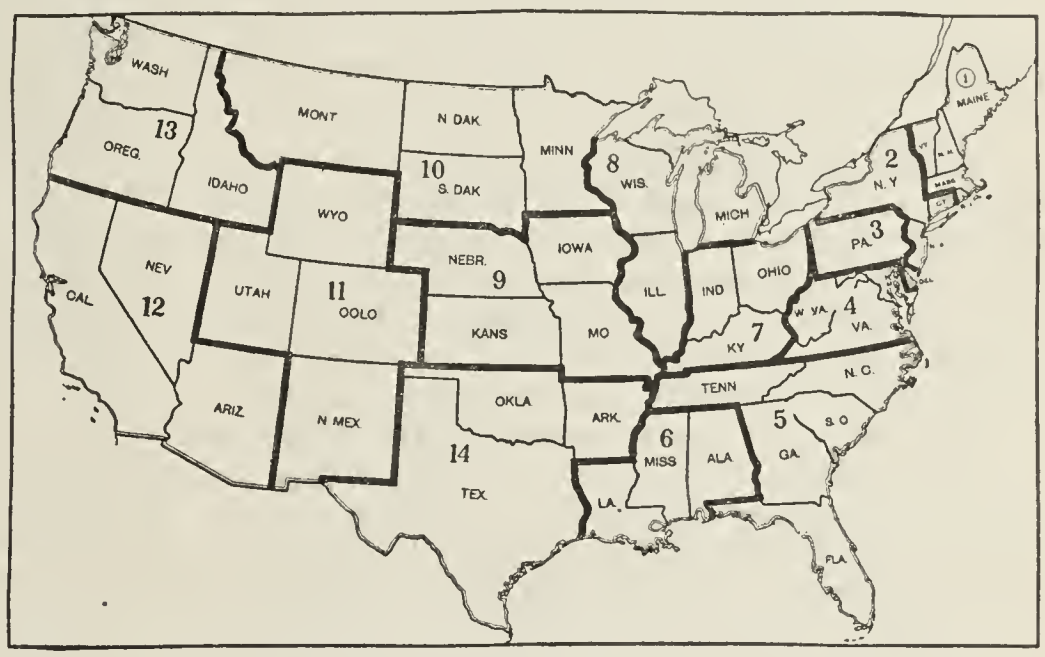


Fig. 1.—Map of United States, showing fourteen districts.

By provisions of paragraph 4 of Treasury Department Circular 140, the Bureau of War Risk Insurance is held responsible for the determination of: (*a*) the eligibility of patients of the Bureau of War Risk Insurance to compensation and treatment; (*b*) the service origin or aggravation, nature and degree of disability of their injuries or diseases; (*c*) their reference

for treatment, and (*d*) the payment of all bills incident to the discharge of the above mentioned functions.

The United States Public Health Service is held responsible for furnishing medical, surgical and hospital services and supplies, including prosthetic apparatus, to such patients of the Bureau of War Risk Insurance as may be referred to it, and the payment of all bills incident to the discharge of these functions.

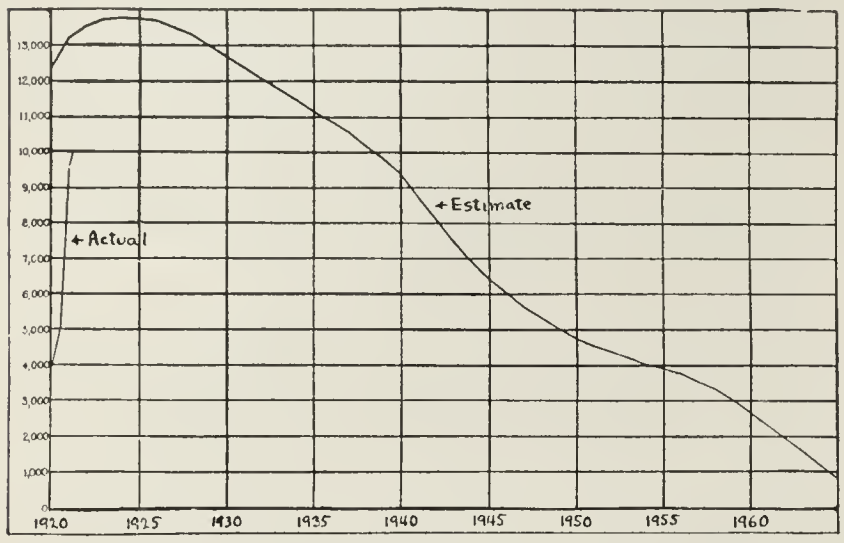


Fig. 2.—Estimate of required beds for tuberculosis cases, and actual experience to date.

All disability ratings are made and all questions of service origin or aggravation of disabilities are determined by the Bureau of War Risk Insurance. District supervisors' offices are organized to keep in touch at all times with the various claimants in the district, recording actions taken and providing for the authority and checking of expenditures incident to the work.

In addition to the district supervisors' headquarters, it became necessary to have field organizations and substations scattered throughout the various districts. These substations are directly under the jurisdiction of the district offices. It has been the policy of the Bureau of War Risk Insurance and the Public Health Service to establish in each county in every district a physician (designated examiner) who would undertake the examination, and if necessary, the outpatient treatment of the claimants of the Bureau of War Risk Insurance who may report from time to time.

The designated examiners for the Bureau of War Risk Insurance are paid on a fee basis for each examination. In larger centers and cities, physicians have been placed on duty as acting assistant surgeons in the United States Public Health Service, and they receive a part-time salary. Clerical assistance has been furnished, if necessary. In making these appointments, other conditions being equal, preference is always given to physicians who have had military or naval service during the World War.

There are in the United States approximately 2,700 designated examiners appointed by the director of the Bureau of War Risk Insurance to examine, and, if necessary, to treat claimants referred to them by this bureau. Examinations are also made by officers of the United States Public Health Service, of whom there are approximately 2,000 available in various parts of the United States.

In large centers, hospital units have been established consisting of a government hospital or a private hospital with which a contract has been made on a per diem basis, and a corps of attending specialists in surgery, medicine, neuropsychiatry, eye, ear, nose and throat diseases, etc. These centers are being used as observation and temporary treatment stations for diagnosis and for the care of emergency cases.

REPORTS OF HOSPITAL ADMISSIONS RECEIVED DURING PAST FISCAL YEAR, JULY 1, 1919—JUNE 30, 1920, AND DURING CURRENT FISCAL YEAR JULY 1, 1920-FEB. 28, 1921, CLASSIFIED BY MAJOR CLASSES OF DISEASE

	July 1, 1919 Number	June 30, 1920 Per Cent.	July 1, 1920 Number	Feb. 28, 1921 Per Cent
1. Abnormalities and congenital malformations	42	.08	33	0.06
2. Diseases of the blood	49	.10	54	.10
3. Diseases of the bones and cartilages	484	.99	530	.95
4. Diseases of the bursae	31	.06	71	.13
5. Diseases of the circulatory system	1.992	4.07	1,893	3.41
6. Diseases of the digestive system	5,707	11.65	8,836	15.89
7. Diseases of the ductless glands and spleen	322	.66	380	.68
8. Diseases of the ear	1,033	2.11	812	1.46
9. Diseases of the eye and adnexa	978	2.00	908	1.63
10. Hernia	1,547	3.16	1,429	2.57
11. Communicable diseases	2,391	4.88	1,815	3.26
11b. Tuberculosis	11,819	24.13	14,480	26.04
12. Injuries	3,826	7.81	3,103	5.58
13. Diseases of the joints	1,602	3.27	1,387	2.50
14. Diseases of the lymphatic system	113	.23	134	.24
15. Diseases of the mind	5,203	10.62	4,267	7.67
16. Miscellaneous diseases and conditions	1,926	3.93	3,165	5.69
17. Diseases of the muscles	158	.32	165	.30
18. Diseases of the nervous system	2,592	5.29	3,936	7.08
21. Parasites	285	.58	191	.34
22. Poisonings and intoxications	181	.37	108	.20
23. Diseases of the reproductive system	812	1.66	625	1.12
24. Diseases of the respiratory system	4,365	8.91	5,668	10.19
25. Diseases of the skin, hair, etc.	303	.62	395	.71
26. Tumors	192	.39	330	.59
27. Diseases of the urinary organs	1,030	2.10	896	1.61
Total	48,983	100.00	55,611	100.00

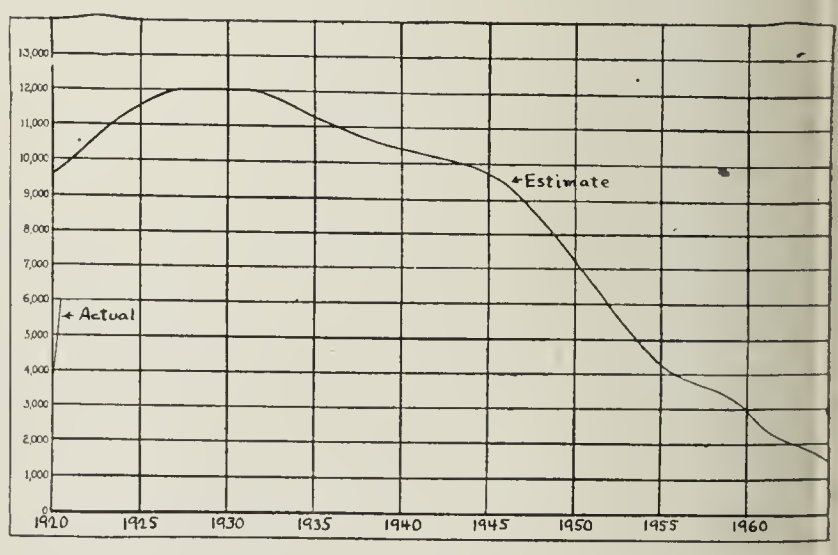


Fig. 3.—Estimate of required beds for neuropsychiatric cases, and actual experience to date.

It has been found to be much more satisfactory to send claimants for examination, observation and diagnosis to these hospital units rather than to designated examiners. The reasons for this are obvious. Hospital units are located in communities where the best diagnostic facilities are available and where the services of competent specialists can be readily obtained. By

this method complete examinations can be secured. Once the claimant has had a thorough examination, including laboratory and roentgen-ray examinations, as well as examinations by various specialists and consultants, frequent reexamination will not be necessary. This will result in considerable economy to the government and will tend to obviate the possibility of injustice being done to the claimants. In the seventh district, comprising Indiana, Ohio and Kentucky, there are at present fifty-two hospital units. In the fifth district, comprising North Carolina, South Carolina, Tennessee, Georgia and Florida, there are forty-two hospital units. In the first district, comprising Maine, New Hampshire, Vermont, Massachusetts and Rhode Island, there are seventeen hospital units. In the eighth district, comprising Illinois, Michigan and Wisconsin, there are forty-seven hospital units. The number of cases referred to hospital units is constantly increasing, and in some districts as high as 95 per cent. of the cases are cared for in this manner. It is the intention to increase the number of these hospital units throughout the various districts and eventually, to a considerable extent, dispense with the services of designated examiners in small communities. It is believed that only in this manner can the maximum of efficiency in diagnosis and treatment be obtained.

The law provides that every person applying for or in receipt of compensation for disability under the provisions of the War Risk Act shall, as frequently and at such times and places as may be reasonably required, present himself for an examination by a medical officer of the United States Public Health Service or by a duly qualified physician designated or approved by the director of the Bureau of War Risk Insurance. The claimant may have a duly qualified physician designated and paid by him present to participate in such examination.

If he refuses or fails to appear for, or in any way obstructs, any examination, his right to compensation under the law is suspended until such refusal or obstruction ceases. No compensation is payable while such refusal of obstruction continues, and no compensation is payable for the intervening period.

Every person in receipt of compensation for disability must submit to any reasonable medical or surgical treatment furnished by the bureau whenever requested by the bureau, and the consequences of unreasonable refusal to submit to any such treatment are not deemed to result from the injury compensated for.

HOSPITALIZATION

Compensation, together with medical care and treatment, is provided for all ex-service men and women who are disabled to an extent of 10 per cent. or more from disease or injury incurred in or aggravated by military or naval service in the World War. Care and treatment of these claimants are provided in the following institutions:

(*a*) Sixty-one United States Public Health Service hospitals.
(*b*) Five United States Army hospitals.
(*c*) Fourteen United States Naval hospitals.
(*d*) Nine national homes for disabled volunteer soldiers.
(*e*) St. Elizabeth's Hospital, Washington, D. C.
(*f*) One thousand five hundred and sixty-five state, county, municipal and private hospitals (under contract).

June 30, 1919, beneficiaries of this bureau numbering 3,279 were receiving hospital care. These were subdivided in the following classes: tuberculosis, 1,362; neuropsychiatric, 1,053; general medical and surgical, 864.

June 30, 1920, there were in hospitals 17,471 cases: tuberculosis, 6,018; neuropsychiatric, 5,042; general medical and surgical, 6,411.

March 24, 1921, there were in hospitals 25,032 cases: tuberculosis, 10,107; neuropsychiatric, 6,781; general medical and surgical, 8,144.

The total number of patients hospitalized up to March 24, 1921, was 116,449: tuberculosis, 30,231;

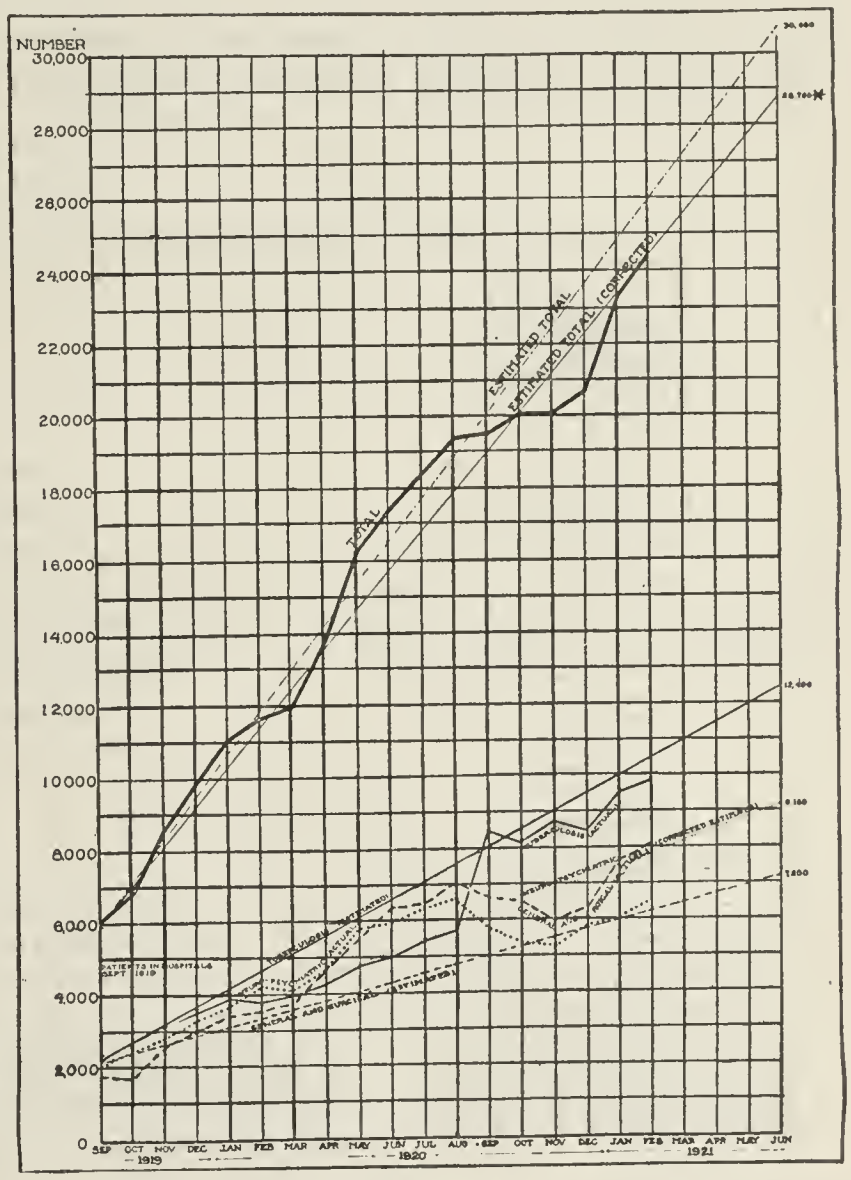


Fig. 4.—Comparison of estimated beds needed, and actual experience to date. Lines indicating actual experience are based from September, 1920, on telegraphic reports of hospital census.
* Corrected through elimination of estimated 1900 beds for feeble-minded patients.

neuropsychiatric, 18,813; general medical and surgical, 67,405.

In September, 1919, Dr. W. C. Rucker, who was chief medical adviser of the bureau, prepared an estimate of the probable number of cases which would require treatment month by month, up to and including the year 1972 for tuberculosis, and 1964 for neuropsychiatry.

It is interesting to note the approximate accuracy of his prediction to date, as shown by Figure 4.

It will also be noticed that the peak of the load was expected in 1923 for tuberculosis, and for neuropsychiatry in 1925.

The number of patients admitted to hospitals during the fiscal year (July 1, 1919, to June 30, 1920) and

during the present fiscal year to date (July 1, 1920, to Feb. 28, 1921) classified by major classes of disease is indicated in the accompanying table.

CONTACT WITH CLAIMANTS

The agencies engaged in the work of soldier reestablishment are shown in Figure 5.

Contact with claimants in the respective districts is made in various ways; by news items in the newspapers, by authorities of the American Red Cross through its home service sections, and through the help of the various ex-service men's organizations and by direct correspondence with the Bureau of War Risk Insurance.

For the purpose of obtaining a clear picture, let us follow a wounded or disabled soldier from the time he leaves the service to the time he receives compensation this claim, or when a physical examination is requested by the Bureau of War Risk Insurance to establish the claim, the claimant is immediately advised, and when necessary, transportation is furnished him by the district supervisor with authority to proceed to a certain examiner or hospital unit for a physical examination or to a hospital for observation, diagnosis and treatment.

In addition to transportation, the claimant is furnished with the cost of bed and board during the time that he is obliged to travel. On the completion of the examination, return transportation to his home is furnished by the examining physician. Under the law he is also entitled to reimbursement for loss of wages incurred during the time consumed in reporting for examination and returning to his home, and also for time during which he is under observation for the purpose of making a diagnosis.

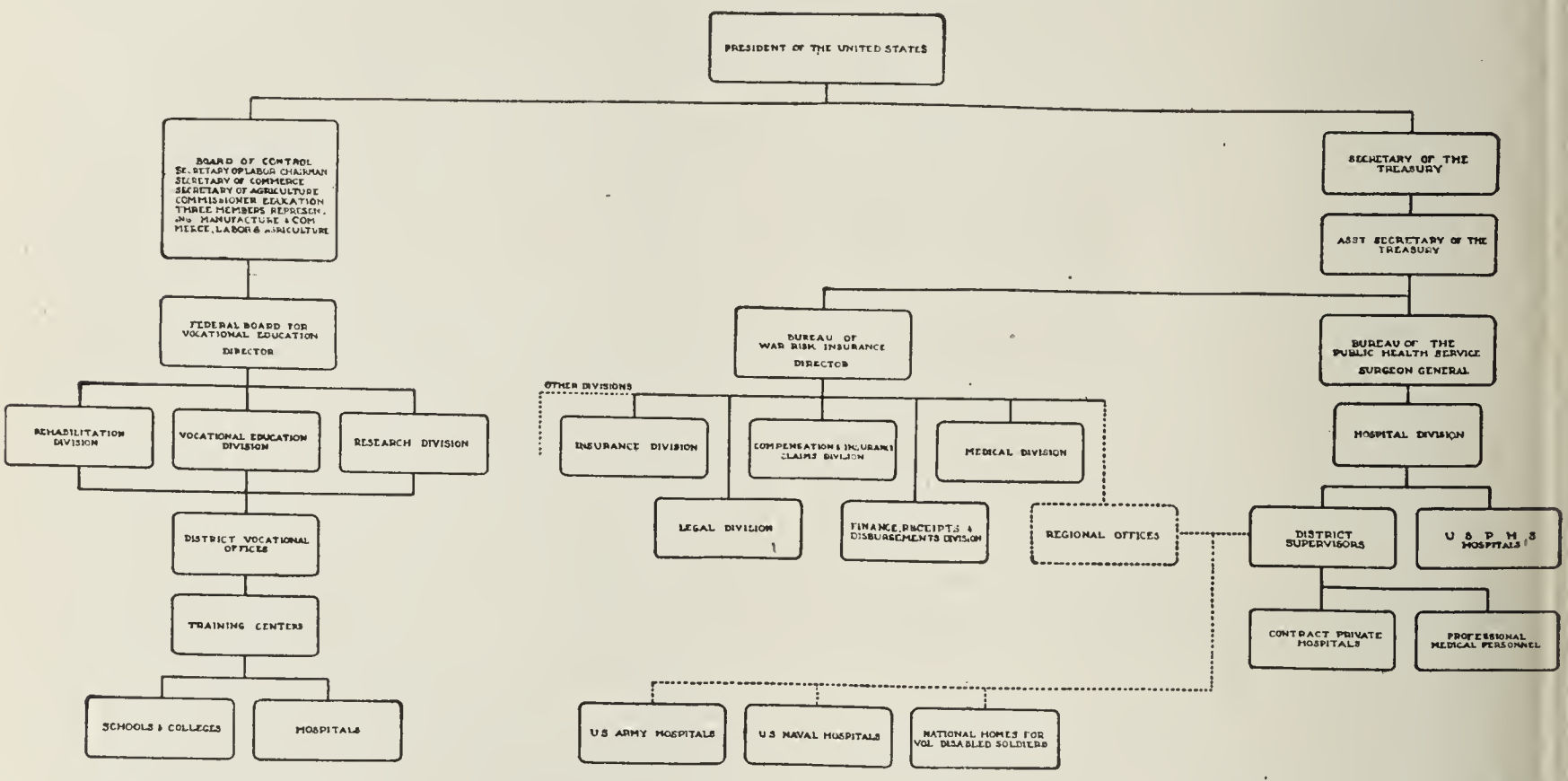


Fig. 5.—Agencies engaged in work of soldier reestablishment.

or treatment from the government. We will suppose that a man while in the service suffered an injury or contracted a disease which would render the average man incapable of continuously following a gainful occupation, and for which he is in need of treatment. Through one of the agencies mentioned above this man has learned of his rights under the law, and of the benefits which can accrue to him on establishment of his claim. On receiving this information he has applied for instructions as to the method of procedure, and is advised that he must first make formal claim for compensation. He makes this claim by filling out Form 526 (application for compensation) obtained from any one of the district offices or from the bureau at Washington, which he submits, together with a copy of his certificate of discharge from the service, to the district supervisor or to the Bureau of War Risk Insurance direct. When the district supervisor's office receives

A report of this examination is made either by a designated examiner in the district or by any officer of the United States Public Health Service or by a hospital unit. In the meantime the records of the Adjutant General's office or the office of the Surgeon-General, United States Navy, as the case may be, are consulted by this bureau to determine whether or not the man's present disability is connected with his service in the Army or Navy. On the receipt of the foregoing information all the evidence in the file in this case, including the report of the physical examination, is carefully examined by a member or members of the medical staff of the Bureau of War Risk Insurance, and the percentage of disability is determined. Pending a decision as to the validity of the claim, and the establishment of the claimant's rights to compensation, he is provided with the necessary medical and surgical treatment.

HOSPITAL SERVICE IN THE UNITED STATES

ANNUAL PRESENTATION OF HOSPITAL DATA BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

On pages 1087 to 1103 appears a list of 4,013 hospitals in the United States which provide facilities for the general care of the sick in the communities which they serve. The list includes private, general and special hospitals caring for patients with acute and subacute diseases, but does not include state institutions which are devoted largely to custodial care of tuberculous, incurable and nervous or insane patients; nor homes for deaf, blind, crippled and aged persons; nor prison or school hospitals (unless such hospitals are clearly distinguished from the prisons or schools); nor the hospitals controlled by the United States Army, Navy, Public Health Service or Department of the Interior. Private tuberculosis hospitals are included in the list since they include mostly acute or mild cases, while advanced or severe cases are more largely found in the state sanatoriums.

For each hospital are given the name, the total bed capacity and, for a large majority of the institutions, the average daily number of patients during the last fiscal year. Some of the hospitals were but recently established and had no average to report. General hospitals approved for the training of interns are marked by an asterisk (*); special hospitals, so approved, by a dagger (†). The list is given by states so that the figures for any state may be studied and comparison made with the figures for other states.

The city or town with its population and the county in which each hospital is located are also given. This makes it possible to note how many of the hospitals are located in small towns or villages and, therefore, serve rural communities, as compared with those located in the larger cities. The population of a town does not necessarily indicate the population of the district served by the hospital. Every community should be made a separate study before an accurate idea of its hospital needs can be obtained.

With the counties given, it is readily shown (Table 2) how many and what counties in each state are entirely without hospital service. Following the list of

TABLE 1.—TOTAL HOSPITALS BY STATES

State	Over 25 Beds			Under 25 Beds			Totals					Population	
	Number of Hospitals	Total Beds	Average Beds Used Daily	Number of Hospitals	Total Beds	Average Beds Used Daily	Total Hospitals	Total Number Beds	Av. No. Used Daily		Percentage of Beds Used Daily	Of State	Ratio 1 Bed to
									Reported	Estimated Total			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Alabama	37	2,864	1,374	12	197	114	49	3,061	1,387	1,488	49	2,348,174	767
Arizona	30	1,468	909	15	234	101	45	1,702	694	1,010	59	333,903	196
Arkansas	21	1,875	869	11	169	106	32	2,044	492	975	48	1,752,204	857
California	154	15,236	11,731	56	921	570	210	16,157	10,122	12,301	76	3,426,861	210
Colorado	50	4,463	3,251	20	289	152	70	4,752	2,377	3,403	72	939,629	198
Connecticut	39	4,278	3,122	9	147	106	48	4,425	2,770	3,228	73	1,380,631	312
Delaware	7	502	331	0	0	0	7	502	222	331	66	223,003	444
Dist. of Columbia	15	2,592	1,892	4	65	38	19	2,657	1,919	1,930	73	437,571	165
Florida	29	1,538	904	8	124	58	37	1,662	583	962	58	968,470	583
Georgia	42	2,972	1,961	15	256	128	57	3,228	1,682	2,089	65	2,895,832	897
Idaho	17	824	469	11	180	76	28	1,004	457	545	54	431,866	430
Illinois	188	21,993	14,735	56	990	603	244	22,983	12,034	15,338	66	6,485,280	282
Indiana	74	5,336	3,628	33	523	271	107	5,859	3,143	3,899	66	2,930,390	500
Iowa	78	5,719	3,717	44	669	327	122	6,388	2,821	4,044	65	2,404,021	377
Kansas	57	3,306	2,082	32	496	267	89	3,802	1,934	2,349	62	1,769,257	465
Kentucky	45	2,405	2,213	18	297	163	63	3,702	1,729	2,376	64	2,416,630	653
Louisiana	26	3,340	2,505	12	210	117	38	3,550	1,985	2,622	74	1,798,509	507
Maine	29	1,755	1,178	14	217	110	43	1,972	1,087	1,288	60	768,014	389
Maryland	44	6,170	4,380	5	104	74	49	6,274	3,900	4,454	71	1,449,661	231
Massachusetts	146	14,440	9,077	46	785	486	192	15,225	8,331	9,563	63	3,852,356	254
Michigan	90	8,453	5,917	49	777	473	139	9,230	5,095	6,390	69	3,668,412	398
Minnesota	104	9,118	6,200	63	956	334	167	10,074	5,262	6,534	65	2,387,125	236
Mississippi	26	1,430	943	16	272	174	42	1,702	770	1,117	66	1,790,618	1,054
Missouri	78	7,674	4,911	15	229	132	93	7,903	4,909	5,043	64	3,404,055	431
Montana	32	2,280	1,390	14	210	98	46	2,490	731	1,488	59	548,889	220
Nebraska	44	3,115	2,087	25	392	211	69	3,507	1,794	2,298	66	1,296,372	369
Nevada	8	377	184	11	176	86	19	553	203	270	48	77,407	139
New Hampshire	23	1,223	770	8	131	69	31	1,354	731	839	60	443,083	328
New Jersey	82	9,666	5,702	11	186	128	98	9,852	4,272	5,830	59	3,155,900	320
New Mexico	24	1,309	890	12	210	102	36	1,519	664	992	66	360,350	237
New York	311	55,171	37,516	60	975	731	371	56,146	30,919	38,247	68	10,384,829	185
North Carolina	60	3,067	1,962	18	295	159	78	3,362	1,662	2,121	63	2,559,123	761
North Dakota	25	1,434	946	15	207	97	40	1,641	737	1,043	64	645,680	393
Ohio	130	14,117	9,458	48	721	367	178	14,838	7,651	9,825	66	5,759,394	388
Oklahoma	34	1,730	1,020	21	339	186	55	2,069	898	1,206	58	2,028,283	980
Oregon	27	2,194	1,513	19	310	155	46	2,504	1,267	1,668	67	783,389	313
Pennsylvania	228	30,134	20,792	44	694	444	272	30,828	18,863	21,236	69	8,720,017	286
Rhode Island	15	2,058	1,585	4	79	26	19	2,137	1,479	1,611	75	604,397	288
South Carolina	30	1,761	1,074	9	151	125	39	1,912	721	1,199	63	1,683,724	881
South Dakota	25	1,845	1,125	9	139	80	34	1,984	1,079	1,205	61	636,547	321
Tennessee	38	3,158	2,147	18	288	115	56	3,446	1,535	2,262	66	2,337,885	679
Texas	91	6,776	4,065	49	781	335	140	7,557	2,962	4,400	58	4,663,228	617
Utah	9	960	624	6	85	35	15	1,045	609	659	63	449,396	430
Vermont	12	619	427	10	130	89	22	749	449	516	69	352,428	470
Virginia	59	4,561	3,101	13	207	103	72	4,768	2,817	3,204	67	2,309,187	484
Washington	57	5,158	3,455	28	425	229	85	5,583	2,615	3,684	66	1,356,621	243
West Virginia	47	3,054	1,571	9	131	31	56	3,185	1,210	1,602	50	1,463,701	460
Wisconsin	81	6,824	4,572	48	746	402	129	7,570	4,124	4,974	66	2,632,067	348
Wyoming	8	483	260	14	219	105	22	702	281	365	72	194,402	208
Totals	2,926	293,825	196,535	1,087	17,334	9,489	4,013	311,159	166,060	206,024	67	105,708,771	340
1	2	3	4	5	6	7	8	9	10	11	12	13	14

hospitals for each state are given the number and names of the counties in that state which have no hospitals.

Hospitals having less than twenty-five beds are not named in the lists since they are scarcely large enough to provide a minimum of equipment necessary for the character of treatment usually provided by hospitals. Since these are important adjuncts in the hospital field, however, the number and total bed capacity are given at the end of the list for each state and included in the total figures for each state.

TOTAL HOSPITALS IN THE UNITED STATES

Table 1 gives the totals for all states, including the hospitals, the bed capacity, the average number of patients daily (partly estimated), the percentage of beds used daily, and the ratio of population to each hospital bed. Altogether there are 2,926 hospitals having more than twenty-five beds each, with a total of 293,825 beds, of which 196,535 on the average are occupied each day. There are 1,087 hospitals having less than twenty-five beds each, with a total capacity of 17,334 beds, of which 9,489 on the average are occupied each day. This makes a grand total of 4,013 hospitals, the total capacity of which is 311,159 beds, and of these it is estimated that 206,024 are occupied each day on the average. Of the 4,013 hospitals, 3,219 reported a daily average of 166,060 beds occupied, and from the percentage of beds occupied in each state the total daily average of beds in the other hospitals of the state was calculated. On this basis, therefore, in the 4,013 hospitals, 206,024, or 67 per cent., of the beds on the average were occupied. The largest proportion of beds occupied was 76 per cent. in California, followed by 73 per cent. each in Connecticut and in the District of Columbia; 72 per cent. in Colorado, and 71 per cent. in Maryland. The smallest proportion of beds occupied on the average was 48 per cent. each in Arkansas and Nevada, and 49 per cent. in Alabama.

TABLE 2.—COUNTIES WITH AND WITHOUT HOSPITALS

State	Total Counties	Counties Having Hospitals			Counties Having No Hospitals	Percentage Having No Hospitals
		Over 25 Beds	Under 25 Beds	Total		
Alabama	67	14	3	17	50	74.6
Arizona	14	10	2	12	2	14.3
Arkansas	75	10	8	18	57	76.0
California	58	41	5	46	12	20.7
Colorado	63	20	9	29	34	53.9
Connecticut	8	8	0	8	0	0.0
Delaware	3	1	0	1	2	66.7
Dist. of Columbia	1	1	0	1	0	0.0
Florida	54	13	0	13	41	76.0
Georgia	152	21	7	28	124	81.6
Idaho	41	11	4	15	26	63.4
Illinois	102	51	10	61	41	41.2
Indiana	92	37	16	53	39	42.4
Iowa	99	37	19	56	43	43.4
Kansas	105	33	12	45	60	57.1
Kentucky	120	21	11	32	88	73.3
Louisiana	64	10	6	16	48	75.0
Maine	16	12	2	14	2	12.5
Maryland	24	12	1	13	11	45.8
Massachusetts	14	12	1	13	1	7.2
Michigan	83	30	18	48	35	42.2
Minnesota	86	40	23	63	23	26.7
Mississippi	82	17	5	22	60	73.2
Missouri	115	20	6	26	89	77.4
Montana	44	21	7	28	16	36.4
Nebraska	93	19	16	35	58	62.4
Nevada	16	7	6	13	3	18.7
New Hampshire	10	10	0	10	0	0.0
New Jersey	21	17	2	19	2	9.5
New Mexico	28	11	4	15	13	46.4
New York	61	48	5	53	8	13.1
North Carolina	100	31	9	40	60	60.0
North Dakota	53	13	11	24	29	54.7
Ohio	88	46	9	55	33	37.5
Oklahoma	77	18	9	27	50	65.0
Oregon	36	17	6	23	13	36.1
Pennsylvania	67	52	2	54	13	20.9
Rhode Island	5	3	0	3	2	40.0
South Carolina	45	17	1	18	27	60.0
South Dakota	69	15	6	21	48	69.6
Tennessee	96	14	8	22	74	77.1
Texas	251	43	21	64	187	50.6
Utah	29	6	3	9	20	69.0
Vermont	14	7	3	10	4	28.6
Virginia	100	23	6	29	71	71.0
Washington	39	20	4	24	15	38.4
West Virginia	55	23	4	27	28	50.9
Wisconsin	71	33	12	45	26	36.6
Wyoming	21	6	8	14	7	33.3
Totals	3,027	1,002	330	1,332	1,695	56.0

PROPORTION OF BEDS TO POPULATION

A study of the proportion of beds to population in the various states is interesting. For the entire country the proportion is one bed to every 340 people. The state having the largest supply of hospital beds is Nevada, where there is one bed for every 139 people, followed by the District of Columbia, one bed for every 165 people; New York, one to 185; Arizona, one to 196, and Colorado, with one to every 198. The state having the lowest supply of hospital beds is Mississippi, where there is only one bed for every 1,054 people, followed by Oklahoma with one bed for every 980 people, Georgia, one to every 897, and South Carolina, with one to every 881 people. Although New York has 371 hospitals, it has a smaller bed supply in proportion to population than Nevada, which has only nineteen.

SUPPLY OF HOSPITALS BY COUNTIES

Table 2 gives for each state, respectively by columns, (*a*) the total number of counties in the state; (*b*) the number of counties having hospitals with twenty-five or more beds; (*c*) the number of counties having only hospitals of *less* than twenty-five beds; (*d*) the total number of counties having hospitals; (*e*) the number of counties which have no hospitals, and (*f*) the percentage of counties having no hospitals.

As previously noted, the names and the total number of counties without hospitals appear at the end of each state list of hospital facilities. Of the 3,027 counties in the forty-eight states, 1,695, or 56 per cent., have no hospitals. If it were not for hospitals of less than twenty-five beds there would be 330 more counties without hospitals.

FACTORS INDICATING NEED OF HOSPITALS

There are four factors in these statistics which must be taken together to show accurately whether or not a state (or community) has an adequate supply of hospitals. These factors are (*a*) the number of square miles to each hospital, (*b*) the ratio of beds to population, (*c*) the percentage of beds constantly occupied and (*d*) the percentage of counties in the states which are entirely without hospitals. In Table 3, the figures on these points are given for all states and for districts. The ratio of hospitals to square miles ranges from 1 hospital to every 42 square miles in Massachusetts to 1 to every 5,780 square miles in Nevada. The ratio of beds to population ranges from one bed to every 139 people in Nevada to one to every 1,054 people in Mississippi; the average percentage of beds in constant use varies from 48 per cent. in Arkansas to 76 per cent. in California. As to counties which have no hospitals, Connecticut and New Hampshire are the only states in which every county has one or more hospitals, while at the other extreme comes Georgia, where 81.6 per cent. of its counties are without hospitals. It is noteworthy, however, that Georgia has 152 counties with an average of 386 square miles each as compared, for example, with 86 counties in Minnesota with an average of 940 square miles each.

The district most lacking in hospital supply is that presented by the South-Central group of states, which is only one bed to every 705 people, and 73.8 per cent. of the counties in the district are entirely without hospitals. It is apparent, therefore, that although only 61 per cent. of the beds in the existing hospitals are occupied on the average, this is due either to the preponderant number for the white race or to their being otherwise inaccessible to large proportions of the population. The fact that so large a proportion of the counties is without hospitals indicates that they are not well distributed. Mississippi stands out prominently as the state most lacking in hospital facilities, there being only one bed to every 1,054 people; and 73.8 per cent. of its counties are without hospitals. The district which appears to have the most adequate hospital supply is that represented by the Western States, where there is one bed for every 211 people. That supply is, however, more apparent than real, since, on the average, 69 per cent. of the beds are occupied and there are 41.4 per cent. of the counties which do not have hospitals. The many sparsely settled districts in these mountain states makes essential a larger number of hospitals than would otherwise be needed. The district which in reality has the most adequate hospital supply is that represented by the North Atlantic group, which has one bed for every 242 people; only 67 per cent. of all beds are occupied on the average, and only 15.3 per cent. of the counties are without hospitals. The states having a well distributed hospital service are Connecticut and New Hampshire, in which every county is supplied with hospitals. In New Hampshire only 60 per cent. of the hospital beds on the average are occupied. Connecticut has more hospital beds in proportion to population than New Hampshire, but a larger percentage (73) of beds are occupied. The average area supplied by each hospital in the North Atlantic group is only 148 square miles—another evidence of a better distribution.

TABLE 3.—HOSPITALS SHOWN BY STATES IN DISTRICT GROUPS

State	Area, Square Miles	Square Miles per Hospital	Ratio of Beds to Population	Percentage of Beds Occupied	Percentage of Counties With No Hospitals
North Atlantic States					
Maine	29,895	695	389	60	12.5
New Hampshire	9,031	291	328	60	0.0
Vermont	9,124	415	470	69	28.6
Massachusetts	8,039	42	254	63	7.2
Rhode Island	1,067	56	288	75	40.0
Connecticut	4,820	100	312	73	0.0
New York	47,654	128	185	68	13.1
New Jersey	7,514	77	320	59	9.5
Pennsylvania	44,832	165	286	69	20.9
Totals	161,976	148	242	67	15.3
South Atlantic States					
Delaware	1,965	281	444	66	66.7
Maryland	9,941	203	231	71	45.8
Dist. of Col.	60	3	165	73	0.0
Virginia	40,262	559	484	67	71.0
West Virginia	24,022	429	400	50	50.9
North Carolina	48,740	625	761	63	60.0
South Carolina	30,495	782	881	63	60.0
Georgia	58,725	1,032	897	65	81.6
Florida	54,861	1,483	583	58	76.0
Totals	269,071	650	508	65	68.4
North Central States					
Ohio	40,740	229	388	66	37.5
Indiana	36,045	337	500	66	42.4
Illinois	56,043	228	282	66	41.2
Michigan	57,480	414	398	69	42.2
Wisconsin	55,256	428	348	66	36.6
Minnesota	80,858	484	236	65	26.7
Iowa	55,586	456	377	65	43.4
Missouri	68,727	739	431	64	77.4
North Dakota	70,183	1,755	393	64	54.7
South Dakota	76,868	2,261	321	61	69.6
Nebraska	76,808	1,113	369	66	62.4
Kansas	81,774	919	465	62	57.1
Totals	756,368	536	355	66	62.0
South Central States					
Kentucky	40,181	638	653	64	73.3
Tennessee	41,687	744	679	66	77.1
Alabama	51,279	1,047	767	49	74.6
Mississippi	46,362	1,104	1,054	66	73.2
Louisiana	45,409	1,195	507	74	75.0
Texas	262,398	1,874	617	58	50.6
Arkansas	52,525	2,529	857	48	76.0
Oklahoma	69,414	1,262	980	58	65.0
Totals	609,255	1,248	705	61	73.8
Western States					
Montana	146,201	3,178	220	59	36.4
Wyoming	97,594	4,436	278	72	33.3
Colorado	103,658	1,481	198	72	53.9
New Mexico	122,503	3,403	237	66	46.4
Arizona	113,810	2,529	196	59	14.3
Utah	82,184	5,479	430	63	69.0
Nevada	109,821	5,780	139	48	18.7
Idaho	83,354	2,977	430	54	63.4
Washington	66,836	786	243	66	38.4
Oregon	95,607	2,078	313	67	36.1
California	155,652	741	210	76	20.7
Totals	1,177,220	1,893	211	69	41.4
All states	2,973,890	741	340	67	56.0

TABLE 4.—HOSPITAL FACILITIES OF FIFTY LARGER AMERICAN CITIES

City and State	Population	Number of Hospitals	Total Number Beds	Ratio of Beds to Population	Average Number of Beds Used Daily	Percentage of Beds Used Daily
New York, N. Y.	5,621,151	97	24,154	232	17,873	74
Chicago, Ill.	2,701,705	78	12,598	214	9,196	73
Philadelphia, Pa.	1,823,779	69	11,659	156	8,161	70
Detroit, Mich.	993,739	16	3,131	317	2,411	77
Cleveland, Ohio	796,836	23	2,896	275	1,998	69
St. Louis, Mo.	773,000	27	4,510	171	3,021	67
Boston, Mass.	747,923	45	5,889	127	4,417	75
Baltimore, Md.	584,605	29	5,198	112	3,691	71
Pittsburgh, Pa.	588,193	20	4,221	139	3,166	75
Los Angeles, Calif.	575,480	22	2,716	211	2,118	78
San Francisco, Calif.	506,676	22	3,878	131	2,909	75
Buffalo, N. Y.	505,875	16	2,452	206	1,937	79
Milwaukee, Wis.	457,147	21	1,742	262	1,219	70
Washington, D. C.	437,414	18	2,409	182	1,710	70
Newark, N. J.	414,216	15	1,665	249	1,149	69
Cincinnati, Ohio	401,158	17	3,194	126	2,108	66
New Orleans, La.	387,408	12	971	399	709	73
Minneapolis, Minn.	380,582	19	2,843	191	2,019	71
Kansas City, Mo.	324,410	17	2,042	158	1,246	61
Seattle, Wash.	315,652	13	1,363	232	1,104	81
Indianapolis, Ind.	314,194	14	1,369	228	917	67
Jersey City, N. J.	297,864	6	1,037	287	519	50
Rochester, N. Y.	295,750	10	1,500	197	1,080	72
Portland, Ore.	258,288	11	1,133	228	940	84
Denver, Colo.	256,369	10	1,740	147	1,218	70
Toledo, Ohio	243,164	10	994	245	547	55
Providence, R. I.	237,595	11	1,192	199	846	71
Columbus, Ohio	237,031	11	1,401	169	981	70
Louisville, Ky.	234,891	12	1,219	193	890	73
St. Paul, Minn.	243,680	15	2,188	111	1,597	73
Oakland, Calif.	216,361	10	539	401	431	80
Akron, Ohio	208,435	4	410	508	275	67
Atlanta, Ga.	200,616	15	1,117	179	905	81
Omaha, Neb.	191,601	19	1,795	107	1,257	70
Worcester, Mass.	179,741	7	861	208	560	65
Birmingham, Ala.	178,270	13	1,216	147	729	60
Richmond, Va.	171,667	17	1,523	113	1,112	73
Syracuse, N. Y.	171,647	11	1,288	133	927	72
New Haven, Conn.	162,390	5	740	219	570	77
Memphis, Tenn.	162,351	11	1,426	114	1,140	80
San Antonio, Texas	161,379	9	861	187	603	70
Dallas, Texas	158,976	5	880	181	678	77
Dayton, Ohio	152,559	5	806	189	621	77
Bridgeport, Conn.	149,152	6	725	206	479	66
Houston, Texas	138,276	8	604	229	205	34
Hartford, Conn.	138,036	9	1,253	110	1,014	81
Scranton, Pa.	137,700	11	863	159	595	69
Grand Rapids, Mich.	137,634	7	577	239	415	72
Paterson, N. J.	135,866	4	679	200	414	61
Youngstown, Ohio	132,358	2	425	311	359	84
Totals	25,230,890	884	135,892	185	94,986	69

HOSPITAL FACILITIES IN LARGER CITIES

Table 4 shows the hospital supply for the fifty larger cities in the United States, including the total number of hospitals; the total bed capacity; the ratio of beds to population, and the average number and the percentage of beds in use daily. Omaha appears to be the most generously supplied, having one hospital bed for every 107 people; but even of these a high percentage (70 per cent.) are continually occupied. Other cities in order of their supply, and the ratio to population, are: Hartford, Conn., 110, 81 per cent. occupied; St. Paul, 111, 73 per cent. occupied; Baltimore, 112, 71 per cent. occupied; Richmond, 113, 73 per cent. occupied; Memphis, 114, 80 per cent. occupied, and Boston, 127, 75 per cent. occupied.

The city most lacking in hospital service is Akron, Ohio, with only one bed for every 508 people, although only 67 per cent. of the beds are continuously occupied. It would be interesting to know the reason for this small percentage. Next in order of cities having a low supply of hospitals and the ratio of each to population are Oakland, Calif., 401, 80 per cent. occupied; New Orleans, 399, 73 per cent. occupied; Detroit, 317, 77 per cent. occupied, and, Youngstown, Ohio, 311, 84 per cent. occupied. There are fifteen of these cities having less than 1,000 hospital beds available for the sick of their communities.

The cities having the highest percentages of beds in constant use are Portland and Youngstown, each 84; Hartford and Seattle, each 81, and Oakland and Memphis, each 80 per cent. Thirty-four of these cities have 70 per cent. or more of their available hospital beds in constant use. Houston has only 34, the lowest percentage in constant use, the next being Jersey City with 50 per cent., and Toledo with 55 per cent.

The hospital supply in these fifty cities is one bed to every 185 people, and of this supply, on the average, 69 per cent. of the beds were in continuous use, leaving a reserve of 31 per cent. of the beds unoccupied.

TABLE 5.—HOSPITALS OTHER THAN THOSE GIVING GENERAL CARE

State	Tuberculosis		Nervous and Mental		Government		Totals	
	Total Hospitals	Total Beds	Total Hospitals	Total Beds	Total Hospitals	Total Beds	Hospitals	Beds
Alabama	1	165	2	2,550	1	56	4	2,771
Arizona	.....	.....	2	636	7	1,227	9	1,863
Arkansas	1	180	1	2,000	1	200	3	2,380
California	.....	.....	20	12,378	7	3,268	27	15,646
Colorado	.....	.....	5	2,104	2	2,470	7	4,574
Connecticut	4	664	11	5,400	1	500	16	6,564
Delaware	.....	.....	1	450	.....	.....	1	450
Dist. of Col.	.....	.....	1	20	6	6,531	7	6,551
Florida	.....	.....	1	1,600	4	924	5	2,524
Georgia	2	150	4	4,194	3	280	9	4,624
Idaho	1	200	2	640	2	160	5	1,000
Illinois	.....	.....	21	19 845	7	5,500	28	25,345
Indiana	1	150	10	7,795	3	1,320	14	9,265
Iowa	1	242	16	6.124	1	200	18	6,566
Kansas	1	104	12	4.657	4	777	17	5,538
Kentucky	.....	.....	10	5 382	4	110	14	5.492
Louisiana	.....	.....	5	3 108	4	921	9	4.029
Maine	3	289	6	2,132	4	456	13	2,877
Maryland	1	440	20	5 083	4	1,203	25	6,726
Massachusetts	4	1,112	35	18.755	9	3,302	48	23,169
Michigan	1	190	14	10 879	1	75	16	11,144
Minnesota	1	263	10	8 516	3	243	14	9,022
Mississippi	1	40	3	2 375	.....	.....	4	2 415
Missouri	3	347	19	9 340	3	931	25	10.618
Montana	1	88	1	1 200	.....	.....	2	1,288
Nebraska	1	100	5	2.285	.....	.....	6	2,385
Nevada	.....	.....	1	260	.....	.....	1	260
New Hampshire	1	65	4	1 695	1	979	6	2,739
New Jersey	1	280	21	11.147	1	24	23	11,451
New Mexico	.....	.....	1	425	6	11.507	7	11.932
New York	5	824	54	48 118	12	4,085	71	53,027
North Carolina	1	200	10	3,782	2	1,450	13	5 432
North Dakota	1	120	2	1 620	3	62	6	1,802
Ohio	1	190	27	16 886	6	1,985	34	19,061
Oklahoma	.....	.....	4	2,470	4	140	8	2 880
Oregon	1	105	6	3,260	2	87	9	3,452
Pennsylvania	3	1,998	42	25,047	4	1,680	49	28,725
Rhode Island	1	370	3	1,960	3	1,296	7	3,626
South Carolina	1	50	2	2,290	5	1,864	8	4,204
South Dakota	1	42	3	1,362	1	450	5	1,854
Tennessee	1	136	9	2,949	4	1,419	14	4,504
Texas	3	426	16	7,474	4	2,208	23	10,108
Utah	.....	.....	2	610	2	249	4	859
Vermont	.....	.....	4	1,353	1	50	5	1,403
Virginia	1	265	13	5,408	3	1,842	17	7.515
Washington	.....	.....	6	4,420	6	517	12	4,937
West Virginia	1	175	3	2,450	.....	.....	4	2,625
Wisconsin	1	180	49	10,313	3	360	53	10,853
Wyoming	.....	.....	2	365	2	240	4	605
Totals	52	10,150	521	295,382	156	63,148	729	368,680
Addenda*	343	31,394						
Totals	395	41,544	521	295,382	156	63,148	1,072	400,074

* Three hundred and forty-three tuberculosis hospitals handling acute and subacute cases, which were included with general hospitals, Table 1.

SUPPLEMENTARY HOSPITALS

Table 5 includes supplementary data on 1,072 hospitals which limit themselves either to a restricted class of patients or to specialized branches of medical practice. These hospitals are listed under three heads: Tuberculosis, Nervous and Mental, and Government.

1. Of a total of 395 tuberculosis hospitals (furnishing 41,544 beds), 343 were classed among hospitals giving general care because they accept mainly acute or mild cases. The remaining fifty-two hospitals (furnishing 10,150 beds) were not included in Table 1. In most cases controlled and financed by state or county, these fifty-two hospitals receive patients chiefly in chronic and advanced stages of the disease. This does not show all the hospital care provided for tuberculous patients, however, since a certain number of such cases are accepted also by some of the general hospitals.

2. Nervous and mental hospitals reach a total for the United States of 521 hospitals, with a bed capacity of 295,382. The line between acute and chronic stages of mental disease is not as sharply defined as in the case of tuberculosis. Here again, patients with mild or acute nervous disorders are cared for in many of the general hospitals. Insane patients, however, are more commonly sent to the state institutions.

3. Government hospitals as listed show 156 hospitals with 63,148 beds. Included under the heading are United States Public Health Service hospitals, Indian hospitals and military hospitals.

Public Health Service hospitals limit their services to: beneficiaries of the War Risk Insurance Act (ex-soldiers, sailors, marines, army and navy nurse corps); beneficiaries of the federal Civil Service Compensation Act (postal employees); government lighthouse service; coast guard service; seamen of the United States merchant marine, and merchant mariners.

Indian hospitals, as their name implies, serve the Indian communities on reservations. They are under the jurisdiction of the Department of the Interior.

Military hospitals include the army and navy hospitals. Patients are limited to officers and enlisted personnel of these two arms of the military service.

HOMES, SCHOOLS AND MISCELLANEOUS INSTITUTIONS

Data on 1,363 homes show a bed capacity of 134,984, and on 187 schools a bed capacity of 25,740. The figures on bed capacities are not to be considered as composed entirely of beds given over to patients under treatment, since hospital functions in many such institutions are not sharply differentiated from hotel functions.

Not included under preceding classifications are: forty-seven state penitentiary hospitals with 2,197 beds.

n certain states penitentiary hospitals are the only ass of hospital beds available to tuberculous negroes the present time.[1]

TABLE 6.—HOSPITALS OF ALL TYPES

Institutions	Number	Capacity
neral service hospitals	4,013	311,159
overnment hospitals	156	63,148
rvous and mental sanatoriums	521	295,382
ate tuberculosis sanatoriums*	52	10,150
nitentiary hospitals	47	2,197
omes for aged, blind, incurable, etc.	1,363	134,984
Totals	6,152	817,020

* Including 343 general service hospitals which handle acute and bacute cases there are, altogether 395 tuberculosis hospitals with a tal capacity of 41,544 beds.

TOTAL HOSPITALS, SANATORIUMS AND HOMES

Altogether, therefore, in the United States there are 152 hospitals, sanatoriums and homes, having a total 817,020 beds, with the population of the United tates according to the 1920 census as 105,683,108, there is, counting all institutions, one bed for every 129 people.

1. Agnes D. Randolph in the Texas State Journal of Medicine, nuary, 1921, quoting Mr. Luhn of the Texas State Tuberculosis Sanarium, says: "Texas has 50,000 cases of tuberculosis in her negro pulation." And all the length and breadth of the state not one bed s been provided for them except in the penitentiary.

ACKNOWLEDGMENTS

The conclusion of this survey marks a distinct advance in our grasp of the details of the national hospital problem. While many previous surveys of fractional parts of the hospital field have given us a notion of the extent of hospital service in local communities, or of the country-wide extent of certain classes of hospital service, data on all institutions serving hospital needs have scarcely been available. Nor would such a result have been possible had it not been for the splendid cooperation of hospital executives, superintendents, directors, chiefs-of-staffs, hospital consultants and others who have contributed to the success of this survey. The various state advisory committees on hospitals have rendered signal service in their work of inspecting and grading the hospitals approved for internships.

In conclusion, may we hope that the future will see not only an increase in our general knowledge of hospitals throughout the country but also a more critical and self-appraising interest of cities, counties and rural communities, in the progressive betterment of their hospital service.

BED CAPACITY OF GENERAL HOSPITALS AND DAILY AVERAGE IN CONSTANT USE DURING PRECEDING YEAR

"General Hospitals" includes medical, surgical, maternity, orthopedic, pediatric, tuberculosis and contagious institutions.
Hospitals marked with an asterisk (*) are approved for the training of interns as general hospitals; those marked with dagger (†), as special hospitals.

ALABAMA	Total Beds	Av.Beds In Use
bany, 7,652—Morgan		
nevolent Society Hospital	25	18
niston, 17,734—Calhoun		
Luke's Hospital	30	15
ssemer, 18,674—Jefferson		
zabeth Duncan Memorial Hosp.	50	18
rmingham, 178,270—Jefferson		
rmingham Infirmary	300	200
ildren's Hosp. of Birmingham	25	16
aternal Hospital	55	...
llman Hospital*	200	100
rwood Hospital	100	45
d Mountain Sanatorium (T.B.)	40	35
binson-Nelson Infirmary	36	15
lvation Army Maternity Hosp.	35	30
uth Highlands Infirmary	125	90
Vincent's Hospital	2.0	...
lumhia, 860—Houston		
llagra Sanatorium	40	15
than, 10,034—Houston		
M. S. Davies Private Hosp.	50	12
ody Hospital	78	40
terprise, 3,013—Coffee		
ffee County Memorial Hospital	130	...
irfield, 4,998—Jefferson		
ployees' Hospital of the Tennesee Coal, Iron and Railroad Co.	350	130
rence, 10,529—Lauderdale		
za Coffee Memorial Hospital	60	20
dsden, 14,737—Etowah		
dsden General Hospital	35	10
lls' Sanatorium	50	32
ntsville, 8,018—Madison		
ntsville Infirmary	40	10
bile, 60,151—Mobile		
y Hospital*	150	92
e-Bondurant Sanatorium	50	...
bile Infirmary	60	50
ovidence Infirmary	100	50
uthern Infirmary	35	30
ntgomery, 42,531—Montgomery		
le Infirmary	50	...
hland Park Sanatorium	30	25
ura Hill Hospital	40	...
Margaret's Hospital	102	85
ma, 15,589—Dallas		
g Private Sanatorium	26	...
ion Street Private Hospital	48	43
ughan Memorial Hospital	50	35
effield, 6,682—Colbert		
w Belmont Hospital	34	15
Talladega, 6,546—Talladega		
Mary Elizabeth Hospital	25	8
Tuskegee, 2,475—Macon		
John A. Andrews Mem. Hos. (col.)*	60	26
Twelve General Hospitals of less than 25 beds	197	77
Totals	3,061	1,387

In Alabama the following fifty counties have no hospitals: Autauga, Baldwin, Barbour, Bibb, Blount, Bullock, Butler, Chambers, Cherokee, Chilton, Choctaw, Clarke, Clay, Cleburne, Conecuh, Coosa, Covington, Crenshaw, Cullman, Dale, Dekalb, Elmore, Escambia, Fayette, Franklin, Geneva, Greene, Hale, Henry, Jackson, Lamar, Lawrence, Lee, Limestone, Lowndes, Marion, Marshall, Monroe, Perry, Pickens, Pike, Randolph, Russell, St. Clair, Shelby, Sumter, Tallapoosa, Washington, Wilcox, Winston.

ARIZONA	Total Beds	Av.Beds In Use
Bisbee, 9,205—Cochise		
Calumet and Arizona Hospital	50	20
Phelps-Dodge Corporation, Copper Queen Branch, Hospital Dept.*	60	40
Douglas, 9,916—Cochise		
Calumet Hospital	24	16
Cochise County Hospital	48	40
Ft. Defiance, 150—Apache		
Episcopal Eye, Ear, Nose and Throat Hospital	45	14
Ft. Defiance General Hospital	50	20
Ft. Defiance Tubercular Sanat.	30	15
Globe, 7,044—Gila		
Gila County Hospital	50	35
Old Dominion Hospital	25	18
Humboldt, 930—Yavapai		
Humboldt Hospital	40	20
Jerome, 2,393—Yavapai		
United Verde Hospital	40	24
Miami, 6,689—Gila		
Miami Inspiration Hospital	40	21
Morenci, 5,100—Greenlee		
Detroit Copper Company's Hosp.	24	...
Longfellow Hospital	25	9
Nogales, 5,199—Santa Cruz		
St. Joseph's Hospital	30	...
Phoenix, 29,053—Maricopa		
Arizona Deaconess Hospital	33	19
Desert Inn Sanitarium	100	65
Maricopa County Hospital	75	...
Maricopa Co. Tubercuiosis Hosp.	45	...
Phoenix Sanitarium	120	...
St. Joseph's Hospital	135	110
St. Luke's Home for Tuberculosis	65	40
Prescott, 4,380—Yavapai		
Mercy Hospital	36	20
Pamsetgaaf, Among the Pines	25	...
Pine Lawn Sanatorium (T.B.)	25	18
Prescott Cottage Sanat. (T.B.)	28	20
Sacaton, 250—Pinal		
Pima and Maricopa Hospital	40	...
Tucson, 20,292—Pima		
St. Mary's Hospital and Sanit.	80	...
Tucson-Arizona Sanat. (T.B.)	50	40
Yuma, 4,237—Yuma		
Yuma Hospital	30	18
Fifteen General Hospitals of less than 25 beds	234	52
Totals	1,702	694

In Arizona the following two counties have no hospitals: Graham, Mohave.

ARKANSAS	Total Beds	Av.Beds In Use
Fayetteville, 5,362—Washington		
City Hospital	35	25
Ft. Smith, 28,870—Sebastian		
Sebastian County Hospital	100	...
Sparks Memorial Hospital	110	47
St. Edward's Infirmary	40	...
St. Johns Hospital	53	...
Helena, 9,112—Phillips		
Helena Hospital	50	...
Hope, 3,639—Hempstead		
Josephine Hospital	30	15
Hot Springs, 11,695—Garland		
Leo N. Levi Memorial Hosp. Assn.	60	24
St. Joseph's Infirmary	63	...
Jonesboro, 9,384—Craighead		
St. Bernard's Hospital	60	34
Little Rock, 65,030—Pulaski		
Baptist Hospital	80	...
Bush Memorial Hospital	38	19
Logan H. Roots Mem. City Hosp.	150	56
Pulaski County Hospital	250	133
St. Luke's Hospital	105	...
St. Vincent's Infirmary*	225	...
Pine Bluff, 19,280—Jefferson		
Davis Hospital	50	25
Florence Sanitarium	25	...

Quinton[1] (Village)—White	Total Beds	Av.Beds In Use
St. Paul's Hospital	80	...
Texarkana, 8,257—Miller		
Michael Meagher Memorial Hosp.	75	...
St. Louis Southwestern Hospital.	200	77
Eleven General Hospitals of less than 25 beds	169	37
Totals	2,044	492

In Arkansas the following fifty-seven counties have no hospitals: Arkansas, Baxter, Benton, Boone, Bradley, Calhoun, Chicot, Clay, Cleveland, Columbia, Conway, Crawford, Crittenden, Cross, Dallas, Desha, Drew, Faulkner, Franklin, Fulton, Grant, Hot Spring, Howard, Izard, Jackson, Johnson, Lafayette, Lawrence, Lee, Lincoln, Little-River, Lonoke, Madison, Marion, Mississippi, Monroe, Montgomery, Nevada, Newton, Ouachita, Perry, Pike, Poinsett, Polk, Pope, Prairie, Randolph, Saint Francis, Saline, Scott, Searcy, Sevier, Sharp, Stone, Van Buren, Woodruff, Yell.

CALIFORNIA	Total Beds	Av.Beds In Use
Alameda, 28,806—Alameda		
Alameda Sanitarium	50	...
Alhambra, 9,096—Los Angeles		
Alhambra Hospital	40	25
Anaheim ,5,526—Orange		
Anaheim Sanitarium	30	20
Auburn, 2,376—Placer		
Placer County Hospital	120	78
Bakersfield, 18,638—Kern		
Kern County Hospital	150	110
Mercy Hospital	47	...
San Joaquin Hospital	50	...
Banning, 1,000—Riverside		
Dr. King's Sanatorium (T.B.)	25	23
Southern Sierras Sanat. (T.B.)	35	25
Belmont, 363—San Mateo		
California Sanatorium (T.B.)	100	70
Berkeley, 56,036—Alameda		
Alta Bates Sanatorium	40	...
El Reposa Sanitarium	40	33
Roosevelt Hospital	70	...
University of Calif. Infirmary	45	25
Chico, 8,872—Butte		
Enloe Hospital	50	35
Sisters' Hospital	30	...
Chula Vista, 100—San Diego		
McNabb Hosp. and Sanitarium	40	25
Colfax, 615—Placer		
Colfax School for the Tuberculous	130	125
Colusa, 1,846—Colusa		
Colusa County Hospital	38	30
Duarte, 650—Los Angeles		
Jewish Consumptive Relief Sanat.	70	70
El Centro, 5,464—Imperial		
El Centro Hospital	42	30
Eureka, 13,212—Humboldt		
Humboldt County Hospital	187	101
Sequoia Hospital and Sanitarium	60	40
Union Labor Hospital	47	25
French Camp, 233—San Joaquin		
San Joaquin General Hospital	300	250
Fresno, 45,086—Fresno		
Burnett Sanitarium	150	98
Fresno County Hospital	250	225
Sample Sanatorium	28	...
Ft. Bragg, 2,408—Mendocino		
Ft. Bragg Hospital, Inc	25	10
Glendale, 13,536—Los Angeles		
Glendale Sanitarium	81	71
Thornycroft Farm Hosp. & Sanit.	70	60
Grass Valley, 4,006—Nevada		
W. C. Jones Memorial Hosp	25	8
Hanford, 4,829—Kings		
Hanford Sanitarium, Inc	30	20
Kings County Hospital	39	...
Hollister, 2,308—San Benito		
San Benito County Hospital	38	...
La Vina (P.O. Only)—Los Angeles		
La Vina Sanatorium (T.B.)	100	95
Livermore, 1,916—Alameda		
Arroyo Sanatorium (T.B.)	160	135
Livermore Sanitarium	90	75
Loma Linda (P.O. Only)—San Bernardino		
Loma Linda Sanit. and Hosp	156	70
Long Beach, 55,593—Los Angeles		
Long Beach Sanitarium	50	35
Seaside Hospital	100	76
Los Angeles, 475,367—Los Angeles		
Angelus Hospital	110	98
Barlow Sanatorium (T.B.)	86	65
California Hospital	150	145
Children's Hospital†	95	70
Clara Barton Hospital	86	80
Crocker Street Hospital	100	63
Lincoln Hospital	33	30
Hospital of the Good Samaritan	140	113
Kaspare Cohn Hospital	50	27
Los Angeles County Hospital*	1,283	941
Los Angeles Hospital of the Santa Fe Coast Lines Hosp. Assn.	100	70
Methodist Hosp. of Southern Calif.	98	98
New French Hospital	50	50
Pacific Hospital	75	73
St. Vincent's Hospital	95	...
White Memorial Hospital*	75	70

1. Small village; postoffice is Armstrong Springs.

	Total Beds	Av.Beds In Use
Los Gatos, 2,232—Santa Clara		
Oakes Sanitarium (T.B.)	40	35
Madera, 2,404—Madera		
Madera County Hospital	50	28
Manor (P.O. Only)—Marin		
Arequipa Sanatorium (T.B.)	40	40
Martinez, 2,115—Contra Costa		
Contra Costa County Hospital	70	...
Marysville, 5,461—Yuba		
Rideout Memorial Hospital	30	18
Merced, 3,102—Merced		
Merced County Hospital	65	60
Modesto, 9,241—Stanislaus		
Robertson Hospital	30	25
Monrovia, 5,480—Los Angeles		
Kalb-Kirschner Cottages (T.B.)	45	42
Pottenger Sanatorium for Diseases of the Lungs and Throat	125	115
National City, 1,733—San Diego		
Elwyn Sanitarium	26	12
Paradise Valley Sanitarium	60	45
Nevada City, 1,782—Nevada		
Nevada County Hospital	23	...
Oakland, 216,361—Alameda		
Baby Hospital Association	30	25
East Bay Sanatorium	50	45
Fabiola Hospital Association	125	110
Oakland Central Hospital	60	35
Providence Hospital	100	75
Samuel Merritt Hospital	120	100
Orange, 2,920—Orange		
Orange County Hospital	65	40
Oxnard, 2,555—Ventura		
St. John's Hospital	35	22
Palo Alto, 5,900—Santa Clara		
Peninsula Hospital	53	18
Pasadena, 45,334—Los Angeles		
Las Encinas Sanitarium	55	...
Pasadena Hospital Association	120	93
Placerville, 1,914—El Dorado		
El Dorado County Hospital	70	44
Pomona, 13,505—Los Angeles		
Pomona Valley Hospital	50	22
Red Bluff, 3,530—Tehama		
Tehama County Hospital	65	...
Redlands, 9,571—San Bernardino		
Redlands Hospital Association	25	10
Redwood City, 2,442—San Mateo		
Canyon Sanatorium (T.B.)	25	20
Riverside, 19,341—Riverside		
Riverside County Hospital	100	68
Sacramento, 65,857—Sacramento		
Mater Misericordiae Hospital	85	85
Sacramento Hospital	300	230
Southern Pacific Emergency Hosp.	25	...
White Hospital	70	58
San Bernardino, 18,721—San Bernardino		
Ramona Hospital	50	25
San Bernardino County Hospital.	194	130
San Diego, 74,683—San Diego		
Alpine Sanatorium (T.B.)	60	...
Isolation Hospital	120	...
San Diego County General Hosp.	300	170
St. Joseph's Hospital	150	126
San Fernando, 1,000—Los Angeles		
Independent Order of Foresters, Calif. Tubercular Sanitarium	30	12
San Francisco, 506,676—San Francisco		
Adler Sanatorium	52	48
Emergency Hospital Service	74	...
Fairmont Hospital	85	...
Florence N. Ward Sanatorium	50	33
Franklin Hospital	200	...
French Hospital	193	133
Hahnemann Hospital of the University of California	114	85
Hospital for Children and Training School for Nurses*	300	161
Lane Hospital*	300	250
Mary's Help Hospital	150	140
Morton Hospital	50	30
Mt. Zion Hospital*	185	150
San Francisco Hospital*	800	562
San Francisco Hospital, Leprosy Isolation Division	50	19
Southern Pacific General Hosp.*	250	225
St. Francis Hospital	160	140
St. Joseph's Hospital	145	100
St. Luke's Hospital*	150	120
St. Mary's Hospital*	185	150
Stanford University Hospital	125	...
Union Iron Works Co., Employees Hospital	30	...
University of California Hosp.*	250	188
Sanitarium, 25—Napa		
St. Helena Sanitarium	150	98
San Jose, 39,604—Santa Clara		
Columbia Hospital	80	...
East Columbia Hospital	80	31
O'Connor Sanitarium	100	75
Santa Clara County Hospital	270	210
San Leandro, 5,903—Alameda		
Alameda County Hospital	70	...
San Luis Sanitarium	25	15
San Mateo, 5,779—San Mateo		
Church of St. Matthew Red Cross Hospital	45	40
San Mateo County Hospital	60	52
San Pedro, 3,500—Los Angeles		
San Pedro Hospital	9	9

	Total Beds	Av.B In
Santa Ana, 15,485—Orange		
Community Hospital	40	
Santa Barbara, 19,441—Santa Barbara		
Santa Barbara General Hospital and Farm	100	
Santa Barbara Cottage Hospital*	100	
St. Francis Hospital	35	
Santa Cruz, 14,038—Santa Cruz		
Hanly Sanitarium	35	
Santa Cruz County Hospital	80	
Santa Monica, 15,252—Los Angeles		
St. Catherine's Hospital	50	
Santa Rosa, 7,817—Sonoma		
General Hospital	35	
Sonoma County Hospital	55	
Scotia, 1,500—Humboldt		
Scotia Hospital Association	30	
Sonora, 2,028—Tuolumne		
Tuolumne County Hospital	54	
South Pasadena, 7,648—Los Angeles		
Pasadena Sanitarium	100	
South San Francisco, 1,989—San Mateo		
South San Francisco Hospital	36	
Stockton, 40,296—San Joaquin		
Dameron Hospital	55	
St. Joseph's Home and Hospital	170	
Susanville, 918—Lassen		
Lassen County Hospital	50	
Turlock, 3,394—Stanislaus		
Emanuel Hospital	50	
Weaverville, 1,100—Trinity		
Trinity County Hospital	30	
Westwood (P.O. Only)—Lassen		
Westwood Hospital	65	
Willows, 1,139—Glenn		
Glenn County Hospital	40	
Woodland, 3,187—Yolo		
Woodland Sanitarium	60	
Yolo County Hospital	60	
Yreka, 1,134—Siskiyou		
Siskiyou County Hospital	75	
Yuba City, 1,160—Sutter		
Sutter County Hospital	38	
Fifty-Six General Hospitals of less than 25 beds	921	
Totals	16,157	19,1

In California the following twelve count have no hospitals: Amador, Calaveras, Norte, Imperial, Inyo, Lake, Mariposa, San L Obispo, Shasta, Sierra, Solano, Yosemite.

COLORADO	Total Beds	Av.B In
Alamosa, 317—Alamosa		
Alamosa Hospital	25	
Boulder, 11,326—Boulder		
Boulder-Colorado Sanitarium	125	
University of Colorado Hospital*	79	
Brush, 2,103—Morgan		
Eben-Ezer Mercy Institute	53	
Canon City, 4,551—Fremont		
Dr. Graves' Private Hospital	35	
Holmes Hospital	25	
Colorado Springs, 29,572—El Paso		
Beth-El Hospital	80	
Cragmor Sanatorium (T.B.)	100	
El Paso County Farm and Hosp.	50	
Glockner Sanatorium (T.B.)	200	
Nob Hill Lodge Sanat. (T.B.)	35	
St. Francis Hospital*	135	
Star Ranch in the Pines Sanatorium (T.B.)	50	
Sunnyrest Sanatorium (T.B.)	45	
Cripple Creek, 2,325—Teller		
St. Nicholas Hospital	25	
Teller County Hospital	29	
Denver, 256,369—Denver		
Agnes Memorial Sanat. (T.B.)	150	
Children's Hospital*	100	
Denver City and County Hosp.*	500	
Mercy Hospital*	150	
National Jewish Hospital for Consumptives (T.B.)	200	
Park Avenue Hospital	25	
St. Anthony's Hospital*	175	
St. Joseph's Hospital*	200	
St. Luke's Hospital*	140	
Steele Memorial Hospital	100	
Durango, 4,116—LaPlata		
Mercy Hospital	35	
Edgewater, 712—Jefferson		
Sanatorium of the Jewish Consumptive Relief Society	180	
Englewood, 4,356—Arapahoe		
Swedish National Sanatorium for Tuberculosis	37	
Ft. Collins, 8,734—Larimer		
Ft. Collins Hospital	25	
Glenwood Springs, 2,073—Garfield		
Glenwood Sanitarium	35	
Greeley, 10,898—Weld		
Greeley Hospital	40	
Weld County Hospital	26	
La Junta, 4,154—Otero		
Atchison, Topeka & Santa Fe Hospital	45	
Mennonite Sanitarium (T.B.)	40	
Leadville, 4,959—Lake		
St. Vincent's Hospital	35	
Littleton, 1,636—Arapahoe		
Dr. Colliers Private Hospital	25	

	Total Beds	Av.Beds In Use
igmont, 4,256—Boulder		
igmont Hospital	50	25
eland, 3,651—Larimer		
herlands Hospital	40	...
nitou, 1,099—El Paso		
Calm Sanatorium (T.B.)	50	...
ay, 1,165—Ouray		
V. Bates' Hospital	25	16
eblo, 42,908—Pueblo		
inequa Hospital	210	150
eblo County Hospital	25	...
Mary Hospital	175	...
ida, 4,689—Chaffee		
iver & Rio Grande R. R. Hosp.	70	40
l Cross Hospital	50	30
luride, 1,618—San Miguel		
luride Hospital	25	18
nidad, 10,906—Las Animas		
San Rafael Hospital	125	...
eatridge (P.O. Only)—Jefferson		
ngelical Lutheran Sanitarium T.B.)	34	32
odmen (P.O. Only)—El Paso		
dern Woodmen of America anitarium (T.B.)	230	...
enty General Hospitals of less han 25 beds	289	62
Totals	4,752	2,377

n Colorado the following thirty-four counties e no hospitals: Adams, Archuleta, Baca, t, Cheyenne, Clear Creek, Conejos, Costilla, wley, Custer, Dolores, Douglas, Eagle, El- t, Gilpin, Grand, Gunnison, Hinsdale, Huer- o, Jackson, Kiowa, Kit Carson, Lincoln, an, Mesa, Mineral, Moffat, Montezuma, ntrose, Rio Blanco, Saguache, Sedgwick, shington, Yuma.

CONNECTICUT	Total Beds	Av.Beds In Use
dgeport, 149,152—Fairfield		
dgeport Hospital*	250	198
umbus Hospital	40	...
glewood Hospital	100	40
en Hospital	30	20
lside Home	80	45
Vincent's Hospital*	225	152
bury, 18,889—Fairfield		
bury Hospital	80	60
by, 11,238—New Haven		
ffin Hospital	60	45
enwich, 3,886—Fairfield		
enwich Hospital	100	52
tford, 138,036—Hartford		
y Hospital	162	...
tford Hospital*	500	432
tford Isolation Hospital	58	34
Francis' Hospital*	400	321
dwood Sanatorium (T.B.)	50	37
son Sanitarium	30	...
riden, 34,739—New Haven		
iden Hospital	60	35
ldletown, 13,044—Middlesex		
ldlesex County Hospital*	70	48
w Britain, 59,316—Hartford		
w Britain General Hospital	100	79
w Canaan, 1,672—Fairfield		
Brooks' Sanatorium (T.B.)	28	28
w Haven, 162,390—New Haven		
n City Private Hospital	37	...
ce Hospital*	150	125
pital of St. Raphael*	180	150
w Haven Hospital*	275	234
ingside Hospital	110	60
c Infirmary	25	...
w London, 25,688—New London		
vrence and Memorial Associated ospital	112	68
ntic, 1,100—New London		
Seaside (T.B., Children)	55	21
walk, 27,557—Fairfield		
walk Hospital	31	...
wich, 22,304—New London		
liam W. Backus Hospital*	90	51
nam, 7,711—Windham		
-Kimball Hospital	40	35
ron, 1,585—Litchfield		
ron Hospital	25	12
fford Springs, 3,059—Tolland		
ll and Julia C. Johnson Memo- ial Hospital	30	18
mford, 35,096—Fairfield		
mford Hospital	125	72
rington, 18,517—Litchfield		
rlotte Hungerford Hospital	70	25
llingford, 9,719—New Haven		
lord Farm Sanatorium (T.B.)	130	126
terbury, 91,410—New Haven		
Mary's Hospital*	110	102
terbury Hospital*	180	95
limantic, 12,330—Windham		
Joseph's Hospital	54	...
sted, 8,248—Litchfield		
hfield County Hospital	70	35
c General Hospitals of less han 25 beds	147	18
Totals	4,425	2,770

ll counties in Connecticut have hospitals.

DELAWARE	Total Beds	Av.Beds In Use
Farnhurst, 210—New Castle		
New Castle County Hospital	50	...
Marshalltown, 450—New Castle		
Hope Farm Sanatorium (T.B.)	60	...
Wilmington, 110,168—New Castle		
Delaware Hospital*	185	125
Homeopathic Hospital*	90	47
Dr. J. J. Jones' Private Hospital	30	...
Physicians' and Surgeons' Hosp.	60	50
St. Michael's Day Nursery and Hospital for Babies	27	...
No General Hospitals of less than 25 beds	...	...
Totals	502	222

In Delaware the following two counties have no hospitals: Kent and Sussex.

DISTRICT OF COLUMBIA	Total Beds	Av.Beds In Use
Washington, 437,414		
Central Disp. and Emerg. Hosp.*	150	127
Children's Hospital of D. C.†	155	82
Columbia Hospital for Women*	132	78
Eastern Disp. and Casualty Hosp.*	75	52
Episcopal Eye, Ear and Throat Hospital†	80	40
Freedmen's Hospital*	248	232
Garfield Memorial Hospital*	250	210
Georgetown University Hospital*	267	156
George Washington Univ. Hosp.*	105	78
National Homeopathic Hospital	50	45
Providence Hospital*	350	280
Sibley Memorial Hospital*	175	155
Tuberculosis Hospital of the District of Columbia (T.B.)†	145	110
Washington Asylum Hospital*	260	169
Washington Sanitarium and Hosp.	150	90
Four General Hospitals of less than 25 beds	65	15
Totals	2,657	1,919

The District of Columbia is considered as being a single district, which has the above-indicated hospitals.

FLORIDA	Total Beds	Av.Beds In Use
Clearwater, 2,427—Pinellas		
Morton F. Plant Endowed Hosp.	30	...
Daytona, 5,445—Volusia		
Dr. Bohannon's Hosp. and Sanit.	30	15
Jacksonville, 91,543—Duval		
Catherine Lee Hospital	26	...
Duval County Hospital	109	65
Riverside Hospital	30	...
St. Luke's Hospital*	125	84
St. Vincent's Hospital	62	38
Key West, 18,749—Monroe		
Louise Maloney Hospital	35	...
St. Joseph Hospital	25	...
Lake City, 3,341—Columbia		
Lake Shore Hospital	25	10
Lakeland, 7,062—Polk		
Lakeview Sanatorium	25	...
Piedmont Hospital	50	...
Miami, 29,549—Dade		
Miami City Hospital	40	...
New Smyrna, 1,121—Volusia		
Forster Sanatorium	33	16
Ocala, 4,370—Marion		
Marion County Hospital	30	...
Orlando, 9,257—Orange		
Florida Sanitarium	85	50
Orange General Hospital	110	50
Pensacola, 31,035—Escambia		
Pensacola Hospital*	100	80
St. Augustine, 6,192—St. Johns		
East Coast Hospital	65	...
Flagler Hospital	100	...
St. Petersburg, 14,237—Pinellas		
City Hospital	35	13
Faith Hospital	37	...
Tampa, 51,608—Hillsborough		
Bayside Hospital	32	25
Centro Asturiano Sanatorium	50	...
Clara Frye Hospital	35	26
Gordon Keller Memorial Hospital	70	54
Plant Park Infirmary	50	30
Sanatorio del Centro Espanol	44	10
West Palm Beach, 8,659—Palm Beach		
Good Samaritan Hospital	50	...
Eight General Hospitals of less than 25 beds	124	17
Totals	1,662	583

In Florida the following forty-one counties have no hospitals: Alachua, Baker, Bay, Bradford, Brevard, Broward, Calhoun, Citrus, Clay, Desoto, Flagler, Franklin, Gadsden, Hamilton, Hernando, Holmes, Jackson, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Liberty, Madison, Manatee, Nassau, Okaloosa, Okeechobee, Osceola, Pasco, Putnam, St. Lucio, Santa Rosa, Seminole, Sumter, Suwanee, Taylor, Wakulla, Walton, Washington.

GEORGIA	Total Beds	Av.Beds In Use
Albany, 11,555—Daugherty		
Phoebe Putney Memorial Hospital	75	...
Americus, 9,010—Sumter		
Americus and Sumter Co. Hosp.	30	15
Athens, 16,748—Clarke		
St. Mary's Hospital	50	30
Atlanta, 200,616—Fulton		
Atlanta Hospital	27	...
Battle Hill Sanatorium (T.B.)	200	150
Davis-Fischer Sanatorium*	76	70
Georgia Baptist Hospital*	165	115
Georgian Hospital	25	...
Grady Memorial Hospital*	200	185
MacVicar Hospital of Spelman Seminary	35	18
Dr. Noble's Private Infirmary	25	25
Piedmont Sanatorium*	51	50
Pine Ridge Sanitarium	50	...
St. Joseph's Infirmary*	125	...
St. Mary's Hospital	35	8
Wesley Memorial Hospital	56	46
Augusta, 52,548—Richmond		
University Hospital*	250	165
Wilhenford Hospital	35	25
Bainbridge, 4,792—Decatur		
Bainbridge Hospital	50	22
Riverside Hospital	30	20
Brunswick, 14,413—Glynn		
Brunswick Hospital	45	15
Columbus, 31,125—Muscogee		
Columbus City Hospital	85	55
Decatur, 6,150—Dekalb		
Scottish Rite Hospital for Crippled Children	52	50
Donalsonville, 747—Decatur		
Chason's Hospital	50	15
Eastman, 2,355—Dodge		
Eastman Hospital	50	...
Gainesville, 6,272—Hall		
Downey Hospital	52	20
Griffin, 8,240—Spalding		
Griffin Hospital	40	...
La Grange, 17,038—Troup		
Dunson Hospital	60	20
Macon, 52,525—Bibb		
Macon Hospital*	165	102
Reeves, 70—Gordon		
The Farm Sanitarium	30	20
Rome, 13,252—Floyd		
Harbin Hospital	75	30
Sandersville, 2,641—Washington		
Rawling's Sanitarium	100	61
Savannah, 83,252—Chatham		
Charity Hospital	30	...
Georgia Infirmary	60	...
Oglethorpe Sanitarium	35	26
Park View Sanitarium	75	75
Savannah Hospital	75	40
St. Joseph's Hospital	125	75
Telfair Hospital	50	35
Thomasville, 8,196—Thomas		
Thomasville City Hospital	40	15
Valdosta, 10,783—Lowndes		
Drs. Little & Griffin Private Hosp.	28	25
Waycross, 18,068—Ware		
Atlantic Coast Line Hospital	70	28
Fifteen General Hospitals of less than 25 beds	256	31
Totals	3,228	1,682

In Georgia the following 124 counties have no hospitals: Appling, Bacon, Baker, Baldwin, Banks, Barrow, Brtow, Ben Hill, Bleckley, Brooks, Bryan, Bulloch, Burke, Butts, Calhoun, Camden, Campbell, Candler, Carroll, Catoosa, Charlton, Chattahoochee, Hhattooga, Cherokee, Clay, Clayton, Clinich, Colquitt, Columbia, Coweta, Crawford, Dade, Dawson, Dooly, Douglas, Early, Echols, Effingham, Elbert, Evans, Fannin Fayette, Forsyth, Franklin, Gilmer, Glasscock, Grady, Greene, Gwinnett, Habersham, Hancock, Haralson, Harris, Hart, Heard, Henry, Houston, Jackson, Jasper, Jefferson, Jenkins, Johnson, Jones, Laurens, Lee, Liberty, Lincoln, Lumpkins, McDuffie, McIntosh, Macon, Madison, Marion, Meriweather, Miller, Milton, Mitchell, Monroe, Montgomery, Morgan, Murray, Newton, Oconee, Oglethorpe, Paulding, Pickens, Pierce, Pike, Polk, Pulaski, Putnam, Quitman, Rabun, Randolph, Rockdale, Schley, Screvens, Stevens, Stewart, Talbot, Taliferro, Tattnall, Taylor, Telfair, Terrell, Tift, Toombs, Towns, Turner, Twiggs, Union, Upson, Walker, Walton, Warren, Wayne, Wilkes, Webster, Wheeler, White, Whitefield, Wilcox, Wilkinson Worth.

IDAHO	Total Beds	Av.Beds In Use
Boise, 21,393—Ada		
St. Alphonsus Hospital*	130	90
St. Luke's Hospital	60	50
Coeur D'Alene, 6,473—Kootenai		
Coeur D'Alene Hospital	40	10
Idaho Falls, 8,064—Bonneville		
Spencer Hospital	30	...
Lewiston, 6,574—Nez Perce		
St. Joseph's Hospital	50	40
White Hospital	32	23

	Total Beds	Av.Beds In Use
Moscow, 3,956—Latah		
Gritman Hospital	30	10
Mercy Hospital	40	...
Pocatello, 14,961—Bannock		
Pocatello General Hospital	52	35
St. Anthony's Mercy Hospital	40	40
Sandpoint, 2,876—Bonner		
City Hospital	30	20
St. Marics, 1,960—Bonewah		
St. Maries Hospital	35	...
Twin Falls, 5,258—Twin Falls		
Boyd Hospital	50	23
Twin Falls County Hospital	50	35
Wallace, 2,816—Shoshone		
Providence Hospital	90	...
Wallace Hospital	65	51
Eleven General Hospitals of less than 25 beds	180	30
Totals	1,004	457

In Idaho the following twenty-six counties have no hospitals: Adams, Bingham, Blaine, Boise, Boundary, Butte, Camas, Cassia, Clearwater, Custer, Elmore, Franklin, Fremont, Gem, Gooding, Idaho, Jefferson, Lemhi, Minidoka, Oneida, Owyhee, Payette, Power, Teton, Valley, Washington.

ILLINOIS	Total Beds	Av.Beds In Use
Alton, 24,714—Madison		
St. Joseph's Hospital	50	35
Anna, 2,809—Union		
Hale Sanatorium	30	6
Argo, 100—Cook		
Argo Hospital	30	...
Aurora, 36,165—Kane		
Aurora Hospital Association	90	43
St. Charles Hospital	75	5
St. Joseph's Infirmary	30	...
Belleville, 24,741—St. Clair		
St. Clair County Home and Isolation Hospital	300	...
St. Elizabeth's Hospital	100	...
St. Vincent's Hospital	100	...
Belvidere, 7,760—Boone		
St. Joseph's Hospital	40	...
Bloomington, 28,725—McLean		
Brokaw Hospital	85	...
Kelso Sanitarium	50	...
St. Joseph's Hospital	120	...
Blue Island, 11,424—Cook		
St. Francis' Hospital	83	55
Breese, 2,128—Clinton		
St. Joseph's Hospital	31	...
Cairo, 15,203—Alexander		
St. Mary's Infirmary	77	...
Canton, 10,928—Fulton		
Graham Hospital	30	...
Carbondale, 6,267—Jackson		
Holden Hospital	30	...
Centralia, 11,238—Marion		
St. Mary's Hospital	40	...
Champaign, 15,873—Champaign		
Julia F. Burnham Hospital	60	38
Charleston, 6,600—Coles		
M. A. Montgomery Memorial Sanit.	30	20
Chicago, 2,701,705—Cook		
Alexian Brothers Hospital*	285	215
American Hospital and Training School for Nurses	125	85
Annie W. Durand Hospital†	60	46
Auburn Park Hospital	40	30
Augustana Hospital*	200	167
Burnside Hospital	50	30
Chicago Daily News Fresh-Air Fund Sanitarium (T.B.)	200	...
Chicago Eye, Ear, Nose and Throat College Hospital	30	20
Chicago Fresh-Air Hosp. (T.B.)	104	100
Chicago General Hospital	60	40
Chicago Lying-In Hosp. & Disp.†	240	100
Chicago Municipal Tuberculosis Sanitarium	960	740
Chicago Policlinic and Hospital*	55	...
Chicago Union Hospital	60	51
Children's Memorial Hospital†	175	135
Columbus Extension Hospital	100	78
Columbus Hospital	150	120
Cook County Hospital*	2,700	1,830
Cook County Tuberculosis Hosp.	250	...
Eastern Emergency Hospital	30	...
Englewood Hospital*	150	125
Evangelical Deaconess Hospital	45	38
Frances E. Willard National Temperance Hospital	110	85
Garfield Park Hospital	60	40
German Evangelical Deaconess Home and Hospital	58	58
Grant Hospital of Chicago*	138	110
Hahnemann Hospital of the City of Chicago	140	92
Henrotin Memorial Hospital*	70	65
Hosp. of St. Anthony de Padua*	154	130
Illinois Central Hospital*	125	90
Illinois Charitable Eye and Ear Infirmary	175	170
Illinois Steel Company Hospital	33	30
Isolation Hospital	35	6
Jefferson Park Hospital	100	75
Lakeside Hospital	100	70
Lake View Hospital	50	50
Lawndale Municipal Hospital	100	50
Mary Thompson Hospital of Chicago for Women and Children*	75	60
Mercy Hospital*	375	360
Michael Reese Hospital*	452	339
Mt. Sinai Hospital	77	45
Municipal Contagious Dis. Hosp.	200	167
North Chicago Hospital	85	75
Norwegian American Hospital*	125	85
Norwegian Lutheran Deaconess Hospital*	100	90
Park Avenue Hospital	70	45
Passavant Memorial Hospital	80	72
People's Hospital and Training School for Nurses	50	27
Post Graduate Hospital*	86	68
Presbyterian Hospital*	436	362
Provident Hospital and Training School*	65	48
Pullman Emergency Hospital	35	25
Ravenswood Hospital*	42	35
Robert Burns Hospital	45	45
Sheridan Park Hospital	30	...
South Chicago Hospital	42	30
South Shore Hospital*	110	30
St. Ann's Hospital*	100	7
St. Bernard's Hospital*	200	143
St. Elizabeth's Hospital*	225	135
St. Joseph's Hospital*	175	145
St. Luke's Hospital*	400	320
St. Mary of Nazareth Hospital*	210	...
St. Vincent's Infant and Maternity Hospital	200	100
Streeter Hospital	30	18
Swedish Covenant Hospital and Home of Mercy	110	...
University Hospital*	90	65
Washington Boulevard Hospital*	85	75
Washington Park Hospital*	116	90
Wesley Memorial Hospital*	275	195
West Side Hospital*	155	112
Chicago Heights, 19,653—Cook		
St. James Hospital	60	...
Clinton, 5,898—DeWitt		
Dr. John Warner Hospital	25	...
Collinsville, 9,753—Madison		
Harrison Tuberculosis Colony	30	22
Danville, 33,750—Vermilion		
Lake View Hospital	100	68
St. Elizabeth's Hospital	125	100
Vermilion County Infir. (T.B.)	135	...
Decatur, 43,818—Macon		
Decatur and Mason County Hosp.	125	60
St. Mary's Hospital	90	5
Wabash Employees' Hospital	50	28
Dixon, 8,191—Lee		
Dixon Public Hospital	40	30
East St. Louis, 66,740—St. Clair		
Contagious Hospital	30	...
Evangelical Deaconess Hospital	55	...
St. Mary's Hospital	125	6
Effingham, 4,024—Effingham		
St. Anthony's Hospital	53	...
Elgin, 27,431—Kane		
Sherman Hospital	88	...
St. Joseph's Hospital	60	...
Elmhurst, 4,594—DuPage		
Crane Sanitarium	40	35
Evanston, 37,234—Cook		
Evanston Hospital*	225	79
St. Francis Hospital*	125	...
Freeport, 19,669—Stephenson		
Freeport General Hospital	45	...
Globe Hospital	30	22
St. Francis Hospital	110	60
Galesburg, 23,834—Knox		
Galesburg Hospital	100	53
St. Mary's Hospital	75	60
Geneva, 2,803—Kane		
Colonial Hospital	35	21
Granite City, 14,757—Madison		
St. Elizabeth Hospital	50	...
Harvard, 3,294—McHenry		
Cottage Hospital	50	10
Herrin, 10,986—Williamson		
Baker-Gardiner Hospital	42	...
Herrin Hospital	40	30
Highland, 2,675—Madison		
St. Joseph's Hospital	50	...
Hinsdale, 2,451—DuPage		
Hinsdale Sanatorium	150	97
Jacksonville, 15,713—Morgan		
Our Savior's Hospital	41	35
Passavant Memorial Hospital	77	35
Joliet, 36,372—Will		
Silver Cross Hospital	100	41
St. Joseph's Hospital	160	...
Kankakee, 16,721—Kankakee		
Emergency Hospital	40	3
Kenilworth, 1,188—Cook		
Kenilworth Sanitarium	30	22
Kewanee, 16,026—Henry		
St. Francis Hospital	36	...
LaSalle, 13,050—LaSalle		
St. Mary's Hospital	110	48
Lawrenceville, 3,235—Lawrence		
Lawrenceville Hospital	25	...
Lincoln, 11,882—Logan		
Evangelical Deaconess Home and Hospital	50	35
St. Clara's Hospital	64	...
Litchfield, 6,215—Montgomery		
St. Francis Hospital	110	6
Macomb, 6,714—McDonough		
Holmes Hospital	30	...
Mariettta Phelps Hospital	25	18
St. Francis Hospital	40	27
Maxwell, 20—Sangamon		
Peoria County Hospital	45	...
Moline, 30,734—Rock Island		
Lutheran Hospital	80	60
Moline Public Hospital	126	80
Tri-City Sanitarium	50	20
Monmouth, 8,116—Warren		
Monmouth Hospital	35	26
Mt. Vernon, 9,815—Jefferson		
Egyptian Hospital	25	...
Murphysboro, 10,411—Jackson		
St. Andrew's Hospital	40	40
Naperville, 3,830—DuPage		
Edward Sanatorium (T.B.)	72	...
Normal, 5,143—McLean		
Brokaw Hospital	85	60
Fairview Sanatorium (T.B.)	3	3
Oak Forest (P.O. Only)—Cook		
Cook County Infirmary (T.B.)	700	...
Oak Park, 29,858—Cook		
Oak Park Hospital*	100	60
West Suburban Hospital*	130	102
Olney, 4,491—Richland		
Olney Hospital	90	48
Olney Sanitarium	25	10
Ottawa, 10,816—LaSalle		
LaSalle Co. Tuberculosis Sanit.	54	54
Ottawa Tuberculosis Colony	60	52
Ryburn Memorial Hospital	60	19
Pana, 6,122—Christian		
Huber Memorial Hospital	50	35
Paris, 7,985—Edgar		
Paris Hospital	25	15
Pekin, 2,086—Tazewell		
Pekin Public Hospital	30	20
Peoria, 76,121—Peoria		
Isolation Hospital	59	...
John C. Proctor Hospital	110	84
Methodist Hosp. of Central Illinois	110	50
Peoria Municipal Tubere. Sanit.	50	35
St. Francis Hospital	300	136
Peru, 8,869—LaSalle		
People's Hospital	60	...
Pontiac, 6,664—Livingston		
St. James Hospital	70	...
Quincy, 36,764—Adams		
Blessing Hospital	100	60
St. Mary's Hospital	180	...
Red Bud, 1,240—Randolph		
St. Clement's Hospital	40	...
Riverton, 1,911—Sangamon		
St. John's Sanitarium (T.B.)	80	...
Rochelle, 3,310—Ogle		
Lincoln Hospital	48	2
Rockford, 65,651—Winnebago		
Rockford Hospital	125	85
Rockford Municipal Sanit. (T.B.)	28	20
St. Anthony's Hospital	150	...
Swedish American Hospital	80	50
Rock Island, 35,177—Rock Island		
St. Anthony's Hospital	150	120
Springfield, 59,183—Sangamon		
David Prince Sanitarium	75	50
The Palmer Tubere. Sanatoria	42	...
Springfield Hospital	100	...
St. John's Hospital	400	290
Spring Valley, 6,493—Bureau		
St. Margaret's Hospital	50	40
Sterling, 8,182—Whiteside		
Public Hospital of the City of Sterling	38	23
Streator, 14,779—LaSalle		
St. Mary's Hospital	100	75
Taylorville, 5,806—Christian		
St. Vincent's Hospital	50	45
Watseka, 2,476—Iroquois		
The Iroquois Hospital	28	17
Waukegan, 19,199—Lake		
Lake County General Hosp. (T.B.)	60	30
Victory Memorial Hospital	38	34
Winfield, 121—DuPage		
Chicago-Winfield Tubere. Sanit.	110	78
Fifty-Six General Hospitals of less than 25 beds	990	234
Totals	22,983	12,034

In Illinois the following forty-one counties have no hospitals: Bond, Brown, Calhoun, Carroll, Cass, Clark, Clay, Cumberland, Edwards, Fayette, Ford, Gallatin, Greene, Hamilton, Hardin, Henderson, Jasper, Jersey, Jo Daviess, Johnson, Kendall, Macoupon, Marshall, Mason, Menard, Mercer, Monroe, Moultrie, Perry, Piatt, Pike, Pope, Pulaski, Putnam, Schuyler, Scott, Stark, Wabash, Washington, Wayne, White.

INDIANA	Total Beds	Av.Beds In Use
Anderson, 23,762—Madison		
Madison County Infirmary	75	...
St. John's Hospital	75	...
Bedford, 8,963—Lawrence		
Bedford City Hospital	30	...
Bloomington, 11,595—Monroe		
Bloomington Hospital	35	27

	Total Beds	Av.Beds In Use
ufton, 539—Wells		
lls County Hospital	25	15
wling Green, 336—Clay		
ay County Infirmary	56	...
lumbus, 8,990—Bartholomew		
rtholomew County Hospital	25	16
nnersville, 9,901—Fayette		
yette Memorial Hospital	35	26
khart, 24,277—Elkhart		
khart General Hospital	54	42
ansville, 85,264—Vanderburg		
ehne Camp (T.B.)	65	40
y Isolation Hospital	79	...
yden Hospital	50	25
otestant Deaconess Hospital	65	50
Mary's Hospital	100	75
lker Hospital	72	50
Wayne, 86,549—Allen		
Wayne Lutheran Hospital	125	110
ne Byron Tuberculosis Sanit.	60	60
Joseph's Hospital*	165	150
rrett, 4,796—DeKalb		
cred Heart Hospital	45	...
ry, 55,344—Lake		
ry Hospital*	120	45
Antonio Hospital	50	35
Mary's Mercy Hospital	140	...
shen, 9,525—Elkhart		
shen Hospital	25	10
mmond, 3,604—Lake		
Margaret's Hospital	135	...
ntington, 14,000—Huntington		
ntington County Hospital	30	25
dianapolis, 314,194—Marion		
dianapolis City Hospital*	390	230
seph Eastman Hospital	40	20
thodist Episcopal Hospital*	273	208
. Jackson Sanitarium	40	...
uronhurst (N. and M.)	36	...
"orways" Sanatorium	30	20
otestant Deaconess Hospital	125	80
ed Hospital for Babies	35	20
bt. W. Long Hospital*	115	102
Francis Hospital	100	28
Vincent's Hospital*	150	130
komo, 30,067—Howard		
od Samaritan Hospital	40	18
fayette, 22,456—Tippecanoe		
fayette Home Hospital	80	60
Elizabeth's Hospital	175	110
abash Valley Sanitarium	45	40
Porte, 15,158—LaPorte		
ly Family Hospital	50	43
banon, 6,257—Boone		
llams Hospital	30	11
tham Memorial Hospital	25	10
nton, 5,906—Greene		
eeman City Hospital	25	8
gansport, 21,626—Cass		
Joseph's Hospital	60	40
adison, 6,711—Jefferson		
nny's Sanitarium	25	...
ng's Daughter's Hospital	25	12
arion, 23,747—Grant		
ant County Hospital	40	21
artinsville, 4,895—Morgan		
rnard's Sanitarium	30	25
me Lawn Mineral Springs Sanit.	110	...
tional Sanitarium	70	...
chigan City, 19,457—LaPorte		
Anthony's Hospital	80	20
shawaka, 15,195—St. Joseph		
Joseph's Hospital	90	45
ncie, 36,524—Delaware		
ncie Home Hospital	60	50
w Albany, 22,992—Floyd		
Edward's Hospital	102	62
wcastle, 14,458—Henry		
ller Hospital	31	20
blesville, 4,758—Hamilton		
milton County Hospital	25	9
klandon, 353—Marion		
nnyside Sanatorium	78	76
ru, 12,561—Miami		
ami County Hospital	30	12
abash R. R. Employees' Hosp.	50	25
inceton, 7,132—Gibson		
thodist Hospital	25	15
hmond, 26,728—Wayne		
ld Memorial Hospital	65	39
me City, 450—Noble		
elpp Sanitarium	200	175
uth Bend, 70,983—St. Joseph		
worth Hospital	75	60
althwin Hospital (T.B.)	56	50
Joseph Hospital	52	40
llivan, 4,489—Sullivan		
llivan County Hospital	35	18
rre Haute, 65,914—Vigo		
Anthony's Hospital*	150	125
lon Hospital	75	65
ncennes, 17,210—Knox		
wers-Leacher Sanitarium	25	20
od Samaritan Hospital	50	35
nox County Infirmary	32	...
shington, 8,705—Daviess		
viess County Hospital	25	15
Winchester, 4,021—Randolph		
Randolph County Hospital	25	(New)
Thirty-Three General Hospitals of less than 25 beds	523	130
Totals	5,859	3,143

In Indiana the following thirty-nine counties have no hospitals: Adams, Benton, Blackford, Brown, Carroll, Crawford, Dearborn, Decatur, Dubois, Fountain, Franklin, Hancock, Harrison, Jennings, Johnson, Marshall, Martin, Newton, Ohio, Orange, Parke, Perry, Pike, Posey, Putnam, Ripley, Scott, Shelby, Spencer, Starke, Switzerland, Tipton, Union, Vermillion, Warren, Warrick, Washington, White, Whitley.

IOWA	Total Beds	Av.Beds In Use
Akron, 1,324—Plymouth		
Akron Hospital	25	(New)
Albia, 5,067—Monroe		
Miners Hospital	35	25
Ames, 6,270—Story		
Iowa State College Hospital	60	20
Mary Greeley Hospital	32	...
Anamosa, 2,881—Jones		
Mercy Hospital	45	...
Atlantic, 5,329—Cass		
Atlantic Hospital	40	25
C. R. Jones Hospital	50	25
Boone, 12,451—Boone		
Eleanor Moore Hospital	35	25
Burlington, 24,057—Des Moines		
Burlington Hospital	65	50
Mercy Hospital	30	...
St. Francis Hospital	45	30
Carroll, 4,254—Carroll		
St. Anthony's Hospital	100	78
Cedar Rapids, 6,516—Linn		
Mercy Hospital	125	70
St. Luke's Hospital	90	71
Centerville, 8,486—Appanoose		
St. Joseph's Hospital	75	...
Charles City, 7,350—Floyd		
Cedar Valley Hospital	40	15
Cherokee, 4,552—Cherokee		
Sioux Valley Hospital	36	25
Clarinda, 4,511—Page		
Kennelworth Hospital	35	12
Clinton, 24,151—Clinton		
Jane Lamb Memorial Hospital	65	35
St. Joseph's Mercy Hospital	75	...
Council Bluffs, 36,162—Pottawattomie		
Jennie Edmundson Memorial Hosp.	75	65
Mercy Hospital	125	75
Cresco, 3,195—Howard		
St. Joseph's Mercy Hospital	46	20
Creston, 8,034—Union		
Cottage Hospital	60	...
Unity Hospital	42	20
Davenport, 56,727—Scott		
Davenport Hospital	42	27
Mercy Hospital*	125	90
Pine Knoll Sanitarium	50	34
St. Luke's Hospital	50	35
St. Robert's Hospital	30	...
Des Moines, 126,468—Polk		
Des Moines Detention Hospital	60	...
Iowa Congregational Hospital	54	21
Iowa Lutheran Hospital	100	80
Iowa Methodist Hospital*	235	170
Mercy Hospital*	250	...
Dubuque, 39,141—Dubuque		
City Detention Hospital	30	...
Finley Hospital	90	...
St. Joseph's Mercy Hospital	220	135
St. Joseph's Sanitarium	300	...
Fairfield, 5,948—Jefferson		
Jefferson County Hospital	35	19
Ft. Dodge, 19,347—Webster		
Boulder Lodge Sanatorium (T.B.)	25	15
St. Joseph's Mercy Hospital	50	30
Ft. Madison, 12,066—Lee		
Atchison, Topeka & Santa Fe Railroad Hospital	70	...
Sacred Heart Hospital	35	...
Grinnell, 5,362—Poweshiek		
St. Frances Hospital	50	20
Hampton, 2,992—Franklin		
Lutheran Hospital	75	35
Iowa City, 11,267—Johnson		
Mercy Hospital	100	90
University Hospital*	625	347
Keokuk, 14,423—Lee		
W. C. Graham Protestant Hospital	40	25
St. Joseph's Hospital	100	60
Marshalltown, 15,731—Marshall		
Evangelical Deaconess Home and Hospital	76	44
St. Thomas Mercy Hospital	35	24
Mason City, 20,065—Cerro Gordo		
Park Hospital	75	35
St. Joseph's Mercy Hospital	100	...
Monticello, 2,257—Jones		
John McDonald Hospital	35	25
Muscatine, 16,068—Muscatine		
Bellevue Hospital	37	17
Benjamin Hershey Memo. Hosp.	30	25
Nevada, 2,668—Story		
Iowa Sanitarium	40	25
New Hampton, 2,539—Chickasaw		
St. Joseph's Hospital	35	...
Oskaloosa, 9,427—Mahaska		
Abbott Hospital	40	30
Mahaska Hospital	25	14
Mercy Hospital	35	24
Ottumwa, 23,003—Wapello		
Ottumwa Hospital	55	39
St. Joseph's Hospital	40	...
Perry, 5,642—Dallas		
King's Daughters' Hospital	35	...
Shenandoah, 5,255—Page		
Henry and Catherine Hand Hosp.	30	12
Sioux City, 71,227—Woodbury		
Methodist Hospital	60	...
Lutheran Hospital	75	...
Samaritan Hospital	65	60
Sioux City Maternity Hospital	25	20
St. Joseph's Mercy Hospital*	175	150
St. Vincent's Hospital	114	83
Washington, 4,697—Washington		
Washington County Hospital	25	...
Waterloo, 36,230—Blackhawk		
St. Francis Hospital	100	85
Synodical Presbyterian Hospital	50	35
Waverly, 3,352—Bremer		
St. Joseph's Mercy Hospital	75	42
Forty-Four General Hospitals of less than 25 beds	669	83
Totals	6,388	2,821

In Iowa the following forty-three counties have no hospitals: Adair, Adams, Audubon, Benton, Buchanan, Butler, Calhoun, Cedar, Clarke, Decatur, Dickinson, Fremont, Greene, Grundy, Hamilton, Hancock, Harrison, Henry, Humboldt, Jackson, Jasper, Keokuk, Louisa, Lucas, Lyon, Madison, Marion, Mills, Mitchell, Monona, Montgomery, Osceola, Palo Alto, Pocahontas, Ringgold, Shelby, Tama, Taylor, Van Buren, Warren, Wayne, Winnebago, Worth.

KANSAS	Total Beds	Av.Beds In Use
Arkansas City, 11,253—Cowley		
Arkansas City Hospital	50	16
Atchison, 12,630—Atchison		
Atchison County Hospital	34	...
Atchison Hospital Association	32	32
Chanute, 10,286—Neosho		
Johnson Hospital	35	...
Coffeyville, 13,452—Montgomery		
Coffeyville Hospital	25	20
South East Kansas Hospital	25	10
Concordia, 4,705—Cloud		
Concordia General Hospital	25	8
St. Joseph's Hospital	75	55
Dodge City, 5,061—Ford		
McCarty Hospital	30	10
Eldorado, 10,995—Butler		
Eldorado Hospital and Training School	50	20
Emporia, 11,273—Lyon		
St. Mary's Hospital	35	...
Ft. Scott, 10,693—Bourbon		
Mercy Hospital	50	31
Goessel, 80—Marion		
Bethesda Hospital	30	15
Great Bend, 4,460—Barton		
St. Rose Hospital	25	16
Halstead, 1,663—Harvey		
Halstead Hospital†	60	50
Hays, 3,165—Ellis		
St. Anthony's Hospital	30	...
Herington, 4,065—Dickinson		
Herington Hospital	25	15
Hutchinson, 23,298—Reno		
Hutchinson Methodist Hospital	50	39
Independence, 11,920—Montgomery		
West Side Hospital	60	20
Iola, 8,513—Allen		
St. John's Hospital	30	...
Kansas City, 101,177—Wyandotte		
Bethany Methodist Hospital	125	110
St. Margaret's Hospital*	400	255
Lawrence, 12,456—Douglas		
Lawrence Hospital and Training School	30	11
Leavenworth, 16,912—Leavenworth		
County Hospital	70	65
Cushing Hospital	30	17
St. John's Hospital	75	...
Liberal, 3,613—Seward		
Liberal Hospital	40	20
Manhattan, 7,989—Riley		
Charlotte Swift Memorial Hosp.	25	...
Park View Hospital	26	...
McPherson, 4,595—McPherson		
McPherson Hospital	25	...
Mulvane, 1,002—Sumner		
Atchison, Topeka & Santa Fe Railway Hospital	45	15
Neodesha, 3,943—Wilson		
Wilson County Hospital	40	10
Newton, 9,781—Harvey		
Axtell Hospital	75	55
Bethel Deaconess Hospital	52	36

	Total Beds	Av.Beds In Use
Norton, 2,186—Norton		
Lathrop Hospital	30	12
Ottawa, 9,018—Franklin		
Atchison, Topeka & Santa Fe Railway Hospital	40	25
Parsons, 16,028—Labette		
Mercy Hospital	26	20
Pittsburg, 18,052—Crawford		
Mt. Carmel Hospital	100	55
Rosedale, 7,674—Wyandotte		
Bell Memorial Hospital*	75	56
Sabetha, 2,003—Nemaha		
Sabetha Hospital	40	25
Salina, 15,085—Saline		
St. Barnabas Hospital	30	23
St. John's Hospital	65	...
Topeka, 50,022—Shawnee		
Atchison, Topeka & Santa Fe Railway Hospital	42	18
Christ's Hospital*	70	35
Detention Hospital	40	...
Jane C. Stormont Hospital	54	42
Santa Fe Hospital	100	62
St. Francis Hospital	65	43
Topeka Tuberculosis Hospital	25	...
Waconda Springs (P.O. only)—Mitchell		
Waconda Sanitarium	30	...
Wellington, 7,048—Sumner		
Hatcher Hospital	30	...
Wichita, 72,217—Sedgwick		
Kansas Sanitarium	40	32
St. Francis Hospital*	300	200
Wesley Hospital	40	30
Wichita Hosp. and Train'g School*	150	95
Winfield, 7,933—Cowley		
St. Mary's Hospital	50	40
Winfield Hospital	30	14
Thirty-two General Hospitals of less than 25 beds	496	156
Totals	3,802	1,934

In Kansas the following sixty counties have no hospitals: Anderson, Barber, Chase, Chatauqua, Cherokee, Cheyenne, Clark, Coffey, Comanche, Doniphan, Edwards, Elk, Geary, Gove, Graham, Grant, Gray, Greeley, Greenwood, Hamilton, Haskell, Hodgeman, Jackson, Jefferson, Jewell, Johnson, Kearney, Kiowa, Lane, Lincoln, Linn, Logan, Marshall, Meads, Morten, Ness, Osage, Osborne, Ottawa, Phillips, Pottawatomie, Pratt, Rawlins, Republic, Rooks, Rush, Russell, Scott, Sheridan, Sherman, Smith, Stanton, Stevens, Thomas, Trego, Wabaunsee, Wallace, Washington, Wichita, Woodson.

KENTUCKY	Total Beds	Av.Beds In Use
Ashland, 14,729—Boyd		
King's Daughters' Hospital	48	20
Berea, 1,640—Madison		
Berea College Hospital	53	...
Robinson Hospital and Clinic	25	20
Bowling Green, 9,638—Warren		
St. Joseph's Hospital	25	...
Corydon, 1,019—Henderson		
Henderson County Sanitarium	65	...
Covington, 57,121—Kenton		
Booth Memorial Hospital	50	32
Covington General Hospital	30	...
Kenton County Infirmary	110	70
St. Elizabeth's Hospital*	350	150
Dayton, 7,646—Campbell		
Speer's Memorial Hospital	100	54
Frankfort, 9,805—Franklin		
King's Daughters' Hospital	28	...
Franklin, 3,154—Simpson		
Southern Kentucky Sanitarium	50	25
Georgetown, 3,903—Scott		
John Graves Ford Memorial Hosp.	26	10
Hazard, 4,348—Perry		
Hazard Iudustrial Hospital	30	...
Henderson, 12,169—Henderson		
City Hospital	25	...
Eruptive Hospital	40	...
Henderson Co. Tuberculosis Hosp.	25	15
Hopkinsville, 9,696—Christian		
Jennie Stuart Memorial Hosp.	25	15
Jackson, 1,503—Breathitt		
Bach Hospital	30	16
Jenkins, 4,707—Letcher		
Jenkins Hospital	50	...
Lexington, 41,534—Fayette		
Blue Grass Sanatorium	52	51
Good Samaritan Hospital*	125	84
St. Joseph's Hospital	150	140
Louisville, 234,891—Jefferson		
Cessna Sanitarium	40	...
Children's Free Hospital	75	50
German Methodist Deaconess Home and Hospital	75	50
Hazelwood Sanatorium (T.B.)	65	30
Jewish Hospital	80	...
J. N. Norton Memorial Infirmary*	110	85
Louisville City Hospital*	400	274
St. Anthony's Hospital*	90	...
St. Joseph's Infirmary*	100	85
SS. Mary and Elizabeth Hospital	145	135
Murray, 2,415—Calloway		
Wm. Mason Memorial Hospital	75	(New)
Owensboro, 17,424—Daviess		
Owensboro City Hospital	50	...
Paducah, 24,735—McCracken		
Illinois Central Hospital†	90	40
McCracken Co. Tuberculosis Sanat.	36	...
Riverside Hospital	100	...
Paris, 6,310—Bourbon		
Massie Memorial Hospital	50	28
Pewee Valley, 651—Oldham		
Kentucky Confederate Home Infir.	36	35
Richmond, 5,622—Madison		
Gibson Infirmary	41	...
Waverly Hill [2] (Village)—Jefferson		
Waverly Hill Sanatorium	200	152
Winchester, 7,866—Clark		
Clark County Hospital	35	10
Eighteen General Hospitals of less than 25 beds	297	53
Totals	3,702	1,729

In Kentucky the following eighty-eight counties have no hospitals: Adair, Allen, Anderson, Ballard, Barren, Bath, Bell, Boone, Bracken, Breckenridge, Bullitt, Butler, Caldwell, Carlisle, Carroll, Carter, Casey, Clay, Clinton, Crittenden, Cumberland, Edmonson, Elliott, Estill, Fleming, Floyd, Fulton, Gallatin, Garrard, Grant, Graves, Grayton, Green, Greenu, Hancock, Hardin, Harlan, Hart, Henry, Hickman, Hopkins, Jackson, Jessamine, Johnson, Knott, Knox, Larue, Laurel, Lee, Leslie, Lewis, Lincoln, Livingston, Logan, Lyon, McCreary, McLean, Magoffin, Marshall, Martin, Meads, Metcalf, Mouroe, Montgomery, Morgan, Muhlenberg, Nelson, Nicholas, Ohio, Owen, Owsley, Pendleton, Pike, Powell, Robertson, Rockcastle, Rowan, Russell, Spencer, Taylor, Todd, Trigg, Trimble, Union, Washington, Wayne, Webster, Wolfe.

LOUISIANA	Total Beds	Av.Beds In Use
Abbeville, 3,461—Vermilion		
Vermilion Sanitarium	25	15
Alexandria, 17,510—Rapides		
Baptist Hospital	60	28
Baton Rouge, 21,782—East Baton Rouge		
Baton Rouge Sanitarium	27	...
Bogalusa, 8,245—Washington		
Bogalusa Hospital	65	...
New Fenwick Sanitarium	38	...
Greenwood, 250—Caddo		
The Pines (T.B.)	75	25
Hygeia (P.O. only) St. Tammany		
Camp Hygeia (T.B.)	50	35
Lake Charles, 13,088—Calcasieu		
St. Patrick Sanitarium	35	...
Monroe, 12,675—Ouachita		
St. Francis Sanitarium	130	100
New Orleans, 387,408—Orleans		
Charity Hospital*	1,219	833
Eye, Ear, Nose and Throat Hosp.†	30	27
Flint-Goodridge Hospital	60	24
French Hospital	65	20
Hotel Dieu Hospital	166	125
Illinois Central R. R. Hospital*	70	35
Isolation Hospital	75	...
New Orleans Dispensary and Hospital for Women and Children	38	35
Presbyterian Hospital of New Orleans	104	91
Providence Hospital and Training School for Nurses	25	...
Small-Pox Hospital	40	...
Touro Infirmary*	278	235
Patterson, 2,538—St. Mary		
St. Mary's Hospital	30	21
Shreveport, 43,874—Caddo		
Highland Sanitarium	60	35
North Louisiana Sanitarium	75	50
T. E. Schumpert Memorial Sanit.*	250	...
Shreveport Charity Hospital	250	188
Twelve General Hospitals of less than 25 beds	210	63
Totals	3,550	1,985

In Louisiana the following forty-eight counties have no hospitals: Allen, Ascension, Assumption, Beauregard, Bienville, Bossier, Caldwell, Cameron, Catahoula, Claiborne, Concordia, De Soto, East Carroll, East Feliciana, Evangeline, Franklin, Grant, Iberville, Jackson, Jefferson, Jefferson Davis, Lafourche, La Salle, Lincoln, Livingston, Madison, Morehouse, Natchitoches, Plaquemines, Pointe Coupee, Red River, Richland, Sabine, St. Bernard, St. Charles, St. Helena, St. James, St. John the Baptist, St. Martin, Tensas, Terrebonne, Union, Vernon, Webster, W. Baton Rouge, West Carroll, West Feliciana, Winn.

MAINE	Total Beds	Av.Beds In Use
Augusta, 14,114, Kennebec		
Augusta General Hospital	93	39
Bangor, 25,948—Penobscot		
Eastern Maine General Hospital*	120	100
Bar Harbor, 1,181—Hancock		
Bar Harbor Med. and Surg. Hosp.	35	10
Bath, 14,731—Sagadahoc		
Bath City Hospital	50	30
Biddeford, 18,008—York		
Trull Hospital	35	.
Webber Hospital	50	
Eagle Lake, 700—Aroostook		
Northern Maine General Hospital.	32	
East Parsonfield, 300—York		
Maple Crest Sanatorium (T.B.)	35	
Fairfield, 2,747—Somerset		
Central Maine Sanatorium	157	1
Greenville Junction, 330—Piscataquis		
Charles A. Dean Hospital	25	
Hebron, 400—Oxford		
Western Maine Sanatorium	107	1
Houlton, 6,191—Aroostook		
Aroostook Hospital	30	.
Madigan Memorial Hospital	30	
Lewiston, 31,791—Androscoggin		
Central Maine General Hospital*	114	
St. Mary's General Hospital	140	
Norridgewock, 1,700—Somerset		
Norridgewock Sanatorium	35	.
Portland, 69,272—Cumberland		
Children's Hospital	70	
Dr. Cousin's Private Hospital	50	
Dr. File's Private Hospital	32	
Isolation Hospital	40	.
Maine Eye and Ear Infirmary*	100	
Maine General Hospital*	160	1
Portland City Hospital	70	.
Presque Isle, 3,452—Aroostook		
Presque Isle General Hospital	50	
Rockland, 8,109—Knox		
Knox County General Hospital	31	
Silsby Hospital	26	
Waterville, 13,351—Kennebec		
Sister's Hospital	38	
Fourteen General Hospitals of less than 25 beds	217	
Totals	1,972	1,0

In Maine the following two counties have hospitals: Franklin and Washington.

MARYLAND	Total Beds	Av.Be In U
Annapolis, 11,214—Anne Arundel		
Annapolis Emergency Hospital	42	
Baltimore, 584,605—Baltimore City		
Baltimore City Jail Hospital	36	
Baltimore Eye, Ear and Throat Charity Hospital†	40	.
Bay View Asylum*	1,800	1,1
Bledlcr-Sellman Sanatorium	120	.
Children's Hospital	55	
Church Home and Infirmary*	175	1
Franklin Square Hospital*	112	
Hahnemann General Hospital	75	.
Hebrew Hospital and Asylum*	178	1
Hospital for Women of Maryland†	124	
Howard A. Kelley Hospital	35	
Johns Hopkins Hospital*	625	4
Maryland General Hospital*	200	1
Mercy Hospital*	260	2
Presbyterian Eye, Ear and Throat Charity Hospital	60	
Provident Hospital and Free Dispensary	50	
Robt. Garrett Hosp. for Children	31	
South Baltimore General Hosp.*	75	
Southern Hospital	52	.
St. Agnes Hospital*	250	1
St. Joseph's Hospital*	275	2
St. Vincent's Infant Asylum and Maternity Hospital	25	.
Sydenham Hospital	50	
Union Memorial Hospital*	112	
University of Maryland Hospital*	270	2
University of Maryland Lying-In Hospital†	33	.
Cambridge, 7,467—Dorchester		
United Charities Hospital	70	
Crisfield, 4,116—Somerset		
General and Marine Hospital	30	.
Cumberland, 29,837—Allegany		
Allegany Hospital for the Sisters of Charity	100	
Western Maryland Hospital	75	
Easton, 3,442—Talbot		
Easton Emergency Hospital	50	
Elkton, 2,660—Cecil		
Union Hospital	30	
Forest Glen, 125—Montgomery		
Frederick Hospital	70	.
Frostburg, 6,017—Allegany		
Miners Hospital	50	.
Hagerstown, 28,066—Washington		
Washington County Hospital	84	
Havre de Grace, 4,374—Harford		
Havre de Grace Hospital	50	
Hillsdale,[3]—Baltimore		
James L. Kernan Hospital and Industrial School for Crippled Children	75	.
Mt. Airy, 622—Carroll		
Robert Garrett Sanitarium	26	.
Mt. Wilson [3]—Baltimore		
Thomas Wilson Sanitarium†	100	.

2. Small Village, postoffice is Valley Station.

3. Suburb of Baltimore.

	Total Beds	Av.Beds In Use
isbury, 7,502—Wicomico		
alnsula General Hospital	60	45
ie Bluff Sanatorium (T.B.)	30	...
wson, 3,500—Baltimore		
dowood Sanatorium (T.B.)	110	100
e General Hospitals of less nan 25 beds	104	29
Totals	6,274	3,900

n Maryland the following eleven counties ve no hospitals: Calvert, Caroline, Charles, rrett, Howard, Kent, Montgomery, Prince orges, Queen Annes, Saint Mary's, Worcester.

MASSACHUSETTS	Total Beds	Av.Beds In Use
dover, 8,230—Essex		
am Infirmary	40	...
ington, 18,646—Middlesex		
nmes Arlington Hospital	50	28
leboro, 19,731—Bristol		
leboro Sanitarium	75	35
stol Co. Tuberculosis Hospital	60	46
rdy Memorial Hospital	35	20
verly, 22,561—Essex		
verly Hospital	60	46
ston, 747,923—Suffolk		
h Israel Hospital	50	35
othby Surgical Hospital	50	...
ston City Hospital*	1,202	763
ston Consumptives' Hospital T.B.)†	420	360
ston Dispensary and Hospital or Children†	30	25
ston Floating Hospital†	200	100
ston Lying-In Hospital†	54	40
ney Hospital*	161	...
ildren's Hospital†	150	138
llis P. Huntington Memorial lospital†	25	15
ot Hospital	36	20
erson Hospital	50	40
alkner Hospital	73	46
way Hospital	30	...
rt Private Hospital	50	30
ants' Hospital†	50	43
g Island Hospital	450	349
Leod Hospital	25	15
ssachusetts Charitable Eye and Ear Infirmary†	210	113
ssachusetts General Hospital*	345	313
ssachusetts Homeopathic Hospital*	559	406
w England Baptist Hospital	55	52
w England Deaconess Hospital	95	87
w England Hospital for Women nd Children*	178	82
er Bent Brigham Hospital*	225	185
bey Hospital	30	25
Elizabeth's Hospital*	200	131
Margaret's Maternity Hospital	30	...
Mary's Infant Asylum and ying-In Hospital†	250	250
litha Cumi Maternity Home and lospital	35	25
ckton, 66,138—Plymouth		
ckton Hospital*	150	64
ddard Hospital	36	25
okline, 37,748—Norfolk		
ard of Health Hospital	60	...
oke Hospital	45	...
ey Hill Hospital	34	28
c Hospital for Women†	63	45
nmit Hospital	30	25
mbridge, 109,456—Middlesex		
nbridge City Hospital	50	47
nbrigde Hospital*	100	70
nbridge Relief Hospital	35	...
nbridge Tuberculosis Hospital	150	...
arlesgate Hospital	50	...
ester Hospital	51	...
elsea, 43,184—Suffolk		
elsea Memorial Hospital*	75	55
nton, 12,964—Worcester		
nton Hospital	77	40
ncord, 6,461—Middlesex		
aconess Hospital	25	16
rtmouth, 5,330—Bristol		
ary Hospital	25	...
st Bridgewater, 3,363—Plymouth		
llet Sanatorium (T.B.)	25	20
erett, 48,109—Middlesex		
idden Memorial Hospital	30	22
ll River, 126,904—Bristol		
y View Hospital (T.B.)	65	63
ll River City Hospital*	125	65
Ann's Hospital	150	...
esdale Hospital	60	35
lon Hospital*	150	79
chburg, 41,013—Worcester		
rbank Hospital*	125	96
rbank Hospital (Tubercuolsis Sanatorium)	29	...
mingham, 16,785—Middlesex		
mingham Hospital	100	65
lon Avenue Hospital	40	35
rdner, 16,960—Worcester		
nry Heywood Memorial Hosp.	43	36
ucester, 22,947—Essex		
dison Gilbert Hospital	30	17
enfield, 15,462—Franklin		
nklin County Public Hospital	60	39
Haverhill, 53,884—Essex		
Gen. Stephen Henry Gale Hosp.	125	95
Hale Hospital	80	38
Haverhill City Hospital	40	...
Haverhill Contaglous Hospital	32	10
Haverhill Sanatorium (T.B.)	30	...
Holyoke, 60,203—Hampden		
Carpenter Hospital for Contaglous Diseases	28	...
Holyoke City Hospital	125	85
Holyoke Sanatorium (T.B.)	50	35
Providence Hospital	125	120
Lawrence, 94,270—Essex		
Cottage Hospital	84	...
Lawrence General Hospital*	147	89
Lawrence Tuberculosis Hospital	88	59
Lowell, 112,479—Middlesex		
Chelmsford Street Hospital	200	100
Lowell Corporation Hospital*	100	55
Lowell General Hospital*	160	57
St. John's Hospital (new)*	120	80
Ludlow, 7,470—Hampden		
Ludlow Hospital Society	25	15
Lynn, 99,148—Essex		
Hospital for Contagious Diseases.	50	...
Lynn City Tuberculosis Sanit.	60	...
Lynn Hospital*	136	86
Union Hospital	100	67
Malden, 49,103—Middlesex		
Malden Contaglous Hospital	56	21
Malden Hospital	100	68
Marblehead, 7,324—Essex		
Children's Island Sanitarium	75	...
Marlboro, 15,017—Middlesex		
Marlboro Hospital	50	25
Medford, 38,687—Middlesex		
Medford Hospital	25	...
Melrose, 18,204—Middlesex		
Melrose Hospital	60	...
New England Sanitarium	120	77
Middleton, 1,195—Essex		
Essex Sanatorium	100	...
Milford, 13,055—Worcester		
Milford Hospital	50	30
Milton, 9,382—Norfolk		
Milton Convalescent Home and Hospital	31	...
Montague City, 7,675—Franklin		
Farren Memorial Hospital	50	...
Natick, 9,866—Middlesex		
Leonard Morse Hospital	50	30
New Bedford, 121,217—Bristol		
Dr. Derby's Private Hospital	30	...
New Bedford Tuberculosis Sanat.	115	114
St. Luke's Hospital*	250	150
Newburyport, 15,609—Essex		
Anna Jaques Hospital	76	35
Newburyport Homeopathic Hosp.	30	12
Newton, 46,038—Middlesex		
Newton Hospital*	165	113
North Adams, 22,282—Berkshire		
Berkshire Hills Sanitarium	150	...
North Adams Hospital	75	50
Northampton, 19,846—Hampshire		
Cooley Dickenson Hospital	116	...
Hampshire County Sanat. (T.B.)	50	36
Peabody, 19,552—Essex		
Josiah B. Thomas Hospital	50	28
Pittsfield, 41,534—Berkshire		
Hillcrest Hospital	37	33
House of Mercy Hospital*	175	85
Plymouth, 13,032—Plymouth		
Jordan Hospital	70	32
Pocasset, 200—Barnstable		
Barnstable County Infirmary	35	24
Quincy, 47,611—Norfolk		
City Hospital of Quincy	80	56
Salem, 42,515—Essex		
Health Dept. Hospital for Contaglous Diseases	50	25
North Shore Babies' Hospital	30	30
Salem Hospital*	108	74
Sharon, 2,310—Norfolk		
Sharon Sanatorium (T.B.)	45	34
Somerville, 93,033—Middlesex		
Chandler Street Hospital	25	...
Somerville Contagious Dis. Hosp. (T.B. and Cont.)	75	22
Somerville Cottage Hospital	25	...
Somerville Hospital	60	...
South Braintree, 4,100—Norfolk		
Norfolk County Hospital (T.B.)	75	24
South Hanson, 422—Plymouth		
Plymouth Co. Hosp. (T.B.) (new)	66	52
Springfield, 129,338—Hampden		
Health Department Hospital	91	...
Mercy Hospital*	200	132
Springfield Hospital*	185	114
Wesson Maternity Hospital	48	37
Wesson Memorial Hospital	70	...
Taunton, 37,137—Bristol		
Morton Hospital	75	38
Waltham, 30,891—Middlesex		
Waltham Hospital*	110	70
Wellesley Hills, 2,588—Norfolk		
Convalescent Home of the Children's Hospital	75	53
Westfield, 18,603—Hampden		
Noble Hospital	55	...
West Rutland, 210—Worcester		
Prison Camp and Hospital (T.B.)	100	...
Winchendon, 5,901—Worcester		
Millers' River Hospital	25	18
Winchester, 10,391—Middlesex		
Winchester Hospital	50	26
Woburn, 16,565—Middlesex		
Charles Choates Memorial Hosp.	50	22
Worcester, 179,741—Worcester		
Belmont Hospital	75	...
Memorial Hospital*	200	136
St. Vincent's Hospital*	150	93
Worcester City Hospital*	360	227
Worcester Emergency Hospital	30	...
Worcester Hahnemann Hospital	30	25
Forty-six General Hospitals of less than 25 beds	785	219
Totals	15,225	8,331

In Massachusetts the following county has no hospital: Dukes.

MICHIGAN	Total Beds	Av.Beds In Use
Albion, 8,354—Calhoun		
Albion Hospital	25	12
Almont, 789, Lapeer		
Burley Hospital	30	10
Ann Arbor, 19,516—Washtenaw		
Ann Arbor Private Hospital	25	15
St. Joseph's Sanitarium	80	65
University of Michigan Homeopathic Hospital*	154	114
University Hospital*	400	340
Bad Axe, 2,140—Huron		
Hubbard Memorial Hospital	30	21
Battle Creek, 36,164—Calhoun		
Battle Creek Sanitarium	700	500
Nichols Memorial Hospital (T.B. and N. and M.)	100	77
Bay City, 47,554—Bay		
Bay City Hospital	32	...
Detention Hospital	30	...
Mercy Hospital	125	50
West Side Hospital	35	...
Benton Harbor, 12,227—Berrien		
Mercy Hospital	50	25
Cadillac, 9,734—Wexford		
Mercy Hospital	30	27
Coldwater, 6,114—Branch		
Branch County Infirmary	60	...
Detroit, 993,739—Wayne		
Children's Free Hospital†	120	102
City of Detroit Receiving Hosp.*	340	140
Delray Industrial Hospital	80	60
Detroit Tuberculosis Sanatorium	175	161
Grace Hospital*	348	300
Harper Hospital*	440	390
Henry Ford Hospital*	70	55
Herman Kiefer Hospital	600	441
Michigan Hospital School	36	35
Michigan Mutual Hospital	40	31
Mirian Memorial Hospital	34	...
Providence Hospital*	350	275
Samaritan Hospital	64	49
St. Mary's Hospital*	325	280
Woman's Hospital and Infants' Home†	108	65
East Grand Rapids, 800—Kent		
Reed's Lake Sanitarium	60	...
Eloise, 700—Wayne		
Eloise Sanatorium (T.B.)	56	...
Escanaba, 13,103—Delta		
Laing Hospital	25	...
St. Francis Hospital	85	65
Flint, 51,599—Genesee		
Hurley Hospital	125	68
Ford City [4] (Village)—Wayne		
Emergency Hospital	25	...
Goodrich, 300—Genesee		
Goodrich General Hospital	30	...
Grand Rapids, 137,634—Kent		
Blodgett Memorial Hospital*	140	90
Butterworth Hospital*	150	100
DeVore Hospital and Sanitarium.	50	40
Municipal Isolation Hospital	80	...
Municipal Tuberculosis Sanat.	45	42
St. Mary's Hospital*	100	78
Grayling, 2,450—Crawford		
Mercy Hospital	30	16
Hancock, 7,527—Houghton		
Hancock Public Hospital	25	...
Houghton Co. Detention Hosp	25	...
St. Joseph's Hospital	50	...
Harbor Beach, 1,928—Huron		
Harbor Beach Hospital	25	...
Highland Park, 46,499—Wayne		
Highland Park Contagious Hosp.	48	25
Houghton, 4,456—Houghton		
Houghton Co. Tuberculosis Sanat.	56	...
Iron Mountain, 8,251—Dickinson		
Scandinavian Hospital	36	19
St. George's Hospital	25	...
Ironwood, 15,739—Gogebic		
Union Hospital	30	15
Ishpeming, 10,500—Marquette		
Dr. Holm's Hospital	40	25
Ishpeming Hospital	50	17
Jackson, 48,374—Jackson		
W. A. Foote Memorial Hospital	125	...
Mercy Hospital	35	...

4. Small village. Postoffice is Wyandotte.

	Total Beds	Av. Beds In Use
Kalamazoo, 48,858—Kalamazoo		
Borgess Hospital	150	...
Bronson Hospital	50	...
Fairmount Hosp. (T.B. & Cont.)	100	...
Lake Linden, 2,182—Houghton		
Lake Superior General Hospital	30	...
Lansing, 57,327—Ingham		
Edward W. Sparrow Hospital	60	...
Laurium, 6,696—Houghton		
Calumet Public Hospital	25	15
Ludington, 8,810—Mason		
Paulina Stearns Hospital	30	20
Manistee, 9,698—Manistee		
Mercy Hospital and Sanitarium	114	26
Marquette, 12,718—Marquette		
Morgan Heights Tuberc. Sanat	30	20
St. Luke's Hospital	52	32
St. Mary's Hospital	122	85
Menominee, 8,907—Menominee		
St. Joseph's Hospital	65	...
Mt. Clemens, 9,488—Macomb		
Allenel Sanitarium	81	48
Mt. Clemens Sanitarium	105	...
St. Joseph's Sanitarium	120	25
Muskegon, 36,570—Muskegon		
Hackley Hospital*	100	65
Mercy Hospital	50	24
Negaunee, 7,419—Marquette		
Negaunee Hospital	30	...
New Buffalo, 496—Berrien		
Forest Beach Sanatorium	32	...
Petoskey, 5,064—Emmet		
Lockwood Hospital and Deaconess Home	25	12
Petoskey Hospital	40	27
Pontiac, 34,273—Oakland		
Pontiac City Hospital	50	40
Pt. Huron, 25,944—St. Clair		
Pt. Huron Hospital	58	40
Saginaw, 61,903—Saginaw		
Contagious Disease Hospital	25	...
Saginaw General Hospital	48	46
Saginaw Tuberculosis Hospital	32	23
St. Mary's Hospital	85	55
Woman's Hospital	50	30
Sault Ste. Marie, 12,096—Chippewa		
Sault Ste. Marie Hospital	32	19
Talbot (P.O. only)—Menominee		
Menominee County Infirmary	30	...
Trimountain, 2,500—Houghton		
Copper Range Hospital*	25	15
Forty-nine General Hospitals of less than 25 beds	777	189
Totals	9,230	5,095

In Michigan the following thirty-five counties have no hospitals: Alcona, Antrim, Arenac, Baraga, Barry, Benzie, Charlevoix, Cheboygan, Clare, Gladwin, Grand Traverse, Hillsdale, Iosco, Kalkaska, Lake, Leelanau, Livingston, Luce, Mackinac, Midland, Missaukee, Monroe, Montgomery, Newaygo, Oceano, Ogemaw, Ontonagon, Osceola, Oscoda, Otsego, Ottawa, Presque Isle, Roscommon, Sanilac, Shiawassee.

MINNESOTA	Total Beds	Av. Beds In Use
Albert Lea, 8,056—Freeborn		
Naeve Hospital	50	...
Anoka, 4,289—Anoka		
Dr. Kline's Sanatorium	30	...
Austin, 10,118—Mower		
St. Olaf Hospital	60	15
Battle Lake, 628—Ottertail		
Ottertail County Sanat. (T.B.)	45	40
Bemidji, 7,086—Beltrami		
St. Anthony's Hospital	125	...
Braham, 511—Isanti		
Braham Hospital	25	14
Brainerd, 9,591—Crow Wing		
Northern Pacific Beneficial Association Hospital*	200	...
Northwestern Medical and Surgical Association, Inc	26	16
St. Joseph's Hospital	36	20
Breckenridge, 2,401—Wilkin		
St. Francis Hospital	56	30
Buhl, 2,007—St. Louis		
Shaw Hospital	36	18
Cannon Falls, 1,315—Goodhue		
Mineral Springs Sanat. (T.B.)	28	25
Crookston, 6,825—Polk		
Bethesda Hospital	35	...
St. Vincent's Hospital	40	...
Sunnyrest Sanatorium (T.B.)	50	28
Crosby, 3,500—Crow Wing		
Miners' Hospital	25	5
Dawson, 1,511—Lac Qui Parle		
Dawson Surgical Hospital	25	16
Duluth, 98,917—St. Louis		
Contagious Hospital	35	10
City Isolation Hospital	40	...
Morgan Park Hospital†	32	25
St. Louis County Almshouse Hospital and Tuberculosis Pavilion	70	...
St. Luke's Hospital Assn	90	85
St. Mary's Hospital*	225	170
Ely, 4,902—St. Louis		
Shipman Hospital	30	7
Eveleth, 7,205—St. Louis		
More Hospital	30	15
Faribault, 11,089—Rice		
St. Lucas Evangelical Deaconess Hospital	50	36
Fergus Falls, 7,581—Ottertail		
George B. Wright Memorial Hospital	45	35
St. Luke's Hospital	50	...
Frazee, 1,277—Becker		
Frazee Hospital	30	...
Granite Falls, 1,454—Yellow Medicine		
Riverside Sanatorium (T.B.)	50	45
Hibbing, 15,089—St. Louis		
Hibbing Detention Hospital (T.B. and Cont.)	31	...
Hood Hospital	50	15
Hopkins, 3,000—Hennepin		
Glen Lake Sanatorium (T.B.)	190	104
International Falls, 3,448—Koochiching		
Northern Minnesota Hospital	50	23
Lake City, 2,846—Wabasha		
Lake City Hospital	25	15
Lake Park, 700—Becker		
Sand Beach Sanat. (T.B.)	26	24
Litchfield, 2,790—Meeker		
Litchfield Hospital	28	15
Little Falls, 5,500—Morrison		
St. Gabriel's Hospital	60	30
Mankato, 12,469—Blue Earth		
Evangelical Lutheran Immanuel Hospital	60	...
St. Joseph's Hospital	55	30
Marshall, 3,092—Lyon		
Marshall Hospital	25	12
Minneapolis, 380,582—Hennepin		
Abbott Hospital* (54 new)	106	35
Asbury Hospital	300	174
Eitel Hospital	125	75
Fairview Hospital	100	74
Hill Crest Surgical Hosp	35	...
Hopewell Hospital (T.B.)	134	125
Lymanhurst Hospital	70	...
Martha Ripley Memorial Hosp	100	73
Minneapolis General Hospital*	770	488
Northwestern Hospital*	100	90
Norwegian Lutheran Deaconess Hospital	99	79
Rest Hospital	25	...
St. Andrew's Hospital of the German Lutheran Church	35	31
St. Barnabas Hospital	175	11
St. Mary's Hospital*	225	200
Swedish Hospital*	175	142
Thomas Tubercular Hospital	65	60
University Hospital*	192	153
Montevideo, 4,419—Chippewa		
Montevideo Hospital	25	18
Moorhead, 5,720—Clay		
Northwestern Hospital	50	30
New Ulm, 6,745—Brown		
Loretto Hospital	35	...
Union Hospital	33	...
Nopeming (P.O. only)—St. Louis		
Nopeming Sanat. (T.B.)†	190	184
Ortonville, 1,774—Bigstone		
Ortonville Evangelical Hospital	25	15
Owatonna, 7,252—Steele		
Owatonna City Hospital	35	18
Pokegama (P.O. Only)—Pine		
Pokegama Sanatorium (T.B.)	50	31
Princeton, 1,685—Millelacs		
Northwestern Hospital	35	20
Puposky, 75—Beltrami		
Lake Julia Sanat (T.B.)	28	...
Red Wing, 8,637—Goodhue		
Red Wing Hospital	30	18
St. John's Hospital	75	30
Rochester, 13,722—Olmsted		
Oronoco Sanitarium (T.B.)	25	...
Colonial Sanatorium	230	220
St. Mary's Hospital*	256	23
Stanley Hospital	60	55
Worrell Hospital	131	115
Slayton, 1,045—Murray		
Home Hospital	30	15
Springfield, 1,849—Brown		
St. John's Deaconess Hospital	25	...
St. Cloud, 11,621, Stearns		
St. Raphael's Hospital	75	...
St. James, 2,673, Watonwan		
St. James Hospital and Sanit.	50	15
St. Paul, 234,680—Ramsey		
Bethesda Hospital and Deaconess Home*	130	85
Chas. T. Miller Hosp.*	216	(New)
Children's Preventorium of Ramsey County (T.B.)	45	45
City and County Hospital*	800	500
Cobb Hospital	25	15
Dale Street Infirmary	72	...
Minnesota State Hospital for Indigent, Crippled and Deformed Children†	200	130
Mounds Park Sanitarium*	130	120
Nugent Sanitarium	50	...
St. John's Hospital	75	70
St. Joseph's Hospital*	150	14
St. Luke's Hospital*	145	1
St. Paul Hospital	100	
West Side General Hospital	30	...
Stillwater, 7,735—Washington		
Stillwater City Hospital	25	...
Thief River Falls, 4,685—Pennington		
Oakland Park Sanat. (T.B.)	25	
Physicians' Hospital	25	
Two Harbors, 4,456—Lake		
Burns and Christinsen Hospital.	25	
Virginia, 14,022—St. Louis		
McIntyre Hospital	25	
Virginia Hospital	25	...
Wabasha, 2,622—Wabasha		
St. Elizabeth's Hospital	50	
Wadena, 1,820—Wadena		
Fair Oak Lodge Sanat. (T.B.)	32	
Warren, 1,772—Marshall		
Warren Hospital	40	
Winona, 19,143—Winona		
Winona General Hospital	85	
Sixty-three General Hospitals of less than 25 beds	956	
Totals	10,074	5,26

In Minnesota the following twenty-three counties have no hospitals: Aitkin, Benton, Chisago, Clearwater, Cook, Dodge, Faribault, Fillmore, Hubbard, Kanabec, Kittson, Lesueur, Lincoln, McLeod, Mahnomen, Nicollet, Norman, Red Lake, Renville, Scott, Sherburne, Steven Waseca.

MISSISSIPPI	Total Beds	Av. Beds In Use
Amory, 2,861—Monroe		
Gilmore Sanitarium	25	...
Biloxi, 10,937—Harrison		
Biloxi Hospital	35	
Booneville, 1,495—Prentiss		
N. E. Mississippi Hospital	25	
Columbia, 2,826, Marion		
Columbia Hospital	35	
Columbus, 10,501—Lowndes		
Columbus Hospital	30	
Greenville, 11,560—Washington		
King's Daughters' Hospital (White Patients)	35	...
Greenwood, 7,793—Leflore		
King's Daughters' Hospital	25	
Gulfport, 8,157—Harrison		
King's Daughters' Hospital	25	...
Hattiesburg, 13,270—Forrest		
King's Daughters' and Son's Hosp.	50	
South Mississippi Infirmary	40	...
Houston, 1,408—Chickasaw		
Houston Hospital	50	...
Jackson, 22,679—Hinds		
Jackson Sanatorium	40	
Laurel, 13,037—Jones		
Laurel General Hospital	40	...
South Mississippi Charity Hosp.	150	12
Marks, 1,020—Quitman		
Marks Hospital	25	...
Meridian, 23,436—Lauderdale		
Matty Hersee Hospital	90	6
Meridian Sanitarium	50	2
Turner Hospital	50	3
Natchez, 12,608—Adams		
Natchez Hospital*	150	11
Natchez Sanatorium	25	1
Oxford, 2,150—Lafayette		
Bramlett Hospital	25	
University, 15—Lafayette		
University Hospital	25	
Vicksburg, 17,931—Warren		
Mississippi State Charity Hosp.*	200	16
Vicksburg Infirmary	50	3
Vicksburg Sanitarium and Crawford Street Hospital	100	...
Winona, 2,220—Montgomery		
Winona Infirmary	35	2
Sixteen General Hospitals of less than 25 beds	272	5
Totals	1,702	77

In Mississippi the following sixty counties have no hospitals: Alcorn, Amite, Attala, Benton, Bolivar, Calhoun, Carroll, Choctaw, Claiborne, Clarke, Coahoma, Copiah, Covington, De Soto, Franklin, George, Greene, Grenada, Hancock, Holmes, Isaquena, Itawamba, Jackson, Jasper, Jefferson, Jefferson Davis, Kemper, Lake, Lamar, Lawrence, Leake, Lee, Madison, Marshall, Neshoba, Noxubee, Oktibeha, Panola, Pearl River, Perry, Pike, Pontotoc, Rankin, Scott, Sharkey, Simpson, Smith, Stone, Sunflower, Tallahatchie, Tate, Tippah, Tishomingo, Tunica, Union, Walthall, Wayne, Webster, Wilkinson, Winston.

MISSOURI	Total Beds	Av. Beds In Use
Bonne Terre, 3,815—St Francois		
Bonne Terre Hospital	25	
Boonville, 4,665—Cooper		
St. Joseph's Hospital	25	

	Total Beds	Av.Beds In Use
Burlington Junction, 970—Nodaw		
Mineral Spring Sanitarium	40	...
Cape Girardeau, 10,253—Cape Girardeau		
St. Francis Hospital	60	...
Chillicothe, 6,525—Livingston		
Chillicothe Hospital	50	22
Columbia, 10,379—Boone		
Parker Memorial Hospital	41	21
Excelsior Springs, 4,165—Clay		
Excelsior Springs Sanitarium	26	15
Georgetown, 100—Pettis		
Pettis County Hospital	35	...
Hannibal, 18,950—Marion		
Lefering Hospital	50	23
St. Elizabeth's Hospital	30	20
Independence, 11,686, Jackson		
Independence Sanitarium	60	35
Jefferson City, 14,490—Cole		
St. Mary's Hospital	60	...
Joplin, 29,855—Jasper		
St. John's Hospital	100	...
Kansas City, 324,410—Jackson		
Baptist Hospital	35	...
Children's Mercy Hospital†	125	75
Christian Church Hospital	140	100
East Side Hospital	25	15
Grace Hospital	100	54
Kansas City General Hospital*	500	250
Research Hospital*	160	139
St. Joseph's Hospital*	212	125
St. Luke's Hospital*	50	40
St. Mary's Hospital*	175	130
St. Vincent's Maternity Hospital	150	...
Swedish Hospital*	60	37
University Hospital*	65	34
Veil Maternity Hospital	50	30
Wesley Hospital	100	65
Wheatley-Provident Hospital	40	...
Wilcrest Hospital	58	21
Koch (P. O. Only)—St. Louis		
Robert Koch Hospital	300	200
Leeds, 1,000—Jackson		
Kansas City Tuberculosis Hosp.	120	52
Liberty, 3,097, Clay		
Missouri Odd Fellows Home Hosp.	75	24
Maryville, 4,711—Nodaway		
St. Francis Hospital	75	...
Mexico, 6,013—Audrain		
Audrain Hospital	35	15
Moberly, 12,808—Randolph		
Wabash Employees' Hospital	60	26
Woodland Hospital	50	33
Nevada, 7,139—Vernon		
Nevada Medical and Surgical Sanitarium	30	9
Vernon Hospital	25	15
Sedalia, 21,144—Pettis		
Missouri, Kansas and Texas Railroad Hospital	125	30
Springfield, 39,620—Greene		
Ellen A. Burge Deaconess Hospital	30	27
Frisco Employees Hospital	170	60
Springfield Hospital	75	50
St. John's Hospital	40	26
St. Charles, 8,503—St. Charles		
St. Joseph's Hospital	30	28
St. Joseph, 77,939—Buchanan		
Buchanan County Infirmary	107	...
Missouri Methodist Hospital	80	60
Noyes Memorial Hospital	90	66
St. Joseph's Hospital	120	...
St. Louis, 773,000—St. Louis City		
Alexian Brothers Hospital*	250	186
Barnes Hospital*	250	147
Barnard Free Skin and Cancer Hospital†	44	33
Bethesda Foundling Home and Maternity Hospital	110	85
Bethesda Hospital	80	65
Carondelet Hospital	25	...
City Isolation Hospital	250	55
Evangelical Deaconess Home Hospital	110	96
Frisco Employees Hospital	114	49
Jewish Hospital*	110	90
Lutheran Hospital	86	25
Missouri Baptist Sanitarium*	375	200
Missouri Pacific Hospital	200	141
Mt. St. Rose Hospital (T.B.)	130	125
St. Ann's Maternity Hospital	50	...
St. Anthony's Hospital	100	95
St. John's Hospital*	194	...
St. Louis Baptist Hospital	75	70
St. Louis Children's Hospital†	147	75
St. Louis City Hospital*	800	755
St. Louis City Hospital No. 2*	225	150
St. Louis Maternity Hospital	30	24
St. Louis Mullanphy Hospital	150	75
St. Luke's Hospital*	175	119
St. Mary's Infirmary*	160	125
Webb City, 7,807—Jasper		
Jane Chinn Hospital	25	...
Jasper County Tuberculosis Hosp.	125	62
Fifteen General Hospitals of less than 25 beds	229	54
Totals	7,903	4,909

In Missouri the following eighty-nine counties have no hospitals: Adair, Andrew, Atchison, Barry, Barton, Bates, Benton, Bollinger, Caldwell, Callaway, Camden, Carter, Cass, Cedar, Charitan, Clark, Clinton, Crawford, Dade, Dallas, Daviess, Dekalb, Dent, Douglas, Dunklin, Franklin, Gasconade, Gentry, Harrison, Henry, Hickory, Holt, Howard, Howell, Iron, Jefferson, Johnson, Knox, Laclede, Lafayette, Lewis, Lincoln, Linn, Macon, McDonald, Madison, Maries, Mercer, Miller, Mississippi, Moniteau, Monroe, Montgomery, Morgan, New Madrid, Newton, Oregon, Osage, Ozark, Pemiscot, Perry, Phelps, Pike, Platte, Polk, Pulaski, Putnam, Ralls, Ray, Reynolds, Ripley, St. Clair, Ste. Genevieve, Salene, Scotland, Scott, Shannon, Shelby, Stoddard, Stone, Sullivan, Taney, Texas, Warren, Washington, Wayne, Webster, Worth, Wright.

MONTANA	Total Beds	Av.Beds In Use
Anaconda, 11,668—Deerlodge		
St. Ann's Hospital*	100	...
Billings, 15,100—Yellowstone		
St. Vincent's Hospital	45	40
Bozeman, 6,183—Gallatin		
Bozeman Deaconess Hospital	62	22
Butte, 41,611—Silver Bow		
Butte Deaconess Hospital	36	21
Murray Hospital*	100	75
Silverbow County Hospital	150	...
St. James Hospital*	150	75
Conrad, 988—Teton		
Conrad Hospital Association	30	20
Deer Lodge, 3,780—Powell		
St. Joseph's Hospital	50	...
Dillon, 2,701—Beaverhead		
Beaverhead County Hospital	25	...
Ft. Benton, 1,004—Chouteau		
St. Clare's Hospital	45	...
Glasgow, 2,059—Valley		
Frances Mahon Deaconess Hosp.	30	...
Glendive, 3,816—Dawson		
Northern Pacific Hospital*	50	28
Great Falls, 24,121—Cascade		
Columbus Hospital	165	106
Great Falls Detention Hospital	60	...
Montana Deaconess Hospital	140	103
Harlowton, 1,856—Wheatland		
Ballard Hospital	30	25
Havre, 5,429—Hill		
Sacred Heart Hospital	40	...
Helena, 12,037—Lewis and Clark		
Lewis and Clark County Hosp.	30	9
St. John's Hospital	150	...
St. Peter's Hospital	60	...
Hunter's Hot Springs, 54—Park		
Hunter's Hot Spring Sanit.	200	...
Kalispell, 5,147—Flathead		
Kallspell General Hospital	60	...
Lewistown, 6,120—Fergus		
Fergus County Farm and Hosp.	60	...
St. Joseph's Hospital	47	30
Livingston, 6,326—Park		
Park Hospital	30	20
Miles City, 7,937—Custer		
Miles City Hospital	75	...
Missoula, 12,668—Missoula		
No. Pacific Beneficial Assn. Hosp.*	75	40
St. Patrick's Hospital	100	65
Red Lodge, 4,515—Carbon		
Mt. Maurice Hospital and Sanit.	25	8
Sidney, 1,400—Richland		
Sidney Deaconess Hospital	30	12
Whitefish, 1,479—Flathead		
Whitefish Hospital	30	...
Fourteen General Hospitals of less than 25 beds	210	32
Totals	2,490	731

In Montana the following sixteen counties have no hospitals: Big Horn, Blaine, Broadwater, Carter, Fallon, Granite, Jefferson, Lincoln, Madison, Meagher, Mineral, Phillips, Rosebud, Sheridan, Stillwater, Wibaux.

NEBRASKA	Total Beds	Av.Beds In Use
Albion, 1,978—Boone		
Physicians' Hospital	28	(New)
Alliance, 4,591—Box Butte		
St. Joseph Hospital	50	...
Beatrice, 9,664—Gage		
Beatrice Sanitarium	25	15
Lutheran Hospital	26	16
Mennonite Deaconess Home and Hospital	26	...
Cambridge, 1,042—Furnas		
Republican Valley Hospital	25	10
Columbus, 5,410—Platte		
St. Mary's Hospital	135	...
David City, 2,216—Butler		
David City Hospital	25	15
Dunbar, 312—Otoe		
Otoe County Infirmary	25	20
Fairbury, 5,454—Jefferson		
Fairbury Hospital	25	...
Falls City, 4,930—Richardson		
Community Hospital	40	10
Fremont, 9,570—Dodge		
Fremont Hospital	28	15
Grand Island, 13,960—Hall		
Grand Island General Hospital	30	15
St. Francis Hospital	135	100
Hastings, 11,647—Adams		
Mary Lanning Memorial Hospital	60	...
Nebraska Sanitarium	25	20
Hebron, 1,513—Thayer		
Blue Valley Hospital	25	17
Lincoln, 54,934—Lancaster		
Esther's Hospital	26	...
Lincoln Hospital	30	20
Lincoln Sanitarium	100	90
Nebraska Orthopedic Hospital	100	...
St. Elizabeth's Hospital*	150	100
Norfolk, 8,634—Madison		
Campbell Hospital	55	25
Norfolk General Hospital	32	22
Omaha, 191,601—Douglas		
Bishop Clarkson Memorial Hosp.*	90	63
Christian Fenger Hospital	175	75
City Detention Hospital	40	10
City Hospital for Women	50	15
Creighton Memorial St. Joseph's Hospital*	400	300
Douglas County Hospital	80	55
Ford Hospital	63	48
Immanuel Hospital	65	38
Nebraska Methodist Episcopal Hospital*	206	150
Nicholas Senn Hospital	75	75
Presbyterian Hospital	45	30
Radium Hospital of Omaha	50	...
South Side Hospital	30	(New)
St. Catherin's Hospital	75	75
Swedish Mission Hospital	100	65
University Hospital*	130	...
Wise Memorial Hospital	85	55
Ord, 2,143—Valley		
Ord Hospital	25	(New)
Seward, 2,368—Seward		
Morrow Hospital	30	20
York, 5,388—York		
Lutheran Hospital	75	50
Twenty-five General Hospitals of less than 25 beds	392	160
Totals	3,507	1,794

In Nebraska the following fifty-eight counties have no hospitals: Antelope, Arthur, Banner, Blaine, Brown, Cass, Chase, Cherry, Cheyenne, Clay, Colfax, Cuming, Custer, Dakota, Dawes, Dawson, Deuel, Dixon, Dundy, Fillmore, Franklin, Frontier, Garden, Garfield, Gosper, Grant, Greeley, Hamilton, Harlau, Hayes, Holt, Hooker, Johnson, Kearney, Keith, Keyapaha, Kimball, Knox, Logan, Loup, McPherson, Merrick, Nance, Nemaha, Perkins, Phelps, Pierce, Polk, Rock, Sarpy, Saunders, Sheridan, Sherman, Sioux, Stanton, Thomas, Webster, Wheeler.

NEVADA	Total Beds	Av.Beds In Use
East Ely, 475—White Pine		
Steptoe Valley Hospital	55	30
Elko, 2,173—Elko		
Elko County General Hospital	50	15
Pioche, 600—Lincoln		
Duckworth Hospital	25	...
Reno, 12,016—Washoe		
St. Mary's Hospital	40	...
Washoe County Hospital	90	60
Tonopah, 4,144—Nye		
Nye County Hospital	35	...
Virginia City, 1,200—Storey		
Storey County Hospital	50	22
Winnemucca, 1,275—Humboldt		
Humboldt County Hospital	32	10
Eleven General Hospitals of less than 25 beds	176	66
Totals	553	203

In Nevada the following three counties have no hospitals: Eureka, Lander, Ormsby.

NEW HAMPSHIRE	Total Beds	Av.Beds In Use
Berlin, 16,104—Coos		
St. Louis Hospital	50	...
Claremont, 7,529—Sullivan		
Claremont General Hospital	25	15
Concord, 22,167—Merrimack		
Margaret Pillsbury Gen. Hosp.	70	38
New Hampshire Memorial Hospital for Women and Children	40	27
Dover, 13,029—Strafford		
Wentworth Hospital	60	35
Exeter, 4,604—Rockingham		
Exeter Hospital	36	18
Franklin, 6,318—Merrimack		
Franklin Hospital	50	19
Grasmere, 400—Hillsborough		
Hillsboro County Hospital	100	70
Hanover, 1,513—Grafton		
Mary Hitchcock Memorial Hosp.*	75	51
Keene, 11,210—Cheshire		
Elliott City Hospital	40	24
Laconia, 10,897—Belknap		
Laconia Hospital	35	21

Manchester, 78,200—Hillsborough	Total Beds	Av.Beds In Use
Elliot Hospital	74	45
Hospital of Notre Dame de Lourdes	50	40
Isolation Hospital	50	16
Sacred Heart Hospital	80	54
Nashua, 28,379—Hillsborough		
Nashua Memorial Hospital	54	38
St. Joseph's Hospital	115	75
Newport, 3,765—Sullivan		
Carrie F. Wright Memorial Hosp.	25	10
North Conway, 1,500—Carroll		
Memorial Hospital	30	...
Pembroke, 3,062—Merrimack		
Pembroke Sanatorium	62	58
Portsmouth, 13,569—Rockingham		
Portsmouth Hospital	35	...
Whitefield, 1,635—Coos		
Morrison Hospital	40	34
Woodsville, 1,750—Grafton		
Woodsville Cottage Hospital	27	13
Eighth General Hospitals of less than 25 beds	131	30
Totals	1,354	731

All counties in New Hampshire have hospitals.

NEW JERSEY	Total Beds	Av.Beds In Use
Ancora, 275—Camden		
Sunny Rest Sanat. (T.B.)	70	60
Asbury Park, 12,400—Monmouth		
Municipal Hospital for Communicable Diseases	35	...
Atlantic City, 50,682—Atlantic		
Atlantic City Hospital*	120	73
Children's Seashore House	400	100
Municipal Hospital	62	...
Bayonne, 76,754—Hudson		
Bayonne Hospital and Dispensary*	109	75
Dr. Swiney's Sanitarium	28	16
Belleville, 15,660—Essex		
Essex County Tuberculosis Sanatorium (T.B.)	250	200
Blackwood, 600—Camden		
Camden County Almshouse Hosp.	65	45
Bridgeton, 14,323—Cumberland		
Bridgeton Hospital Assn.	35	...
Brown's Mills-in-the-Pines[5] (Village)—Burlington		
Brown's Mills Sanatorium (T.B..)	35	27
Camden, 116,309—Camden		
Cooper Hospital*	150	120
Municipal Hospital for Contagious Diseases	80	...
West Jersey Homeopathic Hospital*	150	83
Elizabeth, 95,682—Union		
Alexian Brothers' Hospital*	125	61
Elizabeth General Hospital and Dispensary*	170	115
St. Elizabeth's Hospital*	160	114
Englewood, 11,617—Bergen		
Englewood Hospital*	115	65
Franklin, 4,075—Sussex		
Franklin Hospital	30	18
Hackensack, 17,667—Bergen		
Hackensack Hospital*	120	88
Hoboken, 68,166—Hudson		
St. Mary's Hospital*	400	170
Jersey City, 297,864—Hudson		
Bergen Private Sanitarium	30	25
Christ Hospital*	120	110
Fairmount Surgical Sanat.	40	34
Jersey City Hospital*	600	226
Kearney, 26,724—Hudson		
West Hudson Hospital	30	20
Long Branch, 13,521—Monmouth		
Monmouth Memorial Hospital*	175	110
Millville, 14,691—Cumberland		
Millville Hospital	30	12
Montclair, 28,810—Essex		
Mountainside Hospital*	150	90
Morristown, 12,548—Morris		
All Souls' Hospital	90	52
Morristown Memorial Hosp.	150	70
Physiatric Institute	50	...
Shonghum Sanatorium (T.B.)	38	25
Mt. Holly, 5,750—Burlington		
Burlington County Hospital	50	25
Newark, 414,216—Essex		
Babies Hospital	35	17
Homeopathic Hospital of Essex County	62	45
Hospital for Women and Children.	60	31
Hospital of St. Barnabas*	110	79
Lincoln Private Hospital	25	(New)
Newark Beth Israel Hospital*	100	88
Newark City Hospital*	500	...
Newark Memorial Hospital*	125	75
Newark Private Hospital	59	48
Presbyterian Hospital	100	65
St. James' Hospital*	85	60
St. Michael's Hospital*	335	...
New Brunswick, 32,779—Middlesex		
Middlesex General Hospital	75	36
St. Peter's General Hospital	110	80
New Lisbon, 50, Burlington		
Fairview Tuberculosis Sanat.	25	...

5. Small village, postoffice is Brown Mills.

Northfield, 1,127—Atlantic	Total Beds	Av.Beds In Use
Atlantic County Hospital for Tuberculous Diseases	48	...
Orange, 33,268—Essex		
Orange Memorial Hospital*	150	118
St. Mary's Hospital*	150	...
Passaic, 63,824—Passaic		
City Hospital for Contagious Diseases (T.B.)	50	...
Passaic General Hospital*	170	...
St. Mary's Hospital*	103	...
Paterson, 135,866—Passaic		
Nathan and Miriam Barnert Memorial Hospital*	85	...
Paterson General Hospital*	169	103
Paterson Isolation Hospital	75	...
St. Joseph's Hospital*	350	...
Perth Amboy, 41,707—Middlesex		
Perth Amboy City Hospital	100	75
Plainfield, 27,700—Union		
Muhlenberg Hospital*	112	101
Plainfield Sanitarium	55	...
Pompton, 470—Passaic		
W. Curtis Adams Sanatorium	35	...
Princeton, 5,917—Mercer		
Isabella McCosh Infirmary	30	12
Salem, 7,435—Salem		
Salem County Mem Hosp.	30	...
Scotch Plains, 1,000—Union		
Bonnie Burn Sanit. (T.B.)	240	200
Secaucus, 5,423—Hudson		
Hudson County Hospital	240	70
Hudson County Small-Pox Hosp.	50	...
Hudson County Tuberculosis Hospital and Sanatorium	200	160
Somerville, 6,718—Somerset		
Somerset Hospital	34	18
Spring Lake, 853—Monmouth		
Ann May Memorial Homeopathic Hospital	54	...
Summit, 10,174—Union		
Overlook Hospital	66	56
Thorofare, 102, Gloucester		
Sanitarium Association of Philadelphia	25	...
Trenton, 119,289—Mercer		
Mercer Hospital*	175	87
Municipal Colony (T.B.)	275	45
St. Francis Hospital*	165	160
William McKinley Memorial Hospital*	75	55
Ventnor, 491—Atlantic		
North American Sanitarium for Bone Tuberculosis	75	...
Verona, 3,039—Essex		
Essex Mountain Sanat. (T.B.)	80	60
Vineland, 6,799—Cumberland		
Physicians' Hospital	27	...
Vineland Hospital	30	...
Weehawken, 11,228—Hudson		
North Hudson Hospital*	75	58
Eleven General Hospitals of less than 25 beds	186	41
Totals	9,852	4,272

In New Jersey the following two counties have no hospitals: Hunterdon and Warren.

NEW MEXICO	Total Beds	Av Beds In Use
Albuquerque, 15,157—Bernalillo		
Albuquerque Sanatorium (T.B.)	60	48
Methodist Deaconess Sanat. (T.B.)	60	56
Murphey Sanatorium for the Treatment of Tuberculosis	100	75
Santa Fe Coast Lines Hospital	60	...
Southwestern Presbyterian Sanat.	100	...
St. Joseph's Sanatorium and Hospital	75	50
Women's and Children's Hosp.	30	20
Clovis, 4,904—Curry		
Atchison, Topeka and Santa Fe Hospital Association	32	20
Dawson, 100—Colfax		
Dawson Hospital	35	...
Dulce, 35—Rio Arriba		
Jicarilla Sanatorium	100	...
East Las Vegas, 3,813—San Miguel		
Las Vegas Hospital	30	...
St. Anthony's Sanitarium	55	...
Gallup, 3,920—McKinley		
St. Mary's Hospital	50	30
Gardiner, 1,120—Colfax		
Gardiner Hospital	40	18
Rehoboth (P.O. only)—McKinley		
Rehoboth Mission Hospital	30	15
Roswell, 7,062—Chaves		
St. Mary's Hospital	35	30
Roy, 350—Mora		
Plumlee Hospital	25	10
Santa Fe, 7,236—Santa Fe		
St. Vincent's Sanitarium and Hospital	50	40
Sunmount Sanatorium	50	32
Silver City, 1,100—Grant		
New Mexico Cottage Sanatorium.	100	75
St. Joseph's Sanatorium	32	...
Tucumcari, 3,117—Quay		
Tucumcari Hospital	25	10
Tyrone (P.O. only)—Grant		
T. S. Parker Hospital	35	15
Valmora (P.O. only)—Mora		
Valmora Industrial Sanatorium	100	70
Twelve General Hospitals of less than 25 beds	210	50
Totals	1,519	664

In New Mexico the following thirteen counties have no hospitals: De Baca, Dona Ana, Gaudalupe, Lea, Lincoln, Roosevelt, Sandoval, Sierra, Socorre, Taos, Torrance, Union, Valencia.

NEW YORK	Total Beds	Av.Beds In Use
Albany, 113,344—Albany		
Albany Hospital*	490	281
Anthony N. Brady Maternity Hospital	50	35
Child's Hospital	60	35
Homeopathic Hospital	110	99
St. Margaret's House and Hospital	50	45
St. Peter's Hospital*	119	82
Albion, 4,683—Orleans		
Orleans County Almshouse Hospital	30	...
Amityville, 3,265—Suffolk		
Louden Hall, Cottage Home Sanitarium	75	...
Amsterdam, 33,524—Montgomery		
Amsterdam City Hospital	76	42
Montgomery Sanatorium (T.B.)	38	38
St. Mary's Hospital	45	...
Auburn, 36,142—Cayuga		
Auburn City Hospital*	165	...
Sunny Crest Sanatorium (T.B.)	38	28
Ballston Spa, 4,103—Saratoga		
Carpentier Infirmary	25	...
Batavia, 13,541—Genesee		
Women's Hospital Association	60	25
Bath, 4,795—Steuben		
Bath Hospital	30	...
Pleasant Valley Sanat. (T.B.)	28	23
Beacon, 10,996—Dutchess		
Highlands Hospital	25	...
Bedford Hills, 1,000—Westchester		
Montefiore Home Country Sanitarium (T.B.)†	218	218
Binghamton, 66,800—Broome		
Binghamton City Hospital*	165	45
Bronxville, 3,055—Westchester		
Lawrence Hospital	40	33
Brooklyn, 2,018,356—Kings		
Bethany Deaconess Home and Hospital Society	40	...
Brooklyn Eye and Ear Hospital.	78	...
Brooklyn Hospital*	279	220
Brooklyn Nursery and Infants' Hospital	40	...
Bushwick Hospital	100	66
Carson C. Peck Memorial Hospital	100	40
Coney Island Hospital	120	60
Cumberland Street Hospital	220	121
Flushing Hosp. and Dispensary.	64	...
Greenpoint Hospital*	210	124
Harbor Hospital	55	30
Hospital of the Holy Family*	102	73
Jewish Hospital of Brooklyn*	285	253
Kings County Hospital*	1,809	825
Kingston Avenue Hospital†	830	204
Long Island College Hospital*	480	413
Lutheran Hospital	54	40
Methodist Episcopal Hospital*	300	189
Midwood Sanitarium	34	26
Norwegian Lutheran Deaconess Home and Hospital*	190	149
Prospect Heights Hospital and Brooklyn Maternity	60	...
Samaritan Hospital	48	30
Sea Breeze Hospital	45	...
Skene Sanitarium	33	25
St. Catherine's Hospital*	286	189
St. Christopher's Hospital	104	65
St. John's Hospital*	95	...
St. Mary's Hospital of the City of Brooklyn*	300	171
St. Peter's Hospital*	274	...
Swedish Hospital*	990	366
Trinity Hospital	32	23
Tuberculosis Camp Rutherford (T.B.)	122	...
Williamsburgh Hospital	69	54
Wyckoff Heights Hospital of Brooklyn*	175	131
Zion Hospital	30	...
Buffalo, 505,875—Erie		
Buffalo City Hospital*	280	...
Buffalo Columbus Hospital*	75	50
Buffalo General Hospital*	375	276
Buffalo Homeopathic Hospital*	174	168
Buffalo Hospital of the Sisters of Charity*	208	115
Buffalo Women's Hospital	36	26
Children's Hospital†	119	96
Deaconess Hospital*	135	124
Emergency Hospital of the Sisters of Charity*	85	80
Erie County Hospital*	300	275
Ernest Wende Hospital	150	...
Lafayette General Hospital	51	35

	Total Beds	Av.Beds In Use
Memorial Hospital	65	...
Mercy Hospital	40	...
Municipal Hospital	290	...
St. Mary's Infant Asylum and Maternity Hospital	69	50
Cambridge, 1,559—Washington		
Mary McClellan Hospital	50	28
Canandaigua, 7,356—Ontario		
Canandalgua Hospital of Physicians and Surgeons	50	...
Frederick Ferris Thompson Hospital	65	54
Chenango Bridge, 129—Broome		
Broome County Tuberculosis Hospital	78	36
Clifton Springs, 1,628—Ontario		
Clifton Springs Sanitarium	300	250
Cohoes, 22,987—Albany		
Cohoes Hospital	60	31
Mary Imogene Bassett Hospital	100	...
Thanksgiving Hospital	35	19
Corning, 15,025—Steuben		
Corning Hospital	52	38
Cortland, 13,294—Cortland		
Cortland County Hospital	50	...
Delhi, 1,669—Delaware		
Delaware County Tuberculosis Hospital	28	9
Dewittville, 61—Chautauqua		
Chautauqua County Almshouse and Hospital	77	60
Dobbs Ferry, 4,401—Westchester		
Dobbs Ferry Hospital	25	18
Dunkirk, 19,336—Chautauqua		
Brook's Memorial Hospital	70	38
East Bloomfield, 356—Ontario		
Oak Mount Sanat. (T.B.)	25	25
East View, 100—Westchester		
Grasslands Hospital	500	250
Elmira, 45,305—Chemung		
Arnot-Ogden Memorial Hosp.*	110	70
Chemung Sanatorium (T.B.)	30	23
St. Joseph's Hospital	80	67
Far Rockaway, 2,900—Queens		
St. Joseph's Hospital	85	45
Flushing, 600—Queens		
Flushing Hospital and Dispensary*	150	89
Fulton, 13,043—Oswego		
Albert Lindley Lee Memorial Hosp.	25	...
Gabriels, 200—Franklin		
Sanatorium Gabriels (T.B.)	70	58
Gardenville, 700—Erie		
St. Joseph's Hospital	28	...
Geneva, 14,648—Ontario		
Geneva City Hospital	65	44
Glens Falls, 16,591—Warren		
Glens Falls Hospital*	80	62
Gloversville, 22,075—Fulton		
Nathan Littauer Hospital	58	43
Holtsville, 142—Suffolk		
Suffolk Sanatorium (T.B.)	48	45
Hornell, 15,025—Steuben		
St. James Mercy Hospital	54	21
Steuben Sanitarium	75	50
Hudson, 11,745—Columbia		
Hudson City Hospital	60	37
Ithaca, 17,004—Tompkins		
Cornell Infirmary	60	...
Ithaca City Hospital	90	70
Jamaica, 26,566—Queens		
Jamaica Hospital	63	45
Mary Immaculate Hospital	90	85
Queensboro Hospital	40	14
Jamestown, 38,898—Chautauqua		
O. E. Janes General Hospital	100	40
Woman's Christian Association Hospital	69	56
Kingston, 26,688—Ulster		
Kingston City Hospital	50	30
Our Lady of Victory Sanitarium.	40	20
Lackawanna, 17,918—Erie		
Moses Taylor Hospital	29	17
Lake Kushaqua (P.O. only)—Franklin		
Stony Wold Sanat. (T.B.)	119	96
Lestershire[6] (Village)—Broome		
Lestershire Hospital	30	...
Liberty, 2,459—Sullivan		
Wilkinson House (T.B.)	30	23
Workmen's Circle Sanatorium	100	46
Little Falls, 13,029—Herkimer		
Little Falls City Hospital	30	18
Lockport, 21,308—Niagara		
Lockport City Hospital	56	4
Niagara Sanatorium	130	110
Long Island[7]—Queens		
Medford Sanitarium	30	...
St. John's Long Island City Hospital*	225	88
Loomis, 200—Sullivan		
Loomis Sanatorium (T.B.)	200	187
Malone, 7,556—Franklin		
Alice Hyde Memorial Hospital	48	24
Middle Grove, 217—Saratoga		
Saratoga County Tuberculosis Hospital	40	40
Middletown, 18,420—Orange		
Middletown Sanitarium	50	25
Thrall Hospital	40	23

6. Small village; postoffice is Johnson City.
7. Population included in New York City.

	Total Beds	Av.Beds In Use
Mineola, 3,016—Nassau		
Mineola House for Cardiacs	52	...
Nassau Hospital Association*	76	58
Mt. McGregor (P.O. only)—Saratoga		
Metropolitan Life Insurance Company Sanatorium	275	216
Mt. Vernon, 42,726—Westchester		
Mt. Vernon Hospital*	103	66
Newburgh, 30,272—Orange		
Estelle and Walter Odell Sanatorium for Tuberculosis	48	30
St. Luke's Hospital	95	69
New Hartford, 1,621—Oneida		
Camp Healthmore (T.B.)	33	20
New Rochelle, 36,213—Westchester		
New Rochelle Hospital Assn*	100	95
New York City, 5,621,151—New York		
Audubon Sanitarium	65	50
Babies Hospital†	75	46
Bellevue Hospital*	1,658	1,414
Beth Israel Hospital*	139	104
Broad Street Hospital	100	80
Correctional Hospital*	45	38
Columbus Hospital	87	62
Community Hospital	107	63
Ferry-Boat "Middletown" Day Camp of Dept. of Health (T.B.)	126	...
Ferry-Boat "Southfield" Day Camp of the Bellevue Hospital (T.B.)	100	...
Floating Hospital	450	290
Fordham Hospital*	276	242
French Hospital*	120	95
Gouverneur Hospital*	300	...
Hahnemann Hospital*	135	96
Harlem Eye, Ear and Throat Hospital	25	...
Harlam Hospital*	400	283
Harlam Italian Sanitarium	40	...
Herman Knapp Mem. Eye Hosp.†	50	...
Hospital and House. of Rest for Consumptives	75	73
Hospital for Joint Diseases†	97	78
Hospital of St. Elizabeth of Hungary	50	...
Italian Hospital of the Borough of Manhattan*	100	...
Jewish Maternity Hospital†	52	...
Knickerbocker Hospital*	53	36
Laura Franklin Free Hospital for Children	68	...
Lebanon Hospital*	196	...
Lenox Hill Hospital*	317	246
Lincoln Hospital and Home*	350	209
Lutheran Hospital of Manhattan.	41	27
Lying-In Hospital of the City of New York†	155	112
Manhattan Eye, Ear and Throat Hospital	196	136
Manhattan Maternity and Dispensary†	64	45
Memorial Hospital†	100	70
Metropolitan Hospital*	1,837	919
L. Minzeshcimer's Sanitarium	25	18
Misericordia Hospital	325	285
Montefiore Home and Hospital†	460	...
Mt. Sinai Hospital*	521	420
New York City Hospital*	1,060	613
New York Eye and Ear Infirmary†	175	118
New York Foundling Hospital	550	550
New York Homeopathic Medical College and Flower Hospital*	200	190
New York Hospital House of Relief	286	235
New York Infirmary for Women and Children*	123	60
New York Nursery and Child's Hospital†	321	190
New York Ophthalmic Hospital†	74	40
New York Orthopedic Dispensary and Hospital†	100	87
New York Polyclinic Medical School and Hospital	378	250
New York Post-Graduate Medical School and Hospital*	407	302
New York Skin and Cancer Hospital†	100	75
Park Hospital*	65	45
People's Hospital	50	...
Philanthropic Hospital	25	...
Presbyterian Hospital in the City of New York*	250	218
Radium Institute and Laboratories	28	...
Rebeau Private Hospital	28	20
Riverside Hospital†	720	323
Riverside Hospital (T.B.)†	344	...
Roosevelt Hospital*	285	230
Seton Hospital (T.B.)†	240	230
Sloane Hospital for Women†	173	128
Society of the New York Hospital*	295	245
St. Ann's Maternity Hospital	60	40
St. Bartholomew's Clinic	47	(New)
St. Elizabeth's Hospital	50	...
St. Francis Hospital*	450	325
St. Joseph's Hospital for Consumptives	425	401
St. Lawrence Hospital*	54	48
St. Luke's Hospital*	400	336
St. Mark's Hospital*	150	123
St. Mary's Free Hospital for Children†	126	90
St. Vincent's Hospital*	355	300
A. R. Stern Hospital	38	...
Sydenham Post-Graduate Course and Hospital*	74	60
Tuberculosis Division, Metropolitan Hospital	814	...
Tuberculosis Hospital Admission Bureau	4,200	3,500
Union Hospital of the Bronx	25	17
Van Cortland Private Hospital	50	...
Volunteer's Hospital*	78	32
Washington Square Hospital	30	23
Willard Parker and Reception Hospitals†	950	256
Woman's Hospital†	252	181
Niagara Falls, 50,760—Niagara		
Mt. St. Mary's Hospital	100	...
Niagara Falls Memorial Hospital.	125	80
North Tonawanda, 15,482—Niagara		
DeGraff Memorial Hospital	26	15
Nyack, 4,444—Rockland		
Nyack Hospital	25	19
Ogdensburg, 14,609—Saint Lawrence		
A. Barton Hepburn Hospital	170	...
Olean, 20,506—Cattaraugas		
Mountain Clinic Hospital	50	34
Olean General Hospital	60	42
Rocky Crest Sanat. (T.B.)	26	23
Oneida, 10,541—Madison		
Broad Street Hospital	51	36
Oneonta, 11,582—Otsego		
Aurelia Osborn Fox Memorial Hospital	50	26
Onondaga, 250—Onondaga		
Onondaga County Hospital	80	70
Ossining, 10,739—Westchester		
Ossining Hospital	60	40
Oswego, 23,626—Oswego		
Oswego Hospital	68	42
Peekskill, 15,868—Westchester		
Peekskill Hospital	50	23
Perrysburg, 271—Cattaraugas		
J. N. Adams Memorial Hospital (T.B.)	330	295
Philmont, 1,919—Columbia		
Columbia Sanatorium	48	(New)
Plattsburg, 10,909—Clinton		
Champlain Valley Hospital	75	60
Physicians' Hospital	50	22
Poughkeepsie, 35,000—Dutchess		
Samuel W. Bowne Memorial Hosp.	127	126
St. Francis Hospital	45	30
Vassar Brothers Hospital*	103	71
Pt. Chester, 16,573—Westchester		
United Hospital*	51	...
Rainbow Lake, 25—Franklin		
Rainbow Sanatorium (T.B.)	50	40
Richland, 360—Oswego		
Oswego County Sanat. (T.B.)	64	50
Rochester, 295,750—Monroe		
Hahnemann Hospital*	138	125
Homeopathic Hospital*	136	114
Infants Summer Hospital	64	40
Lee Private Hospital	55	40
Monroe County Hospital	260	...
Monroe County Tuberculosis Sanatorium	218	177
Park Avenue Hospital	38	...
Rochester General Hospital*	285	250
Rochester Municipal Hospital	100	30
St. Mary's Hospital	206	...
Rockaway Beach[8]—Queens		
Neponsit Beach Hospital for Children	120	...
Rockaway Beach Hospital and Dispensary	33	24
Rome, 26,341—Oneida		
Oneida County Hospital	200	149
Rome Hospital	50	33
Rome Infirmary	42	22
Salamanca, 9,276—Cattaraugus		
Salamanca Hospital	25	11
Saranac Lake, 4,983—Franklin		
St. Mary's of the Lake (T.B.)	30	20
Saratoga Springs, 13,181—Saratoga		
Dr. R. H. McCarty's Hospital	25	...
Saratoga Hospital	68	38
Saratoga Springs Medical Sanitarium (T.B.)	25	...
Saratoga Springs Sanitarium	150	...
St. Christina's Hospital	62	...
Schenectady, 88,723—Schenectady		
Ellis Hospital, also the Hospital Ass'n of the City of N. Y.*	175	...
Glenridge Sanitarium (T.B.)	72	...
Sodus, 1,329—Wayne		
Myers Hospital	25	...
Southampton, 2,635—Suffolk		
Southampton Hospital Assn.	50	26
Staten Island, 98,634—Richmond		
Seaside Hospital	400	250
Sea View Hospital (T.B.)	2,146	1,282
St. Vincent's Hospital of the Borough of Manhattan	85	50
Staten Island Hospital*	150	120
Swineburne Island Hospital	2,000	(New)
Suffern, 3,154—Rockland		
Good Samaritan Hospital	40	22

8. This is a part of Far Rockaway, which has a population of 2,900.

	Total Beds	Av.Beds In Use
Summit Park[9] (Village)—Rockland		
Rockland County Tuberc. Hosp...	48	30
Sylvan Beach, 105—Oneida		
Oneida Hospital and Training School for Nurses.....	**42**	25
Syracuse, 171,647—Onondaga		
City Hospital	175	...
Crouse-Irving Hospital	200	130
Hospital of the Good Shepherd*..	250	153
Onondaga County Hospital (T.B.)	105	102
Onondaga Sanatorium (T.B.)....	106	102
St. Joseph's Hospital*.....	130	87
St. Mary's Maternity and Infants Hospital	90	...
Syracuse Homeopathic Hospital...	44	30
Syracuse Memorial Hospital*.....	150	104
Tarrytown, 5,807—Westchester		
Tarrytown Hospital	39	...
Taughannock[10] (Villiage)—Tompkins		
Tompkins County Tuberc. Hospital	31	21
Troy, 72,013—Rennselaer		
City Smallpox Hospital.....	40	...
Lakeview Sanatorium	61	50
Leonard Hospital	50	38
Samaritan Hospital*	181	100
St. Joseph's Maternity Hospital...	30	...
Troy Hospital Assn.	250	136
Trudeau, 225—Essex		
Trudeau Sanitarium	110	110
Utica, 94,136—Oneida		
Faxton Hospital	75	59
St. Elizabeth's Hospital and Home	100	60
St. Luke's Home and Hospital....	120	74
Utica General Hospital.....	90	42
Utica Homeopathic Hospital.....	74	45
Watertown, 31,263—Jefferson		
House of the Good Samaritan....	83	...
Jefferson County Tuberc. Hospital	36	24
St. Joachim's Hospital.....	85	75
White Plains, 21,031—Westchester		
Country Branch of the New York Orthopedic Disp. and Hospital..	140	...
White Plains Hospital Assn.*....	44	...
Whitesboro, 2,375—Oneida		
Whitesboro Sanitarium	30	...
Woodhaven, 2,900—Queens		
St. Anthony's Hospital (T.B.)....	360	...
Wyantskill, 190—Rennselaer		
Pawling Sanitarium (T.B.).....	202	110
Yonkers, 100,176—Westchester		
Municipal Hospital (T.B.).....	58	...
St. John's Riverside Hospital*....	103	76
St. Joseph's Hospital*.....	82	50
Yonkers Homeopathic Hospital and Maternity	95	55
Yonkers City Hospital for Communicable Diseases	94	...
Sixty General Hospitals of less than 25 beds.....	975	310
Totals.....	56,146	30,919

In New York the following eight counties have no hospitals: Greene, Hamilton, Lewis, Putnam, Schoharie, Scuyler, Tioga, Yates.

NORTH CAROLINA	Total Beds	Av.Beds In Use
Asheville, 28,504—Buncombe		
Asheville Mission Hospital.....	85	63
Fairview Cottages Sanit. (T.B.)..	30	...
Meriwether Hosp. and Tr. School	75	40
St. Joseph's Sanatorium (T.B.)...	50	...
Winyah Sanatorium operated by Von Ruck Memorial Sanatorium, Inc. (T.B.).....	125	80
Biltmore, 172—Buncombe		
Clarence Barker Memorial Hospital and Dispensary.....	45	30
Swananoa Hill Sanitarium (T.B.)	27	...
Black Mountain, 531—Buncombe		
Cragmont Sanatorium (T.B.)....	50	50
Fellowship Sanatorium of the Royal League (T.B.).....	30	...
Burlington, 5,952—Alamance		
Rainey Hospital	25	...
Charlotte, 46,318—Mecklenburg		
Mercy General Hospital.....	50	40
New Charlotte Sanatorium.....	75	50
Presbyterian Hospital	100	78
St. Peter's Hospital	60	...
Durham, 21,719—Durham		
Lincoln Hospital	50	34
Fayetteville, 8,877—Cumberland		
Highsmith Hospital*	75	50
Gastonia, 12,871—Gaston		
City Hospital	33	18
Gaston County Sanatorium.....	30	15
Goldsboro, 11,296—Wayne		
Goldsboro Hospital	40	...
Magnolia Grove Hospital.....	10	3
Spicer's Sanatorium	25	18
Greensboro, 19,746—Guilford		
St. Leo's Hospital.....	100	75
Wesley Long Hospital.....	35	...
Hamlet, 3,659—Richmond		
Hamlet Hospital	40	20
Henderson, 5,222—Vance		
Sarah Elizabeth Hospital.....	25	12
Hendersonville, 3,720—Henderson		
Edgemont Sanatorium (T.B.)....	25	...
Patton Memorial Hospital.....	26	...
High Point, 14,302—Guilford		
Guilford General Hospital.....	36	19
High Point Hospital	40	35
Kinston, 9,771—Lenoir		
Parrott Memorial Hospital.....	40	6
Lincolnton, 3,390—Lincoln		
Lincoln Hospital	25	18
Lumberton, 2,691—Robeson		
Thompson Hospital	25	15
Morehead City, 2,958—Carteret		
Morehead City Hospital.....	35	18
Morganton, 2,867—Burke		
Grace Hospital	32	17
Mt. Airy, 4,752—Surry		
Martin Memorial Hospital.....	35	28
Newbern, 12,198—Craven		
St. Luke's Hospital.....	40	25
Raleigh, 24,418—Wake		
Mary Elizabeth Hospital.....	32	20
Rex Hospital*	85	55
St. Agnes' Hospital.....	95	...
Roanoke Rapids, 3,369—Halifax		
Roanoke Rapids Hospital.....	45	25
Rocky Mount, 12,742—Edgecombe		
Atlantic Coast Line Railroad Hosp.	30	14
Parkview Hospital	60	...
Rocky Mount Sanitarium.....	60	37
Rutherfordton, 1,693—Rutherford		
Rutherford Hospital†	50	37
Salisbury, 13,844—Rowan		
Wheathead-Stokes Sanatorium ...	58	30
Saluda, 549—Polk		
Infants and Childrens Sanitarium.	45	...
Sanatorium (P.O. only)—Hoke		
Sanat. for Treatment of Tuberc...	200	200
Statesville, 7,895—Iredell		
Carpenter-Davis Hospital	25	15
Long's Sanatorium	50	25
Tarboro, 4,568—Edgecomb		
Edgecomb General Hospital.....	50	25
Washington, 6,166—Beaufort		
S. R. Fowle Memorial Hospital...	25	20
Washington Hospital	35	...
Waynesville, 1,942—Haywood		
Waynesville Hospital	25	8
West Durham, 2,000—Durham		
Watts' Hospital	100	...
Wilmington, 33,372—New Hanover		
James Walker Memorial Hospital*	225	90
Wilson, 10,633—Wilson		
Carolina General Hospital.....	45	...
Moore-Herring Hospital	35	25
Wilson Hospital and Tuberc. Home	28	...
Winston-Salem, 48,395—Forsyth		
Forsyth County Tuberculosis Hosp.	30	18
Winston-Salem City Mem. Hosp. .	85	60
Eighteen General Hospitals of less than 25 beds.....	295	101
Totals.....	3,362	1,662

In North Carolina the following sixty counties have no hospitals: Alexander, Alleghany, Ashe, Avery, Bertie, Bladen, Brunswick, Cabarrus, Caldwell, Camden, Caswell, Chatham, Cherokee, Chowan, Clay, Cleveland, Columbus, Currituck, Dare, Davidson, Davis, Duplin, Franklin, Gates, Graham, Granville, Greene, Hertford, Hyde, Jackson, Johnson, Jones, McDowel, Martin, Mitchel, Montgomery, Nash, Northampton, Onslow, Orange, Pamlico, Pasquotank, Pender, Perquimans, Person, Pitt, Rockingham, Sampson, Scotland, Stanly, Stokes, Swain, Transylvania, Tyrell, Warren, Washington, Watauga, Wilkes, Yadkin, Yancey.

NORTH DAKOTA	Total Beds	Av.Beds In Use
Arvilla, 60—Grand Forks		
Grand Forks County Hospltal....	36	...
Bismarck, 6,951—Burleigh		
Bismarck Evangelical Hospital*..	140	103
St. Alexius Hospital	125	75
Bottineau, 1,172—Bottineau		
St. Andrew's Hospital.....	28	...
Carrington, 1,420—Foster		
Carrington Hospital	**25**	...
Devils Lake, 5,140—Ramsey		
General Hospital	40	21
Mercy Hospital and Mercy Detention Hospital	50	29
Dickinson, 4,122—Stark		
St. Joseph's Hospital.....	45	30
Fargo, 21,961—Cass		
Cass County Hospital.....	30	18
City Detention Hospital	60	...
St. John's Hospital*.....	110	90
St. Luke's Hospital.....	150	93
Grand Forks, 13,950—Grand Forks		
Detention Hospital	25	...
Grand Forks Deaconess Hospital..	75	...
St. Michael's Hospital.....	65	45
Jamestown, 6,627—Stutsman		
Trinity Hospital	65	44
Kenmare, 1,446—Ward		
Lakeside Hospital	70	40
Mandan, 4,336—Morton		
Mandan Deaconess Hospital.....	30	22
Minot, 10,476—Ward		
St. Joseph's Hospital.....	80	60
St. Luke's Hospital.....	35	20
Northwood, 935—Grand Forks		
Northwood Deaconess Hospital...	30	...
Oakes, 1,637—Dickey		
Oakes Hospital	25	14
Rugby, 1,424—Pierce		
Good Samaritan Hospital.....	40	...
Valley City, 4,686—Barnes		
Barnes County Hospital.....	25	...
Valley City General Hospital....	30	...
Fifteen General Hospitals of less than 25 beds.....	207	33
Totals.....	1,641	737

In North Dakota the following twenty-nine counties have no hospitals: Adams, Billings, Bowman, Divide, Dunn, Golden Valley, Grant, Griggs, Hettinger, Kidder, La Moure, Logan, McHenry, McIntosh, McKenzie, McLean, Mercer, Mountrail, Nelson, Oliver, Renville, Sargent, Sheridan, Sioux, Slope, Steele, Towner, Traill, Williams.

OHIO	Total Beds	Av.Beds In Use
Akron, 208,435—Summit		
Children's Hospital and Mary Day Nursery	57	40
City Hospital of Akron*.....	225	155
Peoples Hospital	128	80
Spring Lake Sanitarium (T.B.)..	110	103
Summit County Infirmary.....	50	...
Alliance, 20,603—Stark		
Alliance City Hospital.....	60	49
Ashland, 9,249—Ashland		
Samaritan Hospital	31	16
Ashtabula, 22,082—Ashtabula		
Ashtabula General Hospital.....	65	43
Barberton, 18,811—Summit		
Citizens Hospital	35	...
Bellaire, 15,061—Belmont		
City Hospital of Bellaire.....	50	...
Canton, 87,091—Stark		
Aultman Memorial Hospital.....	80	70
Ingleside Hospital	35	...
Mercy Hospital	85	78
Carthage, 3,618—Hamilton		
Hamilton County Infirmary.....	35	20
Chillicothe, 15,831—Ross		
Chillicothe Hospital	30	...
Mt. Logan Sanatorium (T.B.)....	28	...
Cincinnati, 401,158—Hamilton		
Bethesda Hospital and Scarlet Oaks Sanitarium	210	187
Hospital of the Protestant Episcopal Church	85	50
Christ Hospital*	175	121
Cincinnati General Hospital*.....	850	450
Cincinnati Tuberculosis Sanat.†	400	198
Deaconess Hospital	80	55
Good Samaritan Hospital*.....	210	150
Jewish Hospital*	140	120
Rockhill Sanatorium (T.B.).....	70	65
Scarlet Oaks Sanatorium.....	70	50
Seton Hospital	90	72
St. Francis Hospital.....	366	...
St. Joseph Maternity Hospital and Infant Asylum	150	...
St. Mary's Hospital.....	250	...
Cleveland, 796,836—Cuyahoga		
Canfield-White Hospital	25	...
Cleveland City Hospital*.....	850	474
Cleveland Maternity Hospital....	120	82
East 55th Street Hospital.....	60	32
Evangelical Lutheran Hospital...	39	40
Fairview Park Hospital.....	85	65
Glenville Hospital	75	40
Grace Hospital	35	...
Huronо Road Hospital.....	87	63
Lakeside Hospital*	289	267
Mt. Sinai Hospital*.....	155	94
St. Alexis Hospital.....	250	...
St. Ann's Infant Asylum and Maternity Hospital	55	...
St. Clair Hospital.....	60	...
St. John's Hospital*.....	150	...
St. Luke's Hospital*.....	140	120
St. Mark's Hospital	60	40
St. Vincent's Charity Hospital*...	290	...
Columbus, 237,031—Franklin		
Children's Hospital*	50	17
Franklin County Sanatorium.....	110	100
Grant Hospital	300	245
Hawkes Hospital*	175	125
Mercy Hospital	50	30
Protestant Hospital Assn.*.....	110	90
St. Anthony's Hospital.....	303	190
St. Clair Hospital.....	35	19
St. Francis Hospital*.....	160	95
University Homeopathic Hospital.	87	60
Coshocton, 10,847—Coshocton		
Coshocton City Hospital.....	35	15
Dayton, 152,559—Montgomery		
Miami Valley Hospital*.....	265	185
Quarantine Hospital	40	...
St. Elizabeth Hospital.....	440	350
Stillwater Sanitarium (T.B.)....	45	40
Delaware, 8,756—Delaware		
Jane M. Case Hospital.....	35	25

9. Small village, postoffice is Pomona.
10. Small village, postoffice is Ludlowville.

	Total Beds	Av.Beds In Use
ennison, 5,524—Tuscarawas		
wln Clty Hospltal	25	12
over, 8,101—Tuscarawas		
nlon Hospltal	25	...
ast Liverpool, 21,411—Columbiana		
ast Llverpool Clty Hospltal	100	...
lyria, 20,474—Lorain		
lyria Memorlal Hospltal and Gates Hospltal for Crippled and Deformed Chlldren	125	81
indlay, 17,021—Hancock		
he Homc and Hospltal	35	22
remont, 12,468—Sandusky		
lemorlal Hosp. of Sandusky Co.	50	17
allipolis, 6,070—Gallia		
olzer Hospltal	52	18
amilton, 39,675—Butler		
lercy Hospltal	140	100
uth Hospltal	30	7
lartwell, 2,823—Hamilton		
lncinnatl City Infirmary	160	110
ronton, 14,007—Lawrence		
harles S. Gray Deaconess Hosp.	35	29
larting Hospital	30	10
enton, 7,690—Hardin		
lcKitrick Hospital	40	9
akewood[11]—Cuyahoga		
akewood Publlc Hospital	53	40
ancaster, 14,706—Fairfield		
ancaster Munielpal Hospital	38	21
ima, 41,306—Allen		
istrict Tuberculosls Hospltal	50	40
lma Hospital Society	90	65
t. Rlta's Hospital	100	35
ogan, 5,493—Hocking		
herrington Hospital	35	15
orain, 37,295—Lorain		
t. Joseph Hospital	120	62
lansfield, 27,824—Richland		
lansfield General Hospital	65	37
larietta, 15,140—Washington		
larietta Hospltal	40	...
Washlngton County Infirmary	100	...
lartins Ferry, 11,634—Belmont		
lartin's Ferry Hospital	50	34
lassillon, 17,428—Stark		
lassillon City Hospital	75	41
lcConnelsville, 1,618—Morgan		
ocky Glen Sanatorlum (T.B.)	48	47
liddletown, 23,594—Butler		
lddletown Hospltal	45	23
t. Vernon, 9,237—Knox		
lt. Vernon Medlcal and Surgical Sanitarium	30	18
ewark, 26,718—Licking		
ewark City Hospltal	52	30
ewark Sanitarlum	25	16
orwalk, 7,379—Huron		
lemorial Hospital	25	12
ainesville, 7,272—Lake		
ake County Hospltal	30	25
iqua, 15,044—Miami		
lemorial Hospital	40	28
ortsmouth, 33,011—Scioto		
lcmpstead Hospltal	48	25
avenna, 7,219—Portage		
ortage County Hospltal	45	20
alem, 10,305—Columbiana		
alem City Hospltal	50	34
andusky, 22,897—Erie		
ood Samaritan Hospltal	25	17
rovldence Hospltal	30	26
outh Euclid, 1,695—Cuyahoga		
ainbow Hospital	100	84
pringfield, 60,840—Clark		
listrict Tuberculosls Hospital	70	52
pringfield City Hospltal*	100	74
teubenville, 28,508—Jefferson		
hio Valley Hospital	110	47
iffin, 14,375—Seneca		
entucky Memorial Hospltal	60	...
lercy Hospital	50	...
eneca County Infirmary	30	...
oledo, 243,164—Lucas		
East Slde Hospital Training School for Nurses	44	...
lower (Deaconess) Hospltal	55	...
ucas County Infirmary	120	...
ucas County Tubercnlosis Hosp.	114	80
laternity and Chlldren's Hospital	85	...
lercy Hospital	90	85
obinwood Avenue Hosp. Assn.	70	36
t. Vincent's Hospital	250	...
oledo Isolation Hospltal	40	6
oledo Hospltal	130	50
rbana, 7,621—Champaign		
hampaign County Hospltal	30	...
an Wert, 8,100—Van Wert		
an Wert County Hospltal	32	15
arren, 27,050—Trumbull		
arren Clty Hospltal	85	60
arrensville, 150—Cuyahoga		
leveland Clty Infirmary	66	46
leveland Munlcipal Tuber. Sanat.	280	200
ooster, 8,204—Wayne		
ooster Hospltal	25	25
enia, 9,110—Greene		
cClellan Hospltal	25	15

11. A suburb of Cleveland.

	Total Beds	Av.Beds In Use
Youngstown, 132,358—Mahoning		
St. Elizabeth's Hospital	175	132
Youngstown Hospital*	250	227
Zanesville, 29,569—Muskingum		
Bethesda Hospital	60	35
Good Samaritan Hospital	100	61
Forty-eight General Hospitals of less than 25 beds	721	120
Totals	14,838	7,651

In Ohio the following thirty-three counties have no hospitals: Adams, Athens, Auglaize, Brown, Carroll, Clermont, Clinton, Darke, Fulton, Geonga, Harrison, Henry, Holmes, Jackson, Madison, Marion, Medina, Melgs, Mercer, Monroe, Morrow, Noble, Pauling, Perry, Plekaway, Pike, Preble, Putnam, Shelby, Union, Vinton, Warren, Wyandot.

OKLAHOMA	Total Beds	Av.Beds In Use
Ardmore, 14,181—Carter		
Hardy Sanitarium	60	35
Van Keller Hospital	30	15
Blackwell, 7,174—Kay		
Blackwell Hospital	35	15
Cherokee, 2,017—Alfalfa		
Alfalfa County General Hospital.	50	18
Chickasha, 10,179—Grady		
Chickasha Hospital	30	15
Clinton, 2,396—Custer		
Clinton Hosp. and Training School	40	31
Cordell, 1,855—Washita		
Florence Hospital	30	12
Durant, 7,340—Bryan		
Durant Memorial Hospital	35	15
El Reno, 7,737—Canadian		
El Reno Sanitarium	60	26
Enid, 16,576—Garfield		
Enid General Hospital	35	25
Enid Springs Sanit. and Hosp.	30	16
University Hospital	30	20
Guthrie, 11,757—Logan		
Oklahoma Methodist Hospital	40	26
Lawton, 8,930—Comanche		
Southwestern Hospital	35	10
Mangum, 3,405—Greer		
Border Hospital	40	15
McAlester, 12,095—Pittsburg		
All Saints' Hospital	50	25
St. Mary's Infirmary	33	...
Muskogee, 30,277—Muskogee		
M. O. and G. Hospital	40	...
Physicians and Surgeons Hospital	50	...
Baptist General Convention of the State of Oklahoma	80	57
Oklahoma, 91,258—Oklahoma		
Oklahoma City Detention Hospital	100	...
Oklahoma Cottage Sanat. (T.B.)	30	25
Oklahoma State Baptist Hospital.	45	30
St. Anthony's Hospital*	150	105
St. Luke's Hospital	50	...
State University Hospital*	176	124
Wesley Hospital	55	40
Okmulgee, 17,430—Okmulgee		
Okmulgee City Hospital	25	25
Sand Springs, 4,076—Tulsa		
Home Hospital and. Sanatorium	30	...
Shawnee, 15,348—Pottawatomie		
Shawnee General Hospital	50	33
Tulsa, 72,075—Tulsa		
Morningside Hospital	40	5
Oklahoma Hospital	52	30
Physicians and Surgeons Municipal Hospital	30	30
Tulsa Hospital	64	...
Twenty-one General Hospitals of less than 25 beds	339	85
Totals	2,069	898

In Oklahoma the following fifty counties have no hospitals: Adair, Atoka, Beaver, Beckham, Blaine, Caddo, Cherokee, Choctaw, Cimarron, Cleveland, Cotton, Craig, Creek, Delaware, Dewey, Ellis, Gravin, Grant, Harmon, Harper, Haskell, Hughes, Johnston, Kingfisher, Latimer, LeFlore, Lincoln, Love, McClain, McCurtain, McIntosh, Major, Marshall, Mayes, Murray, Noble, Nowata, Okfuskee, Osage, Ottawa, Pawnee, Pontotoc, Pushmataha, Roger Mills, Rogers, Seminole, Sequoyah, Texas, Tillman, Wagoner.

OREGON	Total Beds	Av.Beds In Use
Ashland, 4,283—Jackson		
Granite City Hospital	25	8
Astoria, 14,027—Clatsop		
St. Mary's Hospital	175	65
Baker, 7,729—Baker		
St. Elizabeth's Hospital	50	...
Bay City, 511—Tillamook		
Tillamook Bay Hospital	70	...
Bend, 5,415—Deschutes		
St. Charles Hospital	25	...
Enterprise, 1,895—Wallowa		
Enterprise Hospital	25	(New)
Eugene, 10,593—Lane		
Mercy Hospital	45	...
Hot Lake, 21—Union		
Hot Lake Sanatorium	160	40
Klamath Falls, 4,801—Klamath		
Blaekburn Hospltal	25	...
La Grande, 6,913—Union		
Grande Ronde Hospital	40	19
Medford, 13,304—Jackson		
Saered Heart Hospital	75	30
North Bend, 3,268—Coos		
Mercy Hospital	50	40
Ontario, 2,039—Malheur		
Holy Rosary Hospital	40	25
Oregon City, 5,686—Clackamas		
Oregon City Hospital	40	28
Pendleton, 7,387—Umatilla		
St. Anthony's Hospital	55	40
Portland, 258,288—Multnomah		
Emanuel Hospital	90	67
Good Samaritan Hospital	300	280
Multnomah County Hospital*	100	65
Portland Open Air Sanatorium (T.B.)	50	...
Portland Surgical Hospital	65	...
Sellwood General Hospital	60	60
St. Vincent's Hospital*	400	325
Roseburg, 4,381—Douglas		
Mercy Hospital	29	10
Salem, 17,679—Marion		
Salem Hospital	50	...
Willamette Sanatorium	30	27
Springfield, 1,855—Lane		
Springfield General Hospital	40	...
The Dalles, 5,807—Wasco		
The Dalles Hospital	80	60
Nineteen General Hospitals of less than 25 beds	310	78
Totals	2,504	1,267

In Oregon the following thirteen counties have no hospitals: Benton, Columbia, Crook, Grant, Harney, Jefferson, Lake, Lincoln, Morrow, Sherman, Washington, Wheeler, Yamhill.

PENNSYLVANIA	Total Beds	Av.Beds In Use
Abington, 800—Montgomery		
Abington Memorial Hospital	67	49
Allentown, 73,502—Lehigh		
Allentown Hospital*	210	131
Sacred Heart Hospital	150	52
Allenwood, 410—Union		
Devitt's Camp for Tuberculosis	60	...
Altoona, 60,331—Blair		
Altoona Hospital	165	90
Merey Hospital	75	45
Ashland, 6,666—Schuylkill		
State Hosp. for Injured Persons	290	251
Austin, 1,556—Potter		
North Pennsylvania Hospital and Sanitarium	26	...
Beaver Falls, 12,802—Beaver		
Providence Hospital	55	40
Bellefonte, 3,996—Center		
Bellefonte Hospital	50	25
Bellevue, 8,198—Allegheny		
Suburban General Hospital	65	52
Bells Camp (P.O. only)—McKean		
Bon Air Sanatorium (T.B.)	35	30
Berwick, 12,181—Columbia		
Berwlek Hospital	50	24
Bloomsburg, 7,819—Columbia		
Bloomsburg Hospital	60	30
Blossburg, 2,033—Tioga		
Blossburg State Hospltal	80	72
Braddock, 20,879—Allegheny		
Braddock General Hospltal	125	96
Bradford, 15,525—McKean		
Bradford Hospital	100	83
Brownsville, 2,502—Fayette		
Brownsville General Hospital	37	35
Bryn Mawr, 3,000—Montgomery		
Bryn Mawr Hospital*	75	63
Butler, 23,778—Butler		
Butler County General Hospital	55	...
Canonsburg, 10,632—Washington		
Canonsburg General Hospital	40	...
Carbondale, 18,640—Lackawanna		
Emergency Hospital	90	67
Carlisle, 10,916—Cumberland		
Carlisle Hospital	56	24
Chambersburg, 13,171—Franklin		
Chambersburg Hospital	60	34
Chester, 58,030—Delaware		
Chester Hospital*	143	98
Clearfield, 8,529—Clearfield		
Clearfield Hospital	100	76
Coaldale, 6,336—Schuylkill		
State Hospital	46	46
Coatesville, 14,515—Chester		
Coatesville Hospital	45	30
Columbia, 10,836—Lancaster		
Columbia Hospital	45	20
Connellsville, 13,804—Fayette		
Cottage State Hospltal	45	...
Corry, 7,228—Erie		
Corry Hospital	50	23
Danville, 6,952—Montour		
Geo. F. Geisinger Mem. Hosp.*	80	64

	Total Beds	Av. Beds In Use
Dorranceton, 6,334—Luzerne		
Nesbitt West Side Hospital	59	26
Du Bois, 13,681—Clearfield		
Du Bois Hospital	50	27
Eagleville, 184—Montgomery		
Eagleville Sanatorium (T.B.)	110	107
Easton, 33,813—Northampton		
Dr. Correll's Private Hospital	30	26
Easton Hospital*	110	75
Erie, 93,372—Erie		
Hamot Hospital	180	110
St. Vincent's Hospital*	225	144
Franklin, 9,970—Venango		
Franklin Hospital	40	16
Greensburg, 15,033—Westmoreland		
Westmoreland Hospital	100	80
Greenville, 8,101—Mercer		
Greenville Hospital	32	22
Harrisburg, 75,917—Dauphin		
Harrisburg Hospital*	151	120
Polyclinic Hospital	52	31
Hazleton, 32,277—Luzerne		
State Hospital for Injured Persons of the Middle Coal Field	130	118
Heilwood (P.O. only)—Indiana		
Penn-Mary Hospital	50	15
Homestead, 20,452—Allegheny		
Homestead Hospital	35	...
Honesdale, 2,756—Wayne		
Wayne Memorial Hospital	25	(New)
Huntingdon, 7,051—Huntingdon		
J. C. Blair Memorial Hospital	68	39
Indiana, 7,043—Indiana		
Indiana Hospital	70	...
Johnstown, 67,327—Cambria		
Cambria Hospital	50	47
Conemaugh Valley Mem. Hosp.	140	128
Mercy Hospital	98	63
Municipal Hospital	60	...
Kane, 7,283—McKean		
Kane Summit Hospital	85	40
Lancaster, 53,150—Lancaster		
Lancaster General Hospital*	135	112
St. Joseph's Hospital	125	95
Lansdale, 4,728—Montgomery		
Engelhardt Sanatorium	35	25
Latrobe, 9,484—Westmoreland		
Latrobe Hospital	60	32
Lebanon, 24,643—Lebanon		
Good Samaritan Hospital	80	28
Lewistown, 9,849—Mifflin		
Lewistown Hospital	50	38
Lock Haven, 8,557—Clinton		
Lock Haven Hospital	60	53
Lock No. 4, 532—Washington		
Charleroi-Monessen Hospital	28	22
Malvern, 1,286—Chester		
Country Br., Rush Hosp. (T.B.)	30	...
Mayview[12] (Village)—Allegheny		
Pittsburgh City Home and Hosp.	2,600	1,840
McKeesport, 45,975—Allegheny		
McKeesport Hospital*	180	141
McKees Rocks, 16,713—Allegheny		
Ohio Valley General Hospital	60	40
Meadville, 14,568—Crawford		
Meadville City Hospital	60	32
Spencer Hospital	40	...
Media, 4,109—Delaware		
Media Hospital	30	...
Mercer, 1,932—Mercer		
Cottage State Hospital for Injured Persons	35	8
Monongahela, 8,688—Washington		
Memorial Hospital	70	42
Morton, 1,212—Delaware		
Dermady Cottage Sanat. (T.B.)	40	...
Mt. Pleasant, 5,862—Westmoreland		
Jacob Justice Free Dispensary and Mt. Pleasant Memorial Hospital	60	...
Mt. Pocono, 750—Monroe		
Dr. McGinty's Hospital	50	45
Nanticoke, 22,614—Luzerne		
State Hospital	75	74
New Brighton, 9,361—Beaver		
Beaver Valley General Hospital	68	30
New Castle, 44,938—Lawrence		
New Castle Hospital	75	44
Shenango Valley Hospital	85	37
New Kensington, 11,987—Westmoreland		
Citizen's General Hospital	71	52
Norristown, 32,319—Montgomery		
Charity Hospital	72	50
Old Forge, 12,237—Lackawanna		
Taylor Hospital Assn.	40	...
Oil City, 21,274—Venango		
Grandview Sanatorium (T.B.)	30	28
Oil City Hospital	75	35
Olyphant, 10,236—Lackawanna		
Blakeley Poor District Hospital	92	87
Palmerton, 7,168—Carbon		
Palmerton Hospital	65	47
Peckville, 3,915—Lackawanna		
Mid-Valley Hospital	34	23
Philadelphia, 1,823,779—Philadelphia		
American Hospital for Diseases of the Stomach	37	...
American Oncologic Hospital†	27	23
Anderson Hospital and College of Physio-Therapy	40	31
Babies Hospital of Philadelphia	60	...
Bainbridge Private Hospital	50	29
Belmont Hospital	90	...
Chestnut Hill Hospital	56	50
Children's Homeopathic Hospital†	199	...
Children's Hosp. of Philadelphia†	55	...
Frankford Hospital*	128	69
Frederick Douglas Mem. Hosp.*	75	35
Fulton Sanitarium	25	...
Garretson Hospital	50	30
Germantown Disp. and Hosp. *	175	114
Girard College Infirmary	124	...
Gynecean Hospital	62	49
Hahnemann Med. Coll. and Hosp.*	320	209
Henry Phipps Institute (T.B.)	31	30
Home for Consumptives	104	98
Hospital of the Protestant Episcopal Church*	500	294
Hospital of the University of Pennsylvania*	433	323
Hospital of the Women's Homeopathic Assn. of Pennsylvania*	160	80
Hospital of the Woman's Medical College of Pennsylvania*	150	85
Howard Hospital	80	70
Jefferson Maternity Hospital	36	...
Jefferson Medical College Hosp.*	357	336
Jewish Hospital of Philadelphia*	186	155
Jewish Maternity Hospital†	45	33
Kensington Hospital for Women	76	55
Lankenau Hospital*	258	176
Lebanon Hospital	25	...
Mary J. Drexel Home and Children's Hospital	55	(in Hos.)
Medico-Chirurgical Hospital	307	63
Memorial Hospital*	105	57
Mercy Hospital	85	44
Methodist Episcopal Hospital*	190	131
Misericordia Hospital*	225	...
Mt. Sinai Hospital*	69	67
Municipal Hospital	1,000	550
National Stomach Hospital	37	22
Northwestern General Hospital	80	39
Pennsylvania Hospital*	315	247
Philadelphia General Hospital*	2,000	1,622
Philadelphia Hospital for Contagious Diseases†	700	...
Philadelphia Lying-in Charity Hospital†	84	45
Philadelphia Maternity Hospital	25	15
Philadelphia Polyclinic Hospital and College*	125	...
Presbyterian Hospital in Philadelphia*	265	192
Preston Retreat	50	...
Roosevelt Hospital	52	...
Rosine Assn. of Philadelphia	30	...
Rush Hospital for Consumption and Allied Diseases	131	54
Samaritan Hospital*	165	135
St. Agnes Hospital*	220	195
St. Christopher's Hosp. for Child.†	60	39
St. Joseph's Hospital*	181	128
St. Luke's Homeopathic Hospital.	55	46
St. Mary's Hospital*	350	299
Stetson Hosp. of Philadelphia*	66	50
West Philadelphia General Homeopathic Hospital	40	2
West Philadelphia Hospital for Women†	117	69
Wills Hospital†	112	63
Woman's Hosp. of Philadelphia*	200	100
Woman's Southern Homeo. Hosp.†	49	35
Philipsburg, 3,900—Center		
Cottage State Hospital	40	33
Phoenixville, 10,484—Chester		
Phoenixville Hospital	60	30
Pittsburgh, 588,193—Allegheny		
Allegheny General Hospital*	450	266
Children's Hosp. of Pittsburgh†	106	70
City Tuberculosis Hospital	140	130
Elizabeth Steel Magee Hospital	140	90
Eye and Ear Hospital†	43	30
Homeopathic Medical and Surgical Hospital and Dispensary*	160	145
Mercy Hospital*	560	462
Montefiore Hospital Association of Western Pennsylvania*	61	53
Municipal Hospital	240	75
Passavant Hospital*	153	111
Pittsburgh Hospital*	125	102
Presbyterian Hospital*	180	130
Roselia Foundling and Maternity Hospital†	215	...
South Side Hospital*	215	139
St. Francis Hospital*	550	503
St. John's General Hospital*	200	130
St. Joseph's Hosp. and Disp.*	130	91
St. Margaret's Memorial Hosp.*	118	65
Tuberculosis League Hospital†	110	100
United Presbyterian Memorial Hospital for Children	65	...
Western Pennsylvania Hospital*	475	441
Pittston, 18,497—Luzerne		
Pittston Hospital	65	59
Pottstown, 17,431—Montgomery		
Homeopathic Hospital	35	15
Pottstown Hospital	80	45
Pottsville, 21,876—Schuylkill		
Pottsville Hospital	120	77
Punxsutawney, 10,311—Jefferson		
Adrian Hospital	70	56
Punxsutawney Hospital Assn.	35	...
Reading, 107,784—Berks		
Homeopathic Medical and Surgical Hospital	90	50
Neversink Mountain Tuberculosis Sanatorium (T.B.)	65	50
Reading Hospital	136	113
St. Joseph's Hospital	150	90
Renovo, 5,877—Clinton		
Renovo Hospital	25	15
Ridgway, 6,037—Elk		
Elk County General Hospital	45	...
Ridley Park, 1,761—Delaware		
Taylor Hospital	42	26
Roaring Springs, 2,379—Blair		
Nason Hospital	58	30
Rochester, 6,957—Beaver		
Rochester General Hospital	51	48
Sayre, 8,078—Bradford		
People's Co-operative Hospital	50	30
Robert Packer Hospital*	200	120
Scranton, 137,783—Lackawanna		
Hahnemann Hospital*	118	41
Mercy Hospital	35	...
Moses Taylor Hospital	100	96
Scranton Private Hospital	30	...
St. Joseph's Foundling Home and Maternity Hospital	227	...
St. Mary's Keller Mem. Hospital	50	40
State Hospital of the Northern Anthracite Coal Region of Pa.*	185	135
West Mountain Sanatorium	28	...
West Side Hospital	65	52
Sellersville, 1,739—Bucks		
Grand View Medical Association.	35	18
Sewickley, 4,955—Allegheny		
Sewickley Valley Hosp. Assn.	44	...
Shamokin, 21,204—Northumberland		
Trevorton, Shamokin and Mount Carmel State Hospital	83	67
Sharon, 21,747—Mercer		
Christian H. Buhl Hospital	125	78
South Bethlehem, 50,358—Northampton		
St. Luke's Hospital*	206	126
Spangler, 3,035—Cambria		
Miners' Hospital of Northern Cambria	53	35
Sunbury, 15,721—Northumberland		
Mary M. Packer Hospital	32	18
Tarentum, 8,925—Allegheny		
Allegheny Valley Hospital	100	26
Titusville, 8,432—Crawford		
Fieldmore Hotel and Sanitarium	75	...
Titusville City Hospital	27	17
Uniontown, 15,692—Fayette		
Uniontown Hospital	110	55
Warren, 14,256—Warren		
Warren General Hospital	97	43
Washington, 21,480—Washington		
City Hospital	60	...
Washington Hospital	80	40
West Chester, 11,717—Chester		
Chester County Hospital	110	81
White Haven, 1,438—Luzerne		
Sunnyrest Sanatorium (T.B.)	47	47
White Haven Sanatorium (T.B.)	200	193
Wilkes-Barre, 73,826—Luzerne		
Mercy Hospital*	150	120
Riverside Hospital	35	20
Wilkes-Barre City Hospital*	250	154
Wyoming Valley Homeo. Hospital.	35	29
Wilkinsburg, 24,403—Allegheny		
Columbia Hospital*	181	124
Williamsport, 36,198—Lycoming		
Williamsport Hospital	186	104
Williamsport Private Hospital	27	...
Windber, 9,462—Somerset		
Windber Hospital	83	63
York, 47,572—York		
West Side Sanitarium	38	18
York Hospital and Dispensary	125	70
Youngsville, 1,608—Warren		
Rouse Hospital	100	75
Forty-four General Hospitals of less than 25 beds	694	230
Totals	30,828	18,863

In Pennsylvania the following thirteen counties have no hospitals: Adams, Bedford, Cameron, Clarion, Forest, Fulton, Greene, Juniata, Perry, Pike, Snyder, Sullivan, Wyoming.

RHODE ISLAND	Total Beds	Av. Beds In Use
East Greenwich, 3,420—Kent		
Crawford Allen Memorial Hospital	50	...
Hillsgrove, 1,200—Kent		
St. Joseph's Hospital (T.B.)	80	...
Howard, 400—Providence		
State Infirmary*	500	500
Newport, 30,255—Newport		
Newport Hospital	150	80
Pawtucket, 64,248—Providence		
Memorial Hospital*	72	45

12. Small village, postoffice is Bridgeville.

Providence, 237,595—Providence	Total Beds	Av.Beds In Use
Exter Asylum Hospital	50	...
Homeo. Hosp. of Rhode Island	30	21
Hope Private Hospital	34	21
Park Hill Private Hospital	25	12
Providence City Hospital†	200	131
Providence Lying-In Hospital†	100	80
Providence Surgical Hospital	32	20
Rhode Island Hospital*	500	363
St. Joseph's Hospital*	180	146
Woonsocket, 43,496—Providence		
Woonsocket Hospital*	55	39
Four General Hospitals of less than 25 beds	79	21
Totals	2,137	1,479

In Rhode Island the following two counties have no hospitals: Bristol and Washington.

SOUTH CAROLINA	Total Beds	Av.Beds In Use
Aiken, 4,103—Aiken		
Aiken Hospital	30	20
Anderson, 10,570—Anderson		
Anderson County Hospital	75	40
St. Mary's Hospital	28	20
University Sanitarium	50	...
Camden, 3,930—Kershaw		
Camden Hospital	25	10
Charleston, 67,957—Charleston		
Baker Sanatorium	60	40
Riverside Infirmary	30	...
Roper Hospital*	248	129
St. Francis Xavier Infirmary*	50	30
Chester, 5,557—Chester		
Chester Sanatorium	35	15
Pryor Hospital	90	67
Chick Springs, 30—Greenville		
Chick Springs Sanitarium and Steedly Clinic	90	24
Clinton, 3,767—Laurens		
Clinton Hospital	36	...
Clio Hospital	30	15
Columbia, 37,524—Richland		
Columbia Hospital	140	...
South Carolina Baptist Hospital*	125	...
South Carolina Sanatorium (T.B.)	56	54
Florence, 10,968—Florence		
Florence Infirmary	100	...
Gaffney, 5,065—Cherokee		
City Hospital	40	14
Greenville, 23,127—Greenville		
Greenville City Hospital	100	100
Hopewell Sanatorium (T.B.)	25	18
Greenwood, 8,703—Greenwood		
Greenwood City Hospital	25	13
Kingstree, 2,074—Williamsburg		
Kelley Sanatorium	28	14
North Augusta, 1,742—Aiken		
Pine Heights Sanatorium	25	...
Orangeburg, 7,290—Orangeburg		
Orangeburg Hospital	25	...
Rock Hill, 8,809—York		
Fennel Infirmary	40	...
Spartanburg, 22,638—Spartanburg		
Good Samaritan Hospital	35	...
Spartanburg Hospital	30	18
Steedly Hospital	50	38
Sumpter, 9,508—Sumter		
Tuomey Hospital	40	32
Nine General Hospitals of less than 25 beds	151	10
Totals	1,912	721

In South Carolina the following twenty-seven counties have no hospitals: Abbeville, Bamberg, Barnwell Beaufort, Berkeley, Calhoun, Chesterfield, Clarenden, Collston, Darlington, Dillon, Dorchester, Edgefield, Fairfield, Georgetown, Hampton, Harry, Jasper, Lancaster, Lee, Lexington, McCormick, Marion, Newbury, Pickens, Saluda, Union.

SOUTH DAKOTA	Total Beds	Av.Beds In Use
Aberdeen, 14,537—Brown		
German Baptist Hospital of North and South Dakota	32	...
St. Luke's Hospital	110	80
Chamberlain, 1,303—Brule		
Chamberlain Sanitarium	80	20
Cheyenne Agency, 100—Dewey		
Agency Hospital	32	7
Deadwood, 2,403—Lawrence		
Lawrence County Infirmary	50	...
St. Joseph's Hospital	50	40
Dell Rapids, 1,677—Minnehaha		
Dell Rapids Hospital	30	22
Hot Springs, 1,522—Fall River		
Battle Mountain Sanit. (T.B.)	450	310
Lutheran Sanit. and Hosp.	100	30
Our Lady of Lourdes Hospital	52	33
Huron, 8,302—Beadle		
Samaritan Hospital	30	20
Sprague and Sewell Clinic and Hospital	30	21
Madison, 4,144—Lake		
New Madison Hospital	75	(New)
Mitchell, 8,478—Davison		
St. Joseph's Hospital	50	30
Mobridge, 3,517—Walworth		
Mobridge Hospital	26	14
Pierre, 3,209—Hughes		
St. Mary's Hospital	55	48
Rapid City, 5,777—Pennington		
Methodist Deaconess Hospital	32	28
Sioux Falls, 25,176—Minnehaha		
McKennan Hospital	110	65
Moe Hospital	75	40
Sioux Falls Lutheran Hospital	50	32
Volga, 600—Brookings		
Volga Hospital	25	12
Watertown, 9,400—Codington		
Bartron Hospital	75	40
Luther Hospital	65	48
Peabody Hospital	76	52
Yankton, 5,024—Yankton		
Sacred Heart Hospital	85	50
Nine General Hospitals of less than 25 beds	139	37
Totals	1,984	1,079

In South Dakota the following forty-eight counties have no hospitals: Armstrong, Aurora, Bennett, Bon Home, Buffalo, Butte, Campbell, Charles Mix, Clark, Clay, Corsen, Custer, Day, Deuel, Douglas, Faulk, Grant, Gregory, Haakon, Hamlin, Hand, Hanson, Hutchinson, Hyde, Jackson, Jerauld, Jones, Kingsbury, Lyman, McCook, McPherson, Marshall, Mellette, Miner, Moody, Perkins, Potter, Sanborn, Shannon, Stanley, Sully, Todd, Tripp, Turner, Union, Washabough, Washington, Ziebach.

TENNESSEE	Total Beds	Av.Beds In Use
Chattanooga, 57,895—Hamilton		
Baroness Erlanger Hospital*	150	100
Highlands Sanitarium	30	...
Newell and Newell Sanitarium†	50	25
Pine Breeze Sanitarium (T.B.)	80	45
West Ellis Private Hospital	50	25
Woolford-Johnson Infirmary	25	...
Clarksville, 8,110—Montgomery		
Clarksville Hospital	25	15
Columbia, 5,526—Maury		
King's Daughters' Hospital	30	21
Dyersburg, 6,444—Dyer		
Baird-Dulaney Hospital	75	30
Dyersburg General Hospital	50	12
Greenville, 3,775—Greene		
Greenville Sanitarium and Hosp.	40	20
Jackson, 18,860—Madison		
Crook Sanatorium	25	12
Johnson City, 12,442—Washington		
Memorial Hospital	30	...
Knoxville, 77,818—Knox		
Ft. Sanders Hospital	65	(New)
Knoxville General Hospital*	150	110
Private Hospital	25	...
Riverside Hospital	50	...
Memphis, 162,351—Shelby		
Gartly-Ramsey Hospital	40	...
Jane Terrell Baptist Hospital	110	78
Lucy Brinkley Hospital	50	41
Memphis General Hospital*	250	...
Oakville Memorial Sanitarium	100	(New)
Presbyterian Home Hospital	50	30
St. Joseph's Hospital*	350	300
Tri-State Baptist Mem. Hosp.*	250	...
Morristown, 5,875—Hamblen		
Morristown General Hospital	30	...
Nashville, 118,342—Davidson		
Davidson County Isolation Hosp.	50	20
Davidson Co. Tuberculosis Hosp.	104	96
George W. Hubbard Hospital*	75	40
Nashville City Hospital*	120	100
Protestant Hospital*	84	67
St. Thomas Hospital*	200	125
Treraca Hospital	30	...
Vanderbilt University Hospital	100	70
Woman's Hospital of the State of Tennessee*	75	60
Pressmens Home (P.O. only)—Hawkins		
International Printing Pressmen and Ass'ts' Union Sanat. (T.B.)	40	24
Ridgetop, 126—Robertson		
Watauga Sanitarium (T.B.)	50	25
Sewanee, 500—Franklin		
Emerald Hodgson Hospital	50	...
Eighteen General Hospitals of less than 25 beds	288	38
Totals	3,446	1,535

In Tennessee the following seventy-four counties have no hospitals: Anderson, Bedford, Benton, Bledsoe, Bradley, Campbell, Cannon, Carroll, Carter, Cheatham, Chester, Claiborne, Clay, Cooke, Coffee, Crockett, Cumberland, Decatur, Dekalb, Dickson, Fayette, Fentress, Gibson, Giles, Grainger, Hancock, Hardeman, Hardin, Henderson, Henry, Hickman, Houston, Humphreys, Jackson, James, Jefferson, Johnson, Lake, Lauderdale, Lewis, Lincoln, Loudon, McMinn, McNairy, Macon, Marlon, Marshall, Melgs, Monroe, Moore, Morgan, Oblon, Overton, Perry, Pickett, Putnam, Rhea, Roane, Rutherford, Scott, Sequatchee, Sevier, Smith, Stewart, Sumner, Tipton, Trousdale, Unicol, Unlon, Van Buren, Wayne, Weakley, White, Williamson.

TEXAS	Total Beds	Av.Beds In Use
Abilene, 10,274—Taylor		
Alexander Sanitarium	32	...
Amarillo, 15,494—Potter		
St. Anthony's Sanitarium	50	36
Arlington, 3,031—Tarrant		
Knight Templar Hospital	30	15
Austin, 34,876—Travis		
Austin City Hospital	60	40
Seton Infirmary	150	...
Ballinger, 2,767—Runnels		
Halley and Love Sanitarium	30	...
Beaumont, 40,422—Jefferson		
Hotel Dieu*	250	150
Boerne, 1,153—Kendall		
St. Mary's Sanitarium (T.B.)	60	45
Bonham, 6,008—Fannin		
S. B. Allen Memorial Hospital	35	15
Brenham, 5,066—Washington		
Brenham Hospital	26	...
Brownsville, 11,791—Cameron		
Divine Providence Hospital	25	...
Cameron, 4,298—Milam		
Cameron Hospital	60	...
Cleburne, 12,820—Johnson		
Southwestern Sanitarium	30	...
College Station (P.O. only)—Brazos		
Hosp. A. and M. College of Texas	50	20
Corsicana, 11,356—Navarro		
Physicians and Surgeons Hospital	40	20
Cuero, 3,671—Dewitt		
Burns Hospital	30	18
J. M. Reuss Memorial Hospital	35	...
Dalhart, 3,580—Dallam		
Trans-Canadian Sanitarium	30	15
Dallas, 158,976—Dallas		
Parkland City Hospital	170	...
St. Paul's Sanitarium*	310	...
Texas Baptist Mem. Sanitarium*	250	...
Woodland Sanitarium (T.B.)	130	60
Denison, 17,065—Grayson		
Denison Hospital	50	10
El Paso, 77,543—El Paso		
El Paso County Hospital	100	70
El Paso Sanatorium (T.B.)	30	...
Hendricks-Laws Sanat. (T.B.)	77	75
Homan Sanatorium (T.B.)	75	70
Hotel Dieu Sisters Hospital	100	75
Long's Sanatorium (T.B.)	60	(New)
Providence Hospital	50	...
Ralston Hospital	75	...
Southern Baptist Sanat. (T.B.)	40	...
Forney, 1,340—Kaufman		
Forney Sanitarium	25	14
Ft. Worth, 106,482—Tarrant		
All Saints Hospital	44	...
City and County Hospital	40	30
Ft. Worth Free Baby Hospital	25	14
Harris Sanitarium	50	40
Johnson-Beall Hospital	40	25
Protestant Hospital	90	(New)
Rountree Sanitarium	35	...
St. Joseph's Infirmary	150	95
Dr. Walker's Sanitarium	25	...
Galveston, 44,255—Galveston		
Hubbard Sanitarium	40	...
John Sealy Hospital*	320	201
St. Mary's Infirmary*	180	115
Greenville, 12,384—Hunt		
Cantrell Hospital	35	...
Houston, 138,276—Harris		
Baptist Sanitarium*	112	95
Southern Pacific Hospital*	100	60
St. Joseph's Infirmary*	300	15
Kerrville, 2,353—Kerr		
Kerrville Sanitarium Hospital	30	...
Secor Sanitarium	30	15
Thompson Sanatorium (T.B.)	54	50
Kingsville, 4,770—Kleberg		
Kleberg County Hospital	40	...
Laredo, 22,710—Webb		
Mercy Hospital	30	...
Lubbock, 4,051—Lubbock		
Lubbock Sanitarium	40	25
West Texas Sanitarium	30	...
Lufkin, 4,878—Angelina		
Angelina County Hospital	53	37
Marlin, 4,310—Falls		
Allen Hospital	25	18
Torbett Sanatorium	30	20
Marshall, 14,271—Harrison		
Texas and Pacific Railway Employees Hospital	90	45
Orange, 9,212—Orange		
Frances Anne Lutcher Hospital	61	35
Palestine, 11,039—Anderson		
International and Great Northern Railroad Employees Hospital	80	33
Paris, 15,040—Lamar		
W. B. Aiken Hospital	25	20
Sanitarium of Paris	50	...
St. Joseph's Infirmary	50	30
Plainview, 3,989—Hale		
Plainview Sanitarium	30	20
Port Arthur, 22,257—Jefferson		
Mary Gates Memorial Hospital	36	30
Quanah, 3,691—Hardemann		
Quanah Hospital	35	...

	Total Beds	Av. Beds In Use
San Angelo, 9,392—Tom Green		
Cornick Bungalows (T.B.)	50	35
San Angelo Sanatorium (T.B.)	35	33
St. John's Sanitarium	30	...
San Antonio, 161,379—Bexar		
Baylor Hospital	50	38
Bexar County Hospital	200	...
Dr. Kenney's Sanatorium	105	50
Grace Lutheran Sanat. (T.B.)	40	32
Lee Surgical Hospital	25	...
Physicians and Surgeons Hosp.	75	60
R. B. Green Memorial Hospital*	200	130
Santa Rosa Infirmary*	150	125
Sherman, 15,031—Grayson		
Sherman Hospital	66	50
St. Vincent's Sanitarium	100	38
Stamford, 3,704—Jones		
Stamford Sanitarium	30	12
Taylor, 5,965—Williamson		
Dr. Floeckinger's Sanitarium	25	15
Temple, 11,033—Bell		
King's Daughters' Hospital*	75	50
Santa Fe Hospital*	120	47
Temple Sanitarium*	115	93
Texarkana, 12,181—Bowie		
Texarkana Sanit. and Hosp.	50	37
Von Ormy, 42—Bexar		
Von Ormy Cottage Sanit. (T.B.)	40	38
Waco, 38,500—McLennan		
Providence Sanitarium*	150	100
Weatherford, 6,203—Parker		
Weatherford Sanitarium	35	15
Wichita Falls, 40,079—Wichita		
Wichita General Hospital	40	36
Forty-nine General Hospitals of less than 25 beds	781	112
Totals	7,557	2,962

In Texas the following 187 counties have no hospitals: Andrews, Aransas, Archer, Armstrong, Atascasa, Austin, Bailey, Bandora, Bastrop, Baylor, Blancho, Borden, Bosque, Brazoria, Brewster, Briscoe, Brown, Burleson, Burnet, Calhoun, Callahan, Camp, Carson, Cass, Castro, Chambers, Cherokee, Clay, Coke, Coleman, Collingsworth, Colorado, Comanche, Concho, Coryell, Cottle, Crane, Crockett, Crosby, Cuberson, Dawson, Deaf Smith, Delta, Denton, Dimmit, Duval, Ector, Edwards, Erath, Fayette, Fisher, Floyd, Foard, Fort Bend, Franklin, Freestone, Frio, Gainea, Gillespie, Glascock, Goliad, Gray, Gregg, Grimes, Hale, Hamilton, Hansford, Hardin, Hartley, Haskell, Hemphill, Henderson, Hidalgo, Hill, Hood, Hopkins, Houston, Howard, Hudspeth, Hutchinson, Irion, Jack, Jackson, Jasper, Jeff Davies, Jim Hogg, Jim Wells, Kannes, Kent, Kimble, King, Kinney, Knox, Lamb, Lampasas, La Salle, Lee, Leon, Liberty, Limestone, Lipscomb, Live Daks, Llano, Loving, Lynn, McCulloch, McMullen, Madison, Marion, Martin, Mason, Managorda, Maverick, Medina, Menard, Midland, Mills, Mitchell, Montague, Montgomery, Moore, Morris, Motley, Neuces, Newton, Nolan, Ochiltree, Oldham, Palo Pinto, Panola, Parmer, Pecos, Polk, Presidio, Rains, Randall, Reagan, Read, Red River, Reeves, Refugio, Roberts, Robertson, Rockwall, Rusk, Sabine, San Augustine, San Jacinto, San Patricio, San Saba, Schleichet, Scurry, Shackleford, Shelby, Sherman, Somervell, Starr, Stephens, Sterling, Stonewall, Sutton, Swisher, Terrell, Terry, Throckmorton, Titus, Tyler, Upshur, Upton, Uvalde, Valverde, Van Zandt, Victoria, Walker, Waller, Ward, Wheeler, Wilbarger, Willacy, Wilson, Winkler, Wise, Wood, Yoakum, Young, Zapata, Zavala.

UTAH	Total Beds	Av. Beds In Use
Logan, 9,439—Cache		
Utah-Idaho Hospital	60	...
Ogden, 32,804—Weber		
Thomas D. Dee Mem. Hospital*	75	62
Price, 2,364—Carbon		
Carbon County Hospital	25	18
Provo, 10,303—Utah		
Provo General Hospital	50	20
Salina, 1,451—Sevier		
Salina Hospital	25	8
Salt Lake City, 118,110—Salt Lake		
Groves Latter-Day Saints Hosp.*	195	161
Holy Cross Hospital*	250	130
Salt Lake County Hospital*	125	60
St. Mark's Hospital*	155	130
Six General Hospitals of less than 25 beds	85	20
Totals	1,045	609

In Utah the following twenty counties have no hospitals: Beaver, Daggett, Davis, Duchesne, Emery, Garfield, Grand, Iron, Kane, Millard, Morgan, Piute, Rich, San Juan, Sanpete, Summit, Tooele, Wasatch, Washington, Wayne.

VERMONT	Total Beds	Av. Beds In Use
Barre, 10,008—Washington		
Barre City Hospital	29	17
Bellows Falls, 4,860—Windham		
Rockingham General Hospital	35	20
Bennington, 9,982—Bennington		
Henry W. Putnam Mem. Hosp.	55	34
Brattleboro, 7,324—Windham		
Brattleboro Memorial Hospital	35	25
Burlington, 22,779—Chittenden		
Mary Fletcher Hospital*	130	102
Montpelier, 7,125—Washington		
Heaton Hospital	50	30
Pittsford, 1,200—Rutland		
Vermont Sanatorium (T.B.)	47	41
Proctor, 2,692—Rutland		
Proctor Hospital	35	14
Rutland, 14,954—Rutland		
Rutland Hospital	50	40
St. Albans, 7,598—Franklin		
St. Albans Hospital	50	27
St. Johnsbury, 7,163—Caledonia		
Brightlook Hospital Assn.	33	27
Winooski, 4,932—Chittenden		
Fanny Allen Hospital*	70	50
Ten General Hospitals of less than 25 beds	130	22
Totals	749	449

In Vermont the following four counties have no hospitals: Addison, Essex, Grand Isle, Lamoille.

VIRGINIA	Total Beds	Av. Beds In Use
Abingdon, 2,532—Washington		
George Ben Johnston Mem. Hosp.*	50	28
Alexandria, 18,060—Alexandria		
Alexandria Hospital	50	40
Brook Hill, 20—Henrico		
Pine Camp Hospital (T.B.)	40	38
Burkeville, 514—Nottoway		
Piedmont Sanatorium (T.B.)	70	31
Catawba Sanatorium, 175—Roanoke		
Catawba Sanatorium (T.B.)	265	260
Charlottesville, 10,688—Albemarle		
Blue Ridge Sanatorium (T.B.)	120	(New)
Martha Jefferson Hospital	40	25
City Point, 400—Prince George		
Du Pont Hospital	70	...
Clifton Forge, 6,150—Alleghany		
Chesapeake and Ohio Railway Hospital†	75	48
Danville, 21,539—Pittsylvania		
Danville General Hospital	75	51
Hilltop Sanatorium (T.B.)	27	...
Fredericksburg, 5,882—Spotsylvania		
Mary Washington Hospital	38	23
Hampton, 5,505—Elizabeth City		
Hampton Training School for Nurses and Dixie Hospital	65	...
Harrisonburg, 5,875—Rockingham		
Rockingham Memorial Hospital	35	25
Hollins, 50—Roanoke		
Susanna Memorial Infirmary of Hollis College	26	...
Leesburg, 1,545—Loudoun		
Loudoun Hospital	25	15
Lynchburg, 32,385—Campbell		
Lynchburg Hosp. and City Home.	90	60
Marshall Lodge Mem. Hospital	50	40
Newport News, 35,596—Warwick		
Elizabeth Buxton Hospital†	72	60
Riverside Hospital and Training School Assn.	50	...
Norfolk, 115,777—Norfolk		
Hospital of St. Vincent de Paul*.	250	200
Norfolk Contagious Disease Hosp.	120	15
Norfolk City Home and Hospital.	160	...
Norfolk Protestant Hospital*	115	85
Sarah Leigh Hospital†	85	80
St. Christopher's Hospital	25	20
Ocean View, 800—Norfolk		
Parker Hospital	25	22
Petersburg, 25,347—Dinwiddie		
Petersburg Hospital	80	42
Portsmouth, 54,387—Norfolk		
King's Daughters' Hospital	75	55
Richlands, 1,171—Tazewell		
Mattie Williams Hospital	25	18
Richmond, 171,667—Henrico		
City Home Hospital	340	320
Grace Hospital†	50	35
Hygeia Hospital	50	30
Johnston-Willis Sanatorium†	70	42
The Dooley Hospital for Children	50	36
Memorial Hospital*	200	158
Saint Philip Hospital	155	62
Retreat for the Sick*	60	...
Richmond Eye, Ear, Nose and Throat Infirmary	27	...
Sheltering Arms Free Hospital*	52	42
St. Elizabeth's Hospital†	62	40
St. Luke's Hospital†	80	65
Stuart Circle Hospital*	65	54
Virginia Hospital*	125	78
Westbrook Sanatorium	100	84
Roanoke, 41,929—Roanoke		
Jefferson Hospital*	85	60
Lewis Gale Hospital†	56	36
Roanoke Hospital Assn.	40	20
Shenandoah Hospital	85	23
St. Charles Hospital	30	12
Salem, 4,159—Roanoke		
Mount Regis Sanatorium (T.B.)	47	...
South Boston, 4,338—Halifax		
Halcyon Hospital	30	15
Staunton, 10,617—Augusta		
King's Daughters' Hospital	34	30
Suffolk, 9,123—Nansemond		
Lake View Hospital	50	38
Virginia Hospital	25	6
University, 1,000—Albemarle		
University of Virginia Hospital*	200	155
Virginia Beach, 846—Princess Anne		
Virginia Beach Infant Sanitarium	40	...
Winchester, 6,883—Frederick		
Winchester Memorial Hospital	60	40
Thirteen General Hospitals of less than 25 beds	207	55
Totals	4,768	2,817

In Virginia the following seventy-one counties have no hospitals: Accomac, Amelia, Amherse, Appomattox, Bath, Bedford, Bland, Botetourt, Brunswick, Buchanan, Buckingham, Caroline, Carroll, Charles City, Charlotte, Chesterfield, Clarks, Craig, Culpepper, Cumberland, Dickenson, Essex, Fairfax, Faquier, Fluvanna, Franklin, Giles, Gloucester, Goochland, Grayson, Greene, Greesville, Hanover, Henry, Highland, Isle of Wight, James City, King and Queen, King George, King William, Lancaster, Lee, Louisa, Madison, Mathews, Mecklenburg, Middlesex, Montgomery, Nelson, New Kent, Northampton, Northumberland, Orange, Page, Powhatan, Prince Edward, Prince William, Rappahannock, Richmond, Russell, Scott, Shenandoah, Smyth, Southampton, Stafford, Surry, Sussex, Warren, Westmoreland, Wythe, York.

WASHINGTON	Total Beds	Av. Beds In Use
Aberdeen, 15,337—Grays Harbor		
Aberdeen General Hospital	75	42
St. Joseph's Hospital	70	...
Arlington, 2,028—Snohomish		
Arlington General Hospital	25	10
Auburn, 3,163—King		
Taylor-Lacey Hospital	50	(New)
Bellingham, 25,570—Whatcom		
St. Joseph's Hospital	100	25
St. Luke's Hospital	50	30
Burlington, 1,360—Skagit		
Burlington General Hospital	30	...
Centralia, 7,549—Lewis		
Scace Hospital	40	...
Chehalis, 4,558—Lewis		
St. Helen's Hospital	50	...
Colfax, 3,027—Whitman		
St. Ignatius Hospital	65	3
College Place, 800—Walla Walla		
Walla Walla Sanitarium	30	15
Colville, 1,796—Stevens		
Mt. Carmel Hospital	30	...
Ellensburg, 3,810—Kittitas		
Ellensburg General Hospital	36	...
Everett, 27,644—Snohomish		
Everett General Hospital	50	35
Providence Hospital	70	65
Hoquiam, 10,058—Grays Harbor		
Hoquiam General Hospital	100	40
Lake View, 185—Pierce		
Mountain View Sanatorium	118	70
Mt. Vernon, 3,341—Skagit		
Mt. Vernon General Hospital	25	15
Olympia, 8,537—Thurston		
St. Peter's Hospital	115	...
Pt. Angeles, 5,351—Clallam		
Pt. Angeles General Hospital	50	32
Port Orchard, 1,393—Kitsap		
Sunnyvale Hospital	25	7
Pt. Townsend, 2,847—Jefferson		
St. John's Hospital	60	...
Raymond, 4,260—Pacific		
Riverview Hospital	50	18
Richmond Highlands (P.O. only)—King		
Firland Sanatorium (T.B.)	268	170
Roslyn, 2,673—Kittitas		
Roslyn-Cle Elum Beneficial Co.	35	25
Seattle, 315,652—King		
Children's Orthopedic Hospital	60	...
Columbus Sanitarium	125	65
King County Hospital*	225	158
Lakeside Hospital	65	35
Minor Private Hospital	75	65
Providence Hospital	325	315
Pulmonary Hosp. of Seattle (T.B.)	75	60
Reliance Hospital	31	...
Seattle City Hospital*	100	80
Seattle General Hospital*	130	125
Swedish Hospital	130	...
Snohomish, 2,985—Snohomish		
Aldercrest Sanatorium (T.B.)	40	37

	Total Beds	Av.Beds In Use
South Bend, 3,023—Pacific		
South Bend General Hospital	35	15
Spangle, 291—Spokane		
Spokane County Infirmary	225	...
Spokane, 104,437—Spokane		
Marie Beard Deaconess Hosp.*	105	83
Edgecliff Sanatorium (T.B.)	140	130
Kearney Sanitarium	25	...
Rivercrest	100	...
Sacred Heart Hospital*	300	275
Salvation Army Rescue Home and Maternity Hospital	40	...
St. Luke's Hospital*	76	...
Tacoma, 96,965—Pierce		
City Contagious Hospital	50	...
Northern Pacific Beneficial Assn.	150	75
Pierce County Hospital	100	77
St. Joseph's Hospital	200	16
Tacoma General Hospital	150	120
Vancouver, 12,555—Clarke		
St. Joseph's Hospital	104	...
Walla Walla, 15,503—Walla Walla		
St. Mary's Hospital	100	...
Walla Walla Hospital	35	...
Wenatchee, 6,324—Chelan		
Central Washington Deaconess Hospital	30	22
Wenatchee General Hospital	30	...
Yakima, 38,383—Yakima		
St. Elizabeth's Hospital*	165	125
Twenty-Eight General Hospitals of less than 25 beds	425	135
Totals	5,583	2,615

In Washington the following fifteen counties have no hospitals: Adams, Asotin, Benton, Cowlitz, Douglas, Franklin, Garfield, Grant, Island, Klickitat, Lincoln, Mason, Pend Oreille, San Juan, Wahkiakum.

WEST VIRGINIA	Total Beds	Av.Beds In Use
Beckley, 2,161—Raleigh		
Beckley Hospital	100	40
Bluefield, 15,191—Mercer		
Bluefield Sanitarium	50	28
St. Luke's Hospital	50	33
Buckhannon, 3,785—Upshur		
Forman Surgical Hospital	32	18
Charleston, 39,608—Kanawha		
Charleston General Hospital*	100	60
Hill Crest Sanatorium (T.B.)	25	19
Kanawha Valley Hosp. and Sanit.	45	...
McMillan Hospital	50	23
St. Francis Hospital	30	...
Charlestown, 2,662—Jefferson		
Charlestown General Hospital	30	...
Clarksburg, 27,869—Harrison		
Kessler Hospital	40	30
St. Mary's Hospital	125	70
Davis, 2,491—Tucker		
Allegheny Helghts Hospital	35	15
Elkins, 6,788—Randolph		
Davis Memorial Hospital	50	30
Elkins City Hospital	35	...
Elm Grove, 1,899—Ohio		
View Point Tuberculosis Sanit.	35	...
Fairmont, 17,851—Marion		
Cook Hospital	70	45
Fairmont Hospital No. 3†	55	36
Fayetteville, 659—Fayette		
Lafayette Sanitarium	100	...
Glen Dale, 200—Marshall		
Reynolds Memorial Hospital	80	50
Hansford, 250—Kanawha		
Sheltering Arms Hospital*	110	70
Hinton, 3,656—Summers		
Hinton Hospital	75	40
Huntington, 50,177—Cabell		
Barnett Hospital	40	16
Chesapeake and Ohio Railway Hospital	75	38
Guthrie Hospital	75	50
Huntington General Hospital	30	...
Kessler-Hatfield Hospital	100	...
New Huntington General Hospital	59	...
Keyser, 6,003—Mineral		
Hoffman Hospital	25	18
Logan, 2,998—Logan		
Logan Hospital	60	30
Lundale (P. O. only)—Logan		
Lundale Hospital	28	15
Marlinton, 1,177—Pocahontas		
Marlinton General Hospital and Sanitarium	35	...
Martinsburg, 12,515—Berkeley		
City Hospital	100	...
King's Daughters' Hospital	60	...
Shenandoah Valley Sanatorium	45	...
McKendrie, 75—Fayette		
McKendrie Hospital No. 2	45	30
Montgomery, 2,150—Fayette		
Coal Valley Hospital	75	(New)
Morgantown, 12,117—Monongalia		
City Hospital	45	23
Oakhill, 764—Fayette		
Oak Hill Hospital	50	31
Parkersburg, 20,050—Wood		
Parkersburg City Hospital	30	...
St. Joseph's Hospital	60	4
Princeton, 6,224—Mercer		
Princeton General Hospital	30	...
Richwood, 4,331—Nicholas		
McClung Hospital	25	10
Spencer, 1,765—Roane		
West Virginia Methodist Episcopal Hospital	34	17
Welch, 3,232—McDowell		
Welch Hospital No. 1	100	50
Wheeling, 56,208—Ohio		
Ohio Valley General Hospital*	155	119
Wheeling Hospital	220	150
Nine General Hospitals of less than 25 beds	131	2
Totals	3,185	1,210

In West Virginia the following twenty-eight counties have no hospitals: Barbour, Boone, Brooke, Calhoun, Clay, Doodridge, Gilmer, Grant, Hampshire, Hancock, Hardy, Jackson, Lewis, Lincoln, Mason, Mingo, Monroe, Morgan, Pendleton, Pleasants, Preston, Putnam, Ritchie, Wayne, Webster, Wetzel, Wirt, Wyoming.

WISCONSIN	Total Beds	Av.Beds In Use
Appleton, 19,561—Outagamie		
St. Elizabeth's Hospital	70	68
Ashland, 11,334—Ashland		
Ashland General Hospital	35	26
St. Anthony's Hospital	30	...
St. Joseph's Hospital*	200	75
Bayfield, 1,441—Bayfield		
Pureair (T.B.)	35	(New)
Beloit, 21,284—Rock		
Beloit General Hospital	30	20
Beloit Hospital	50	20
Chippewa Falls, 9,130—Chippewa		
St. Joseph's Hospital	160	130
Dodgeville, 1,791—Iowa		
St. Joseph's Hospital	51	25
Eau Claire, 20,880—Eau Claire		
Luther Hospital	115	87
Mt. Washington Sanat. (T.B.)	40	34
Sacred Heart Hospital	150	125
Fond du Lac, 23,427—Fond du Lac		
St. Agnes Hospital*	150	100
Green Bay, 31,017—Brown		
St. Mary's Hospital	100	65
St. Vincent's Hospital	200	190
Wisconsin Deaconess Hospital	50	45
Kenosha, 40,472—Kenosha		
Kenosha Hospital	75	53
St. Catherine's Hospital and Sanitarium	100	70
La Crosse, 30,363—La Crosse		
La Crosse Lutheran Hospital*	106	70
La Crosse Public Hospital	50	...
St. Francis Hospital*	210	120
Little Chute, 2,017—Outagamie		
Riverview Sanatorium (T.B.)	32	28
Madison, 38,378—Dane		
Madison General Hospital	115	79
Madison Sanitarium	50	34
St. Mary's Hospital*	65	49
Manitowoc, 17,563—Manitowoc		
Holy Family Hospital	65	...
Marinette, 13,610—Marinette		
Marinette and Menominee Hospital Company	45	...
Marshfield—7,394—Wood		
St. Joseph's Hospital*	180	90
Merrill, 8,068—Lincoln		
Ravn Hospital	25	...
Milwaukee, 457,147—Milwaukee		
Columbia Hospital*	85	56
Evangelical Deaconess Hospital	51	42
Hanover General Hospital	70	50
Johnson Emergency Hospital	40	15
Milwaukee Children's Hospital†	60	54
Milwaukee Hospital*	162	102
Milwaukee Infants Hospital	50	30
Milwaukee Maternity and General Hospital	80	52
Misericordia Hospital	50	...
Mt. Sinai Hospital*	100	85
Riverside Sanitarium	50	...
Sacred Heart Sanitarium	100	...
Social Workers Tuberculosis Sanatorium	26	...
South View Municipal Hospital	187	85
St. Joseph's Hospital*	134	125
St. Mary's Hospital	190	136
St. Vincent's Infant Asylum and Maternity Hospital	175	...
Trinity Hospital†	155	110
Monroe, 4,788—Green		
Evangelical Deaconess Hospital	32	20
Neenah, 7,171—Winnebago		
Theda Clark Memorial Hospital	35	33
Oconomowoc, 3,301—Waukesha		
Waldheim Park Sanatorium	75	50
Onalaska, 1,066—La Crosse		
Oak Forest Sanat. (T.B.)	40	30
Oshkosh, 33,162—Winnebago		
St. Mary's and Mercy Hospitals†	140	80
Platteville, 4,353—Grant		
Wilson Cunningham Hospital	30	22
Plymouth, 3,415—Sheboygan		
Plymouth Hospital	25	...
Portage, 5,582—Columbia		
St. Saviors General Hospital	27	22
Prairie du Chien, 3,537—Crawford		
Prairie du Chien Sanitarium and Hospital	75	50
Racine, 58,593—Racine		
St. Luke's Hospital	90	75
St. Mary's Hospital	80	75
Sunnyrest Sanitarium (T.B.)	37	...
Rhinelander, 6,654—Oneida		
St. Mary's Hospital	35	...
Rice Lake, 4,457—Barron		
Lakeside Methodist Hospital	27	(New)
Sheboygan, 30,955—Sheboygan		
St. Nicholas Hospital	100	100
Sparta, 4,466—Monroe		
St. Mary's Hospital	100	40
Stevens Point, 11,371—Portage		
River Pines Sanat. (T.B.)	44	40
St. Michael's Hospital	35	25
Sturgeon Bay, 4,553—Door		
Egeland Hospital	25	18
Superior, 39,624—Douglas		
Isolation Hospital	26	...
St. Francis Hospital	75	...
St. Mary's Hospital	150	100
Tomahawk, 2,801—Lincoln		
Sacred Heart Hospital	60	24
Watertown, 9,299—Jefferson		
St. Mary's Hospital	45	35
Waukesha, 12,558—Waukesha		
The Spa	80	...
Wausau, 18,661—Marathon		
Mount View, Marathon County Sanatorium (T.B.)	50	38
St. Mary's Hospital	52	40
Wausau Hospital	25	20
Wauwatosa, 5,818—Milwaukee		
Blue Mound Sanat. (T.B.)	100	85
Milwaukee County Hospital*	300	249
Muirdale Sanatorium for the Treatment of Tuberculosis	350	320
West De Pere[13]—Brown		
Hickory Grove Sanat. (T.B.)	40	36
Whitelaw, 275—Manitowoc		
Maple Creek Sanat. (T.B.)	36	23
Wisconsin Rapids, 6,521—Wood		
Riverview Hospital	30	20
Forty-Eight General Hospitals of less than 25 beds	746	185
Totals	7,570	4,124

In Wisconsin the following twenty-six counties have no hospitals: Adams, Buffalo, Burnett, Clark, Florence, Green Lake, Iron, Jacksou, Kewanee, Lafayette, Marquette, Oconto, Ozaukee, Pepin, Pierce, Richland, Rusk, Saint Croix, Taylor, Trempealeu, Vernon, Vilas, Washburn, Washington, Waupaca, Washara.

WYOMING	Total Beds	Av.Beds In Use
Casper, 11,447—Natrona		
Casper Private Hospital	50	35
Cheyenne, 13,829—Laramie		
St. John's Hospital	70	51
Kemmerer, 1,517—Lincoln		
Lincoln County Miners Hospital	68	31
Laramie, 6,301—Albany		
Ivanson Memorial Hospital	50	36
Rock Springs, 6,456—Sweetwater		
Wyoming General Hospital	65	40
Sheridan, 9,175—Sheridan		
Wyoming General Hospital	65	40
Thermopolis, 2,095—Hot Springs		
McGannon Sanitarium	40	...
Wheatland, 1,356—Platte		
Wheatland Hospital	75	57
Fourteen General Hospitals of less than 25 beds	219	42
Totals	702	281

In Wyoming the following seven counties have no hospitals: Campbell, Crook, Johnson, Niobrara, Park, Sweetwater, Washakie.

13. Small village, postoffice is De Pere.

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SATURDAY, APRIL 16, 1921

HOSPITAL SERVICE IN THE UNITED STATES

We publish this week statistics regarding 6,152 hospitals, sanatoriums and related institutions in the United States. The figures are based on reports from superintendents, directors or other executives of the hospitals or, of the government hospitals, from the officers who are in position to give the facts. The figures, therefore, are obtained from official sources and are reliable. Our acknowledgments are due to all who have contributed to the success of the survey. The various state advisory committees on hospitals also have inspected many of the hospitals and have aided in collecting the data.

HOSPITALS PROVIDING GENERAL CARE

The statistics deal mainly with the most important group of hospitals: the private, general or special hospitals open to the public for the general care of the sick. A list of the 2,926 having twenty-five or more beds each is published, in which, for each hospital, are given the name of the institution; the name and population of the town or city and the name of the county in which it is located; the total bed capacity, and the average number of beds in use. There are also 1,087 hospitals in this group which have less than twenty-five beds each. The names of these are not published, but the total number in each state is given, together with the total bed capacity and the average number of beds in use. Following the list for each state are given the number and names of the counties in which there are no hospitals for the general care of the sick.

HOSPITALS APPROVED FOR INTERN TRAINING

Of the 2,926 hospitals providing general service having twenty-five or more beds, 483 have been approved for the training of interns. Those marked with an asterisk (*) are general hospitals, while those marked with a dagger (†) are approved for interns who wish to secure training along the particular specialty which the hospital emphasizes. The fact that a hospital is not approved for the training of interns should not be misinterpreted to mean that the hospital is not providing satisfactory care for its patients. On the contrary, there are many hospitals rendering a very excellent service to their patients, which do not seek or utilize interns, and which are undoubtedly worthy of approval as non-intern hospitals.

FACTORS INDICATING NEED AND PRESENT SUPPLY OF HOSPITALS

Four factors must be considered in the study of these statistics to determine accurately whether or not a district, state or community has an adequate supply of hospitals. These are (*a*) the ratio of square miles of area to each hospital; (*b*) the ratio of hospital beds to population; (*c*) the percentage of beds on the average in use, and (*d*) the percentage of counties which have no hospitals. There are at present 4,013 of these hospitals in the United States with a total of 311,159 beds—one bed to every 340 persons—and of these beds 206,024, or 67 per cent., are in use. There is one hospital on the average to every 741 square miles, ranging from one to every 42 square miles in Massachusetts to one to every 5,780 miles in Nevada. The situation in Nevada appears to be less serious, however, than in Mississippi, where there is one hospital to every 1,104 square miles. The latter state is more thickly populated and has only one hospital bed to every 1,054 persons, while Nevada has one bed to every 139. Of the 3,027 counties in all states, 1,695, or 56 per cent., have no hospitals. Table 3 shows the supply for all states arranged by districts. The North Atlantic district is fairly well supplied with hospitals as compared with the South Central and the Western districts. But a study of the figures shows that in the North Atlantic, as well as in other districts, owing to a poor distribution, some portions have an abundance of hospitals while other sections are entirely lacking.

HOSPITALS UNEQUALLY DISTRIBUTED

As to the adequate proportion of hospital beds to population, estimates by hospital experts state that there should be one bed for from 300 to 500 persons. These statistics show one bed to every 340 persons; but since 56 per cent. of all counties are without hospitals, it is evident that the distribution is at fault. With a proper distribution, furthermore, it is probable that the proportion of beds in use would be much larger than 67 per cent., as shown in the statistics. Another evidence of poor distribution is made possible by these statistics: For example, an investigation of the supply in Delaware shows that the seven hospitals in that state are all located in the extreme north end—a part where the public has also the easiest access by rail to the hospitals of Baltimore and Philadelphia—while four fifths of the state have no hospitals.

The lesson to be learned from these figures is that in the establishing of hospitals hereafter, communities should be selected which are not already abundantly or overabundantly supplied. These statistics will be of service in showing which communities are in greatest need of hospitals.

NEUROLOGY IN ART

In 1861, the medical historian K. F. X. Marx published an essay of seventy-four pages on medicine in the graphic arts, containing the first list of paintings and engravings relating to medicine. Unnoticed in its time, this pamphlet opened a new pathway of research which has since been retraced and extended by many investigators, more particularly in the subsequent lists made by Sudhoff, in the well known illustrated books of Charcot, Holländer, Müllerheim and Parkes-Weber, and in various magazine articles of more recent date. The subject is one of immense interest to the physician who loves his profession, for paintings and engravings, old and new, tell more about the physician's social and professional status in the different periods than does the printed literature. Many diseases have been accurately represented (without diagnosis tag) in the paintings and sculptures of the past.

At a meeting of the Medical Society of Hamburg, Nov. 30, 1920, Dr. Wilhelm Weygandt [1] gave an exhaustive account of the illustration of neurology and psychiatry in the graphic arts. His lecture was illustrated with about 100 lantern slides. Even prehistoric and primitive artists, he points out, noted pathologic appearances now regarded as characteristic of civilization, e. g., the obesity of the "Venus of Willendorf," the representation of facial paralysis and of the act of crephining in Peruvian pottery, and micromelia (achondroplasia) in the Egyptian god Bes and in the bronze figures made by the African savages of Benin. The Japanese employed for decorative purposes such pathologic motives as turricephaly, hydrocephalus, dancing maniatics, "running amuck," etc., motives which are lacking in the art of classical antiquity. In the middle ages, the hysterical *arc en cercle* in the figure of Salome on the bronze door of San Zeno (Verona) is noteworthy. Figurations of this kind are abundant in the multiform art of the Renaissance period—for example, the representation of ecstasy in Raphael's Transfiguration, Ribera's picture of unilateral paralysis in a beggar-boy, the cretins, idiots and hydrocephalic dwarfs of Velasquez, Dürer's Melancholia, Careño de Miranda's fat girl (dystrophia adiposogenitalis), and Rubens' representations of epilepsy, demoniac possession, microcephalus and alcoholism. Drunkenness is a favorite theme of all the Dutch painters from Rembrandt and Hals to Jan Steen, Teniers, Jordaens and Molenaer, and latterly of Hogarth (Rake's Progress, Gin Lane). Gerard Dow's love-sick girls (*mal d'amour*) have sometimes the facies of exophthalmic goiter. Insanity is featured in the works of Goya, in Kaulbach's *Narrenhaus,* and by Géricault, Wiertz and Riepin. Modern decadent art has for its avowed aim the purposeful deformation of objects in order to intensify emotional expression. The subjective visual phenomena (entoptic appearances) of Purkinje and Johannes Müller are objectified in the paintings of Picasso and others. It is known that the drawings of the insane are singularly like those of primitive man, and the paintings of Cubists and Futurists, Weygandt thinks, have features common to the art productions of children, and of primitive and insane people. The use of insignificant objects, such as newspaper clippings, buttons, thumb-tacks and baby carriage wheels, as decorative motives, Weygandt regards as further evidence of artistic impotence and mass-psychology, particularly of the snobbish tendency of artists, critics and exhibitors alike, to encourage any eccentric thing that seems in "the spirit of the times."

A complete inventory or card index of the graphic illustrations of neurology, along the lines of Weygandt's paper, and inclusive of such little known pictures as Rops' drawings of neurotics or MacCameron's wonderful absinth drinkers in the Corcoran Gallery at Washington, would be an interesting line for some art-loving neurologist to follow up. It is a curious fact that since the days of the Dutch painters, few great artists have consciously delineated a sick or neurotic patient as such, although physicians of artistic talent have made atlases of pathologic illustration in plenty. The subject of endocrinology in art has been treated in an article in the Spanish journal *Plus Ultra,* an abstract of which will be found in THE JOURNAL, Aug. 2, 1919, page 374.

1. Weygandt, Wilhelm: Deutsch. med. Wchnschr., Soc. Proc. **47**: 171, 1921.

VARIATIONS IN THE ANTISCORBUTIC POTENCY OF MILK

Milk is so universally used in this country as an article of diet that every item of scientific information regarding it deserves attention until its possible significance can be evaluated. A few years ago the questions of gross chemical composition—of percentages of protein, fat and carbohydrate—chiefly attracted consideration. Subsequently the bacteriology of milk and its possible rôle as a carrier of disease came to the front as subjects for serious discussion. The most recent interest has centered in the problem of the vitamin content of milk and products prepared from it.

Milk normally contains all of the food potencies currently designated as vitamins A, B and C. Physiologic experts are nowadays being asked repeatedly regarding the possible effects of manipulation either in the creamery, the factory or the home on these nutritive qualities of milk. Is milk deteriorated in any way by such processes as drying, cooking or canning? Our readers are frequently brought face to face with these questions in a practical way. Pasteurization, for example, has achieved so much in limiting the infectious diseases, especially the diarrheal disorders of infancy, that, as Hess [1] has remarked, it has come to be looked on as heresy to deprecate its virtues in any regard. Nevertheless, there is a growing indication that there

1. Hess, A. F.: Scurvy Past and Present, Philadelphia, 1920, p. 41.

may be harmful effects of industrial methods on milk with respect to its antiscorbutic potency. Thus, Hess summarizes the consensus of opinion of the present day as increasing evidence that in the course of pasteurization milk loses an important measure of antiscorbutic vitamin. The term pasteurization, when employed in this connection, is not meant to be synonymous merely with the heating of milk to from 140 to 165 F., but embraces the entire commercial process—the heating, handling, subsequent cooling, aging and all other factors involved. There can be no doubt that milk which has undergone this elaborate treatment has suffered in its antiscorbutic property.[1]

It now appears that another aspect of the subject demands consideration. The variations in the nutritive quality of milk from different sources have been correlated in the past with the breed rather than the feed of cattle. Holsteins, Guernseys, Jerseys each produce a characteristic type of mammary secretion, the composition of which is determined by heredity far more than by the quality of the fodder furnished to the cows. Within the last few months, however, at least three independent series of investigations have shown a dependence of the antiscorbutic properties of the milk on the nature of the diet of the lactating animals.[2] If an animal is actually incapable of synthesizing vitamins as some investigators now believe, and it is dependent on the food for its supply of these factors, one would expect the milk to be greatly affected by the dietary intake. As a matter of fact, the latter varies greatly in the case of most American dairy cattle at different seasons of the year. The summer pasture is rich in green foods that furnish antiscorbutic substances; during periods of stall feeding, commercial concentrates and dried roughages and grains replace the "fresh" unaltered foods.

The outcome of the experiments of Dutcher and others in Minnesota are characteristic of all those reported. It appeared that the content of antiscorbutic vitamin is dependent on the vitamin content of the ration ingested by the cow. Twenty c.c. of summer milk were superior in nutritive value and in antiscorbutic potency to 60 c.c. of winter milk. It was found that there is a tendency for the milk to become deficient slowly, when the diet of the cow is low in vitamins, while the milk becomes of higher nutritive value almost immediately upon the ingestion of a vitamin-rich ration. In other words, there seems to be a tendency for milk to become poor slowly and rich rapidly as far as vitamins are concerned.

2. Hart, E. B.; Steenbock, H., and Ellis, N. R.: Influence of Diet on the Antiscorbutic Potency of Milk, J. Biol. Chem. **42**: 383 (July) 1920. Dutcher, R. A.; Eckles, C. H.; Dahle, C. D.; Mead, S. W., and Schaefer, O. G.: Vitamine Studies, VI, The Influence of Diet of the Cow upon the Nutritive and Antiscorbutic Properties of Cow's Milk, ibid. **45**: 119 (Dec.) 1920. Hess, A. F.; Unger, L. J., and Supplee, G. C.: Relation of Fodder to the Antiscorbutic Potency and Salt Content of Milk, ibid. **45**: 229 (Dec.) 1920. Barnes, R. E., and Hume, E. M.: A Comparison Between the Antiscorbutic Properties of Fresh, Heated and Dried Cow's Milk, Lancet **2**: 323 (Aug. 23) 1919; Relative Anti-Scorbutic Value of Fresh, Dried and Heated Cow's Milk, Biochem. J. **13**: 306 (Nov.) 1919.

Current Comment

IOWA ADOPTS THE MODEL VITAL STATISTICS BILL

The Iowa legislature has at last adopted the model bill for the registration of births and deaths. This makes Iowa eligible for admission to the registration area of the federal census. West Virginia, Arizona, Nevada and South Dakota are now the only states which have not adopted this measure. The model bill is now before the West Virginia legislature and it is hoped that it will be adopted during the present session. It was introduced this winter in South Dakota, but was killed in the house committee. The Arizona legislature meets in November, and the model bill will probably be introduced at that time. The adoption of this bill by Iowa makes forty-four states which have now enacted uniform legislation on the registration of births and deaths, the largest number of states which has adopted any uniform bill.

THE MORTALITY RATES OF COLLEGE WOMEN

The study of mortality in special homogeneous groups is necessarily limited by the available material. The development of organization among college graduates in this country has entailed the keeping of careful class records which in the course of time will doubtless prove of great value in making many statistical studies of this group. Some material is now becoming available. A recent statistical study of mortality rates among the graduates of Vassar, Wellesley and Smith, numbeing 15,561 through the class of 1914, has brought out some interesting and rather surprising facts.[1] It was perhaps to be expected that the death rates in this selected group should be materially lower than those for the whole population, but that the difference should be so great is rather remarkable. The highly favorable mortality rate among these college women doubtless depends in part on their being a highly selected group, with sufficient vigor and good health to complete four years of college work. Environment may have played a part, as may also hygienic instruction and general training and adjustment of hours of work, rest and recreation. The proportion of graduates who have married was less than 50 per cent., so that exposure to the hazards of childbirth was notably lower in this group than in the population at large. It is a matter largely for conjecture how much importance should be attached to each of these several factors. The exceptional figures for Smith alumnae, as compared with those of the other two colleges, seem to need special explanation. The data appear to have been carefully

DEATH RATES PER THOUSAND WOMEN DURING AGE PERIOD 45-54

U. S. registration area	12.58
New York City teachers	9.84
Ordinary insurance experience, Metropolitan Life Insurance Company	9.16
Vassar alumnae	8.54
Wellesley alumnae	5.41
Smith alumnae	3.54

1. Hulst, Myra M.: Quart. Pub. Am. Statistical Assn. **17**: 599, 1921.

erified. The writer of this summary concludes that he results obtained indicate how much saving in mor- lity can be accomplished through extending to other omen of the country the advantages which these col- ges enjoy." This seems to overlook the unques- onably large influence to be attributed to initial vigor. ndeed, the difference between the Smith alumnae and ose of the other groups indicates plainly enough that nvironment is by no means the only factor in pro- ucing such differences as those here recorded.

THE VETERAN SERVICE ADMINISTRATION

Both from a sentimental and from a practical point f view, no subject comes nearer to our people than he care of the disabled soldier. The problem has een a difficult one because of the vast number of men volved and probably also from the desire to do even ore than was possible to alleviate the ills and disa- lities affecting these men. However, not only in this ountry but also in practically all the European coun- ies the plans originally adopted have met with far om unanimous approval. On the one hand, the overnment has been criticized for reckless extrava- ance and the soldiers for unwarranted demands; on he other hand, it has been claimed that the service was ow and inadequate and that men were suffering ndue hardships. The medical profession from the rst has been intimately interested in the matter. The xamination of soldiers for discharge from the Army nd Navy and the first report as to percentage nd type of disability were the function of the edical departments. Following discharge, how- ver, as will be seen from Chart V in the article y Rogers in this issue of THE JOURNAL (page 1082), he soldier passed out from a single control, the Army r Navy Department, to a status in which he has to ook to three different government departments for ction. Two of these, the Bureau of War Risk Insur- nce and the U. S. Public Health Service, were related -purely a paper relationship, however—since both are nder the direction of the Secretary of the Treasury. he third, the Federal Board of Vocational Education, responsible only to Congress. It has no relation to r coordination with the two other services directly harged with the care of the veteran. Recognizing he manifest faults of the present system, and he almost universal criticisms directed against it, the resident appointed a committee to make an investi- ation and report. The committee's report, published n the newspapers, has received the endorsement of he President in his message to Congress. In the chart ppearing under the article describing the new plan page 1112), one can see that provision has been made or greater coordination and direct responsibility. The merican Medical Association, through its special com- ittee,[1] has acted jointly with the other bodies engaged n formulating the new plan. Under this plan a single epartment will be responsible for the care of our eterans — a Veteran Service Administration. The arious divisions heretofore engaged, as well as every other possible source of assistance in economic and physical reconstruction of the disabled, will be called on to aid in the work. The American Medical Association, and all other medical organizations, as may be seen from the plan, have a functioning place in the service.

1. Committee to Act on Rehabilitation of Ex-Service Men, Associa- on News, THE JOURNAL **76**: 798 (March 19) 1921.

HOSPITALS AND PHYSICIANS FOR RURAL COMMUNITIES

In a recent editorial comment[1] it was shown that whatever shortage of physicians may exist in rural communities is due to the general trend of population, including physicians, to the cities and not to a dearth of physicians generally. The physician prefers to live in the city, not only because of the better living conditions for himself and family, but also, and mainly, because of the lack of hospital facilities in rural communities. As shown last week,[2] the extensive advances in medical education in recent years make it necessary that the physician have access to a hospital with its well equipped laboratories, where he can give his patients the benefit of the later and better methods of diagnosis and treatment. The public, it must be kept in mind, also is coming more and more to appreciate the value of hospitals with their accessories; people living in rural communities who need medical care are now voluntarily going where there are hospital facilities, or are being sent by the family physician. In considering the whole subject, it is well to know what are the conditions as regards hospital facilities in various parts of the country. The statistics we publish this week show that over one-half the counties in the United States are without hospitals, and a careful survey of these counties will show that it is in them that the shortage of physicians is found. The recent graduate in medicine who has from observation and practice learned the value of a hospital and its laboratory is not attracted to communities where these advantages are lacking. When hospitals with laboratories, or health centers with hospitals and laboratories, are established in these rural communities, there will no longer be the cry that such communities lack trained physicians.

1. Shortage of Physicians in Rural Communities, Current Comment, THE JOURNAL **76**: 796 (March 19) 1921.
2. Qualifications to Treat the Sick, Current Comment, THE JOURNAL **76**: 1011 (April 9) 1921.

Private Practice Forbidden in Russia.—The *Medizinische Klinik* quotes from a letter in the Vienna *Allgemeine Zeitung*, written by an Austrian physician who has recently returned from Russia. He says that the final step in the transformation of medical practice into a state function has been taken recently by the soviet government. This prohibits private practice by physicians. This was the last private business still permitted as arrangements had to be made for free dispensaries at available points. The physicians living near the dispensaries are given charge of them, at a fixed salary. The sanatoriums and private hospitals had been taken early for the purpose, retaining their former proprietors as directors. The writer adds, "The middle classes whose fate in all socialistic movements is to be ground between the millstones of capital and labor, have simply been ground out of existence, or crushed down into the proletariat. The forbidding of private practice now consequently has scarcely any significance for the physicians of Russia."

Association News

THE BOSTON SESSION

Hotel Reservations at Boston

The Local Committee on Hotels, Dr. John T. Bottomley, Chairman, Boston Medical Library, 8 The Fenway, Boston 17, Massachusetts, offers to assist members in securing hotel reservations. In addressing the Committee, be sure to state the number in your party, including yourself, how many rooms are desired and whether with or without bath, also the total daily charge you are ready to pay. If, after having secured a reservation, it is impossible to attend the session, the Hotel Committee should be advised promptly in order that surrendered reservations may be reassigned.

Special Railroad Fares

Fellows of the Association who desire to avail themselves of the special railroad fares which are available in territories served by the Trunk Line Association, the Central Passenger Association and the Western Passenger Association, if they have not already done so, should make application for Identification Certificates by writing to the Secretary of the Association, Dr. Alexander R. Craig, 535 North Dearborn Street, Chicago, and enclosing a self-addressed, stamped envelope. Requests for these Identification Certificates should be forwarded at once. These requests will be filed and as soon as the certificates are available, they will be given attention.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

State Medical Society Meeting.—The annual meeting of the state medical society will be held at Montgomery, April 19-21.

Dr. Williams Addresses Mental Hygiene Society.—At a recent meeting of the Alabama Society for Mental Hygiene, held under the presidency of Dr. William D. Partlow, Tuscaloosa, at Montgomery, Dr. Frankwood E. Williams, New York, associate medical director of the National Committee for Mental Hygiene gave an address on the mental hygiene of the child.

CALIFORNIA

Physician Fined.—Dr. Galen R. Hickok, who, it is reported, was convicted of malpractice, but is now free on appeal bond, was recently fined $50 for contempt of court.

Physician Wins in Damage Suit.—Damages in any amount were denied in the suit against Dr. William P. Byron, Lemoore, for $50,000 for alleged malpractice resulting in the death of a girl, aged 11 years, last July.

Charges Against Physician Dismissed.—Charges against Dr. Lucian A. Bauter, Pittsburg, that he performed a criminal operation resulting in the death of Miss Mildred Stau have been dismissed because of lack of evidence.

Naturopath Loses License.—It is reported that Gertrude Steele, naturopath of Vience, recently had her license revoked by the board of medical examiners on the ground that she had performed a minor operation in attempting to remove freckles from the face of her son-in-law, who died in the process of being beautified.

Fail to Recognize Smallpox.—It is reported that the health officer of Santa Ana recently warned the people of that city and of West Santa Ana of a serious smallpox menace, stating that the spread of the disease was in a large measure due to the failure of certain chiropractors to recognize the disease.

Southern California Medical Society.—At the semiannual meeting of the Southern California Medical Society, held April 1-2, at Santa Ana, Dr. Boris Sidis, Boston, presented a paper on "Psychopathology and Psycho-Analysis," and Dr. Walter T. Harrison, U. S. P. H. S., spoke on "The Status of the Present Plague Infection in California."

Personal.—Dr. George H. Whipple, dean of the University Medical School, Berkeley, has resigned to become dean of the new medical school at Rochester, N. Y., which was recently endowed with $40,000,000 by the president of the Eastman Kodak Company of that place.——Dr. William E. Musgrave, has resigned as director of the University of California Medical School to accept the secretaryship of the state medical society and will edit the *California State Journal of Medicine.* Dr. Musgrave will continue his directorship of the Children's Hospital.

Hospital News.—An invitation was extended to the general public of Madera, Merced and Stanislaus counties to visit the Tri-County Tubercular Sanatorium at Ahwahnee, on April 10.——A new building for the Hebrew Hospital and Home for Aged and Disabled will be erected at San Francisco.——At a recent hearing before the senate committee on the proposed reductions in appropriations it was claimed that the state hospitals are in a deplorable condition owing to insufficient room and lack of necessary sanitary equipment.——The contract for constructing the annex to the Mission Valley Hospital has been awarded. The federal government donated $5,000 to pay for the annex.

Osler Memorial Association.—At a recent meeting of some of Sir William Osler's students, an Osler Memorial Association was formed for the purpose of founding an Osler memorial lectureship which will provide for an annual lecture on a scientific subject. The expense will be met by a yearly assessment of the members of the association. Dr. George H. Whipple, president of the California Academy of Medicine, has advised that the academy will be glad to cooperate in securing lecturers and in sharing the expense. Dr. John M. T. Finney, Baltimore, has accepted an invitation to deliver the first lecture some time in April. The Osler Memorial Association has offered the lectureship to the Los Angeles County Medical Association and the gift has been accepted.

ILLINOIS

Galesburg Medical Society.—At the regular monthly meeting of the Galesburg Medical Society, Dr. Albert H. Byfield, professor of pediatrics at the University of Iowa, read a paper on the subject "Periodic Vomiting and Allied Affections in Childhood."

Tuberculosis Clinic.—Under the auspices of the Henry County Sanatorium and the Henry County Tuberculosis Association a free clinic was held, April 5, at Kewanee. Dr. Orville W. McMichael, Chicago, was the clinician. Another clinic will be held in May.

Health Promotion Week.—That the state may take concerted action "looking to the betterment of local conditions of sanitation, instruction of the people in the practice of hygiene, determination of the causes of communicable diseases, and the prevention, so far as possible, of such diseases," Governor Small has proclaimed the week of April 17-23 as health promotion week and designated the state department of public health to outline a suitable program. More than 336,000 cases of communicable diseases and over 120,000 deaths from all causes in the state were reported to the state department of public health during the year 1920.

Chicago

Course for Nutrition Workers.—The Home Economics Department of the University of Chicago offers during the summer two six weeks' courses for the training of nutrition workers with children. Asst. Prof. Lydia J. Roberts will be in charge of the course and Dr. Walter H. O. Hoffmann, instructor in medicine (pediatrics), Rush Medical College, will act as medical examiner. The first session's work will begin on June 21 and the second on July 28.

INDIANA

Fined for Illegal Practice.—It is reported that Norman Fitz of Muncie has been fined $25 and costs for practicing medicine without a license.

State Hospital Association.—For the purpose of federating the eighty hospitals in the state in an organization for mutual improvement and for greater effectiveness in the care of the sick and injured, representatives of these institutions have been asked to assemble at Lafayette, April 27-28, and organize the Indiana State Hospital Association, which will be an auxiliary of the American Hospital Association.

Hospital News.—The county hospital board has purchased site in Clinton on which to build a county hospital.——A ecision to raise about $375,000 by popular subscription to be sed with the $125,000 appropriated by the state for erection the first wing of the proposed Riley Memorial Hospital for hildren was reached at a meeting of a joint committee repre-nting Indiana University and the Riley Memorial Asso-ation. The hospital is to be in convenient proximity to the obert W. Long Hospital and the Indiana University School f Medicine, on a site now owned by the state in Indianapolis. he institution will be "for the treatment of children afflicted ith disease, defect or physical deformity," and is to have ccommodations for at least 200 patients.

IOWA

Radium Institute.—A group of physicians and surgeons of avenport, Rock Island and Moline have completed an organ-ation to be known as the Radium Institute of Davenport. was decided to incorporate for $25,000 and to limit the ockholders to physicians in good standing from the tri-cities.

LOUISIANA

Louisiana State Medical Society.—The annual meeting of ie society will be held at New Orleans, April 19-21.

Physician Nominated for Mayor.—Friends of Dr. Charles . Gelbke celebrated his nomination for the third term for ayor of Gretna with a parade barbecue.

Medical Association Reorganizes.—A reorganization of the angipahoa Parish Medical Association was effected at a eeting held, April 1, at Hammond. Dr. William T. New-an, Independence, was elected president, and Dr. Edward Kevlin, Ponchatoula, secretary-treasurer.

Special Postgraduate Work.—During one week previous to ie state medical society meeting (April 11-18) and the week llowing the meeting (April 25-May 1) the postgraduate mmittee of the society has arranged for a course to be nducted by the Graduate School of Medicine, Tulane Uni-ersity, and the Loyola Post-Graduate School of Medicine, ew Orleans. Members of the state society will be entitled the privilege of the course on presenting the 1921 member-ip card.

Health Notes.—Pins representing the several hundred local airies inserted in a large map hung in the food department f the New Orleans Board of Health indicate by their color ie status of the dairies on the health board's crusade against npure milk.——The next move of the health board will be to nforce the city ordinance governing the manufacture of ice ream. Later, an investigation of the manufacture and sale f candy will be made. It is said that quantities of candy re made in bed rooms and other private places and peddled roughout the city, being sold unwrapped from baskets and pen wagons in the streets.

MAINE

Bowdoin Medical School Will Close.—After having held 0 annual sessions, Bowdoin Medical School will close its oors in June. It was announced early in the fall that Bow-oin College could no longer maintain the medical depart-ent, and a bill was introduced in the state legislature provid-g that it be converted into a state institution to be supported y state appropriations. This bill passed both the house and ie senate but was vetoed by Governor Baxter and the veto as sustained.

Plan State Baby Week.—Among the summer plans of the ivision of Public Health Nursing and Child Hygiene is that f a state-wide baby week which will probably be held the st of June or early in July. The Division of Public Health ursing and Child Hygiene is now nearing the close of its rst year, having been formed last summer through the operation of the Maine Public Health Association and the ed Cross in Maine, which organization now pays the salary f the director, while the state department of health bears ie expenses attendant upon the work of the division. This ivision will shortly be supported entirely by the state, its alue having been demonstrated in the past months since its auguration, and both salaries and expenses will be met rom the health appropriation.

MARYLAND

Personal.—Dr. Susanne R. Parsons of the Hospital of the Woman's Medical College, Philadelphia, has been appointed irector of the welfare center of the health department's ureau of child welfare.

Meetings.—At the regular meeting of the Baltimore City Medical Society. held under the presidency of Dr. Harvey G. Beck, April 8, at Osler Hall, Dr. Max Kahn spoke on "Roentgen-Ray Diagnosis in Intestinal Obstruction with Case Reports" and the discussion which followed was opened by Dr. Joseph C. Bloodgood and Dr. Alexius W. McGlannan. Dr. Edgar B. Friedenwald exhibited one of the most unusual cases of tumor of the spine ever brought to the attention of local medical circles, the patient being a boy of 11 years of age.

New City Hospital Group Proposed.—A plan to make the new municipal hospital for contagious diseases a unit in a general scheme of city hospitals at Bay View, but entirely dissociated from the almshouse, is now under consideration by the mayor. The site at Bay View and Sydenham, a part of this group, has been visited by the mayor, the city comptroller and the architect of the proposed building and the existing hospital buildings carefully inspected. An argument in favor of Sydenham is that it will enable the city to concentrate its hospital activities at Bay View, where there is already a hospital for consumptives and a general hospital. The Baltimore city officials are planning to separate these hospitals from the almshouse section of Bay View, and thereby do away with one of the objections Health Commissioner Jones and the hospital commission have to Sydenham as a site for the new building. The fact that it is in a growing industrial section was a serious reason for eliminating it as a site for the proposed hospital, but indications are that the hospital commission and Dr. C. Hampson Jones will be overruled, so far as this objection is concerned.

MASSACHUSETTS

Personal.—The governor has recommended to the executive council Dr. Richard P. Strong, who holds the chair of tropical medicine at the Harvard Medical School, as a member of the Public Health Council, Boston.

New Bureau for Health Department.—A free health information bureau, from which citizens may obtain by mail a diagnosis of their ailments and advice regarding self-treatment or be directed to clinics or specialists, has been established by the municipal health department.

Series of Public Lectures to Be Given at Harvard.—Beginning March 31, a series of three public lectures on topics of current interest in physics will be given by Prof. William Duane, head of department of biophysics, Harvard Medical School. The subject for March 31, was "Radio-Activity and Roentgen-Rays."

Harvard Offers New Degree.—In his annual report Dr. David L. Edsall, dean of the Harvard University Medical School, announces the establishment of a degree of doctor of medical science (M.S.D.) to designate men who have specialized in research work and the laboratory development of medicine rather than the clinical branches.

MINNESOTA

Personal.—Dr. Harry B. Zimmerman, St. Paul, has been appointed chief surgeon for the Great Northern Railway. The surgical cases will be cared for at the new Miller Hospital, St. Paul.

Typhoid Epidemic at State University.—An epidemic of typhoid fever among the students at the state university has been reported to the Minneapolis Health Department. It was discovered that nearly all students affected had been eating at the Minnesota Union Cafeteria and the disease is believed to have originated with a typhoid carrier employed by the cafeteria. The situation has been presented to the house committee on dairy and food legislation, which is now engaged in recodification of all dairy and food laws, and needed legislation to prevent such epidemics in the future will be included as an amendment to these bills when they are presented to the legislature.

MISSISSIPPI

Morbidity Reports.—Dr. Roland W. Hall, director of bureau of vital statistics, has just completed a tabulation of the reports of births for 1920 and the record shows that the birth rate for Mississippi during 1920 was approximately twenty-five per thousand. It is of interest to note that about 95 per cent. of the physicians of the state made morbidity reports to the bureau of vital statistics through the county health officers for the month of February.

County Health Units.—The state board of health is devoting a great deal of attention to intensive county health work

with special reference to rural sanitation. The counties of Calhoun and Union have each recently made $5,000 appropriations for this work. The state board of health in cooperation with the International Health Board will donate an equal amount for each county, making a budget of $10,000 per county for the health unit. Each health unit is in charge of an experienced and trained health official. The program of each county unit is projected on a broad basis with special emphasis on the control of the soil pollution diseases and child welfare, including the medical inspection of schoolchildren.

Bureau of Child Welfare.—This bureau of the state board of health is being organized in such a way as to include in its program the following activities: (1) Weighing and measuring all schoolchildren; (2) physical examination of schoolchildren; (3) follow-up work by public health nurse to obtain corretions of defects; (4) nutrition clinics; (5) health center in each county with, *a*, baby and pre-school clinics, *b*, prenatal clinics, *c*, classes for young mothers, *d*, clinics as needed locally; (6) county health organization; (7) prenatal letters; (8) birth registration—baby book; (9) newspaper service, educational. Child welfare units have been organized in as many as five counties. Each unit is in charge of a physician with a public health nurse as an assistant. A systematic inspection will be made of all the children in a county in which such units operate.

MISSOURI

Personal.—Dr. Varney Hazlewood has resigned as superintendent of the Jasper County Tuberculosis Hospital, Webb City, to become superintendent of the government hospital at Alexandria, La. Dr. Minard J. Armstrong, former superintendent of the state tuberculosis hospital, Mount Vernon, will succeed Dr. Hazlewood at Webb City.

Medical and Hospital Standards.—Believing that the standards of the medical profession will be lowered and the efficiency of the hospitals of the state impaired if the two medical bills passed by the legislature and awaiting the governor's signature become state laws, the St. Louis Medical Society has appealed to the governor for a delay and a hearing. The first bill provides that instead of the existing regulation that no person may be licensed to practice medicine in the state who is not a graduate of "a reputable medical school" the statutes should read "a medical school"—striking out the word "reputable." The second measure, in effect, compels hospitals exempt from taxation to admit all licensed practitioners of any school for the treatment of patients. The bills are defended by the College of Physicians and Surgeons of St. Louis and an organization styling itself the International Independent Medical Association.

NEVADA

To Use Gas for Capital Punishment.—The governor has signed the act providing for the use of lethal gas in executing the death penalty. The execution which will take place in a suitably constructed cell must be witnessed by a competent physician in addition to the warden and six other adults. Nevada is the first state to provide for the use of gas in executing criminals. It is planned to use the gas when the condemned man is asleep.

NEW YORK

Alcoholic Patients Fewer.—A report recently submitted by the superintendent of the Middletown State Hospital, Dr. Maurice C. Ashley, states that several years ago 8 per cent. of the patients were alcoholic, while at present not even 1 per cent. can be placed in that classification. His figures do not indicate that the number of narcotic drug cases are increasing.

Centenary of Bloomingdale Hospital.—The hundredth anniversary of the opening of this hospital will be celebrated on May 26. The exercises will include addresses by Dr. Pierre Janet, Paris, Dr. Richard G. Rows, London, and by Drs. Lewellys F. Barker and Adolf Meyer, Baltimore. The hospital is the department of nervous and mental diseases of the New York Hospital which, since it was opened in 1792 has made provision for the treatment of persons suffering from mental disorders.

Governor Invites Hospital Commissioners to Resign.—Because Dr. Charles W. Pilgrim, New York, and Dr. Frederick M. Higgins, Brooklyn, of the New York State Hospital Commission, have protested against the proposals to cut appropriations to state hospitals which would necessitate a reduction in the standards of medical care and nursing, Governor Miller has lodged formal charges of inefficiency and unwillingness to cooperate with the state administration against them and has asked for their resignation. The New York Psychiatrical Society at its meeting, April 5, passed resolutions which were immediately telegraphed to Governor Miller making an earnest protest against the removal of Dr. Pilgrim and Dr. Higgins from the hospital commission. The society also urged the commissioners not to resign until a full investigation can be made.

New York City

Two New Cases of Typhus Fever Reported.—Two new cases of typhus have been reported in Brooklyn, both occurring in natives of Russia who have lived in this country for some years. The health department is endeavoring to trace the source of the infection.

Harvey Lecture.—Sir Walter M. Fletcher, London, secretary of the medical research committee of Great Britain, will deliver the tenth of the current series of Harvey Society lectures at the New York Academy of Medicine, April 16, on the subject of "The State's Relation to Medical Activities in Great Britain."

Physician Tests Prohibition Law.—The first case in which a physician has attempted to test the constitutionality of prohibition enforcement, under the Volstead Act, along purely medical lines, has been made by Dr. Donald McCaskey, Fellow of the New York Academy of Medicine and a practitioner of the city, who has been cited to show cause, April 7, why his permit, as a physician, to prescribe liquors should not be revoked and canceled.

Personal.—Dr. Luther Emmett Holt has resigned as Carpentier professor of diseases of children at the College of Physicians and Surgeons, Columbia University, to accept the clinical professorship of diseases of children. Dr. Holt will continue to give clinics at the Babies' Hospital as in former years.——Dr. Antonio Fanoni has been promoted by the King of Italy from the rank of chevalier to officer in the Order of the Crown of Italy in recognition of his services during and subsequent to the war.

Damages for Appendicitis.—A jury in the Supreme Court of Brooklyn returned a verdict of $6,500, April 8, against the New York Consolidated Railroad Company in favor of the estate of Herbert W. Goward, injured in the Malbone Street tunnel wreck in November, 1918. The counsel for the Goward estate produced medical proof showing that appendicitis was a germ disease; that germs exist in the bodies of all ordinarily healthy persons; that the illness that Goward had suffered as a result of his injuries had caused a clogging of the intestinal tract; that the circulation of the blood through the appendix was retarded, and that a breeding place for germs was created.

OHIO

Two Medical Classes Dropped.—The state university has announced that freshmen and sophomore classes in the college of medicine have been discontinued indefinitely.

Dr. Johnson Found Guilty.—It is reported that Dr. Philip M. Johnson (negro). Toledo, has been found guilty of charges of conspiracy involving the violation of the federal narcotic law.

Christian Science Bill Lost.—The house has defeated, by a vote of 30 to 67, the Morris bill that would have legalized the practice of Christian science healing and removed the practitioners from under the control of the state medical board.

Typhoid Epidemic Charged to Contaminated Water Supply.—Following the recent typhoid epidemic, a suit for damages aggregating $53,225 has been filed against the city of Salem as a test case to determine the liability of the city for furnishing contaminated water which was the cause of the epidemic.

U. S. Public Health Station for Toledo.—It is announced that Toledo will be one of eleven cities in the state to have a U. S. Public Health Service Station. This will enable 5,000 sick or disabled former service men of northwestern Ohio to have immediate access to medical service and advice.

Dr. Charles E. Fisher has been appointed executive head of the station at Toledo.

Physicians Exonerated.—It is reported that Dr. Joseph G. Eckstein, having proved that he had no hand in the alleged operation which subsequently caused the death of Mrs. Maude Morris, of which he was accused, was exonerated by Municipal Judge Yeatman, Cincinnati.——Dr. Mary H. I. Earle, Cincinnati, was acquitted on the charge of having performed an operation which it was alleged resulted in the death of Mrs. Carrie Conradi Cheviot, in January.

PENNSYLVANIA

Fund for Mastbaum Sanitarium Ward Raised.—At exercises in the Eagleville Sanatorium and Hospital, in memory of Stanley V. Mastbaum, it was announced that a $25,000 fund has been raised to establish an observation ward in the institution. This ward will care for children and adults whose condition is uncertain. Their cases will be observed to determine whether or not they are suffering from tuberculosis and where the tendency toward such a disease exists, but has not been developed, patients will be treated with a view to preventing this malady. The new ward will be named in memory of Mr. Mastbaum who was a pioneer in the moving picture industry and a leader in Philadelphia's general business world. He was one of the benefactors of the large hospital at Eagleville, near Norristown.

Philadelphia

Personal.—Dr. John Norman Henry has been elected president of the General Alumni Society of the University of Pennsylvania.

SOUTH CAROLINA

Fined for Practicing Without a License.—It is reported that Dr. W. D. Barnes, Chester, was indicted by a committee from the Chester County Medical Association, and convicted of practicing medicine without a state license and fined $100.

TEXAS

Governor Signs Tuberculosis Home Bill.—A bill appropriating $1,500,000 for a sanatorium at Kerrville, to be used for Texas soldiers of the World War afflicted with tuberculosis, has been signed by the governor. The measure provides for the taking over, by the state, of the work already started at Kerrville for ex-service men and the assuming of all liens and benefits heretofore given for the hospital.

WASHINGTON

Medical Lake Clinic Closed.—The governor having vetoed the appropriation for maintenance, the woman's industrial home and clinic at Medical Lake was closed, March 31. It is now necessary to send all diseased and delinquent women to the penitentiary or keep them in the city and county jails as was the custom before the home was established.

CANADA

Personal.—Dr. Alexander Primrose, C. B., has returned to Toronto from a visit to Hot Springs, Va.——Dr. Allen MacK. Baines will return to Toronto from the West Indies in April very much improved in health.——Dr. Henry Glendinning, Toronto, and Dr. Albert J. Fraleigh have been on a trip to Bermuda.

To Report on Health Affairs.—The Ontario Medical Association and the College of Physicians and Surgeons of Ontario have formed a combined committee on public health. To represent the college—Drs. Edmund E. King, Toronto; George M. Brodie, Woodstock; John Fenton Argue, Ottawa. From the Ontario Medical Association—Drs. George S. Cameron, Peterboro; George S. Burt, Owen Sound; Thomas C. Routley, Toronto. Dr. King is to be chairman and Dr. Routley, secretary.

University of Toronto.—Much disappointment is being expressed in university circles in Toronto at the failure of the Ontario government to take action during the present session of the legislature on the report of their own appointed special commission which has been inquiring into the status of the universities of the province. As the University of Toronto expected $1,000,000 from the Rockefeller Foundation there will be for the present no available funds for further expansion as it will be doubtful if even this sum will be forthcoming owing to the failure of the government to come to the assistance of the university.

GENERAL

American Home Economics Association.—The fourteenth annual meeting of the American Home Economics Association will be held at the New Ocean House, Swampscott, Mass., June 27-30.

Doctor Robbed of Diploma.—It is reported that a thief recently entered the office of Dr. Ernest F. Cox, Columbus, Ohio, and took the doctor's diploma, leaving everything else in the office as he found it.

American Association of Anesthetists.—The association will meet at the Hotel Bellevue, Boston, June 6-7. An extended program of pertinent papers on the science and practice of anesthesia will be presented as well as symposium on anesthesia in obstetrics.

Diploma and Licenses Stolen.—Dr. Charles Samuel Jonathan Tillmanns of Calexico, Calif., reports that a diploma issued to him by Washington University Medical School, St. Louis, May 23, 1907, a license issued, June 29, 1917, by the Illinois State Board of Health, and a reciprocal license, No. C-1440, issued by the California Board of Medical Examiners, Dec. 5, 1919, have disappeared. State board secretaries are asked to be on the lookout for these credentials.

Draft Regulations on Beer.—The prohibition enforcement unit of the Treasury Department is drawing up regulations governing the use of beer for medicinal purposes under the ruling of former Attorney-General Palmer that physicians have the right under the law to prescribe beer or wine for their patients. There is no change from the present regulations governing the giving of prescriptions for spirituous liquids. Licenses must be obtained. A limit is fixed on the amount of beer or wine to be prescribed, the amount being four and seven-eighths gallon of beer a month, which averages about two bottles a day. The limit proposed in the regulations for wine is fixed at 3 gallons a month. The regulations are not yet final and have not been officially approved.

Report on Cancer Research.—The report of the cancer commission of Harvard University and the Collis P. Huntington Memorial Hospital for Cancer Research covering the year 1919-1920 states that the new roentgen-ray apparatus upon which Prof. William Duane has been working for several years is now complete and is to be installed in the hospital. Interesting developments have been made in the application of radium therapy in combination with and as supplementary to surgical operation in the treatment of advanced cases of cancer where operation offers little prospect of success. Dr. John C. Warren, Boston, in closing his report remarks that it is not likely that a single cause or a single cure will ever be discovered for such a variety of diseases as cancer presents in its different manifestations, but the constantly increasing mass of knowledge which is accumulated by patient investigation in many different lines of science and the coordination of these facts by trained investigators carry us ever forward and nearer to the desired goal.

Luncheon to General Sawyer.—Offers of cooperation in improving public health conditions were extended to Gen. Charles S. Sawyer by the National Health Council composed of ten national health organizations at a luncheon given in his honor by the National Health Council at the Hotel Powhatan, Washington, D. C., April 9. The resources and equipment of these organizations were pledged to Dr. Sawyer in carrying out his work. Among those at the luncheon were Dr. William F. Snow, American Social Hygiene Association; Dr. Charles J. Hatfield, National Tuberculosis Association; Dr. Haven Emerson, medical director, Bureau of War Risk Insurance; Mr. W. Frank Persons and Dr. Irwin A. Peterson, American Red Cross; Dr. Frederick R. Green, Council on Health and Public Instruction, American Medical Association; Miss Mary Gardiner, National Organization for Public Health Nursing; Dr. Watson S. Rankin, Conference of State and Provincial Health Authorities; Dr. Frankwood E. Williams, National Committee for Mental Hygiene; Courtney Dinwiddie, National Child Health Council, and Dr. Donald B. Armstrong, National Health Council. General Sawyer expressed his appreciation of the support extended to him and declared it was the most effective backing he had received since the President appointed him to take charge of the public health work of the administration.

LATIN AMERICA

Spain Offers Fellowships to Latin Americans.—The Spanish government has created twenty-five fellowships in Spanish universities which will be offered to Latin American students.

Army Sanatorium in Brazil.—Plans are being made for the construction in Brazil of an army sanatorium, the need of which is much felt. This sanatorium will be built on the extensive reservation of the Naval Sanatorium of Friburgo.

Ecuador Physicians Will Attend Urology Congress.—On the invitation of the faculty of medicine of Paris, the secretary of education of Ecuador has appointed two physicians to represent the medical school of Quito at the International Congress of Urology which will be held in Paris in June.

Practice of Medicine in Spain by Foreigners.—Spanish physicians have been much exercised of late over foreign physicians practicing in Spain. At a recent session of the Royal Academy of Medicine, Dr. Florestán Aguilar, the secretary of the Spanish Medical Association, mentioned several cases in which foreigners lacking proper diplomas were authorized to practice. He quoted the case of a Polish "odontologist" whose diploma being in Russian and the Spanish translator transcribing literally, "Physician for Teeth," a license as doctor of medicine was granted the applicant. Dr. Aguilar emphasized that the recent decree of reciprocity with foreign countries may prove harmful as in England the exercise of medicine was free to all comers, and therefore, any number of English physicians might go to Spain to practice.

FOREIGN

Medical Members in Prussian Legislature.—The last Landtag had five medical members, all democrats and social democrats; Abderhalden had been elected but he soon resigned his post. The recent elections have resulted in the reelection of one of the social democrat physicians, Dr. Weyl, and he is now the only medical man in the house. His past career shows, the *Deutsche medizinische Wochenschrift* remarks, that he cannot be regarded as representing the profession in Prussia.

Increased Medical School Budget at Brussels.—A budget of 100,000,000 francs—about $7,390,000—has been fixed for new buildings and endowments for the medical school of the University of Brussels, Belgium. Of this sum 57 per cent. will be raised by the city of Brussels and the university, the remaining 43 per cent.—$3,177,700—by the Rockefeller Foundation. This is said to be the largest endowment for medical education that Europe has ever known. All the old medical buildings are to be razed, the campus is to be enlarged by the acquiring of adjacent property and a new group of buildings will be erected.

Creation of a Ministry of Health for Australia.—The creation of a separate ministry of health and a federal department of health was decided upon by the cabinet of the Australian government on February 3. Heretofore the federal health activities have been limited largely to maritime quarantine and the manufacture of serums and vaccines. In the plans for the department of health emphasis will be placed at the beginning on (*a*) the establishment of a division of industrial hygiene giving special attention to mining and later extending its activities to other industries, (*b*) the establishment of a system of diagnostic laboratories in Australia and its dependencies, (*c*) taking over the Australian Institute of Tropical Medicine and making it the central research and diagnostic laboratory for tropical Australia, the territory of Papua, and late German New Guinea, (*d*) taking over the territorial health services, including those of Papua and the newly acquired late German New Guinea, and (*e*) enlarging the scope of the hookworm campaign, now being carried on jointly by the commonwealth of Australia, the International Health Board of the Rockefeller Foundation, and the States, to include other diseases than hookworm disease and also problems of rural sanitation.

Deaths in Other Countries

Dr. **Ernesto Odriozola,** professor of clinical medicine and dean of the Faculty of Medicine of Lima, Peru, one of the leading internists and medical authorities of South America, and author of numerous works on cardiovascular disease, hyperthyroidism, etc.——From Montevideo is reported the death of Dr. **J. Rosende,** director of the clinic for skin diseases, and of Dr. **Escolástico Imas, a** prominent stateman and member of the legislature who retired from practice a number of years ago, aged 65.——Dr. **F. Escudé,** director of the research laboratory of the Madrid Faculty of Medicine and of a leading hospital.——Dr. **E. Klose,** privatdozent for pediatrics at the University of Greifswald, aged 39.——Dr. **E. Mayr,** president of the Augsburg medical chamber.

Government Services

REORGANIZATION OF THE WORK OF REHABILITATION OF COMPENSABLE DISABLED EX-SERVICE MEN AND WOMEN OF THE WORLD WAR

The work of the special committee appointed by the Board of Trustees of the American Medical Association, the consultants on hospitalization appointed by the Secretary of the Treasury, and the special committee appointed by the President, of which General Dawes is chairman, resulted in the adoption of a report in which was recommended a thorough reorganization of federal agencies created by the Congress to distribute the benefits provided by the government for compensable disabled veterans.

The investigation by the committees mentioned shows that the confusion and delay have been due to the division of responsibility among the three main governmental agencies designated by law to carry on this work. In consequence there has been an utter lack of central control over these three agencies and the other cooperative governmental departments and bureaus which have been utilized in carrying out the purpose of the related congressional legislation.

While decentralization has been practiced by two of the services concerned, the third agency, the Bureau of War Risk Insurance, has been unable, under the law, to make a corresponding decentralization and this has caused confusion and failure of effective results. Thus it has not been an unwillingness or reluctance to serve and cooperate, but divergent provision of laws and limitations placed by legal decisions which have prevented effective coordination in these three services. Furthermore, limitations in the interest of presumed economy have been placed on the authority of those responsible for these government agencies in the employment of personnel, both as to number and quality. This has operated to the serious embarrassment of the various agencies engaged in obtaining and retaining the quality of personnel on which the efficiency of the departments depends.

The past and present lack of facilities for the needed hospitalization is due in part to the failure of Congress to make the appropriation requested for this purpose by the Secretary of the Treasury.

It was a mistake to designate the U. S. Public Health Service alone as the responsible agent of the government to provide medical and surgical care and in addition to provide the medical personnel for examination for disability rating, for fitness for vocational training and for inspection. This task presented insuperable difficulties which were and still are so great as to exceed the facilities which are possessed by the U. S. Public Health Service or in fact by all federal medical organizations. After investigation it must be the unbiased opinion of any fair minded person that the U. S. Public Health Service has accomplished as much as could be reasonably expected under the existing conditions.

In the formulation of a constructive program based on fundamental principles which will provide prompt and effective action and service to compensable veterans, as has been stated above, the committee has recommended a reorganization of all of the responsible agencies of the government designated by law to distribute the benefits accorded by the government to its compensable veterans.

The recommended reorganization creates a Veteran Service Administration under the control of a director general who will be appointed by and be directly responsible to the President of the United States. In this organization—the Veteran Service Administration—there are included the Bureau of War Risk Insurance and the Division of Reha-

ilitation of the Federal Board for Vocational Education with ll the present powers granted them by the Congress. The irector general is made the sole responsible agent in the dministration and operation in the allotment of all of the enefits provided by the government for its disabled veterans.

Provision is made for decentralization or administration and operation of the work into fourteen or more districts of he continental United States.

The chart of the proposed organization for the Veteran Service Administration indicates that the director general will have authority to use all available hospital beds controlled by he Public Health Service, the Medical Department of the Army, the Bureau of Assurance of this has been made to the President's committee by the representatives to these organizations.

The district supervisor will be appointed by the director general and will be directly responsible to him for the operation of the Veteran Service in his district, in providing medical service, compensation, vocational training and education and inspection. The district supervisor will hospitalize compensable veterans in his district by sending them to available beds in governmental hospitals and in state, county, municipal and private institutions for which he shall have made contractual provision. By far the largest part of the Veteran Service Administration is a medical problem. The civilian med-

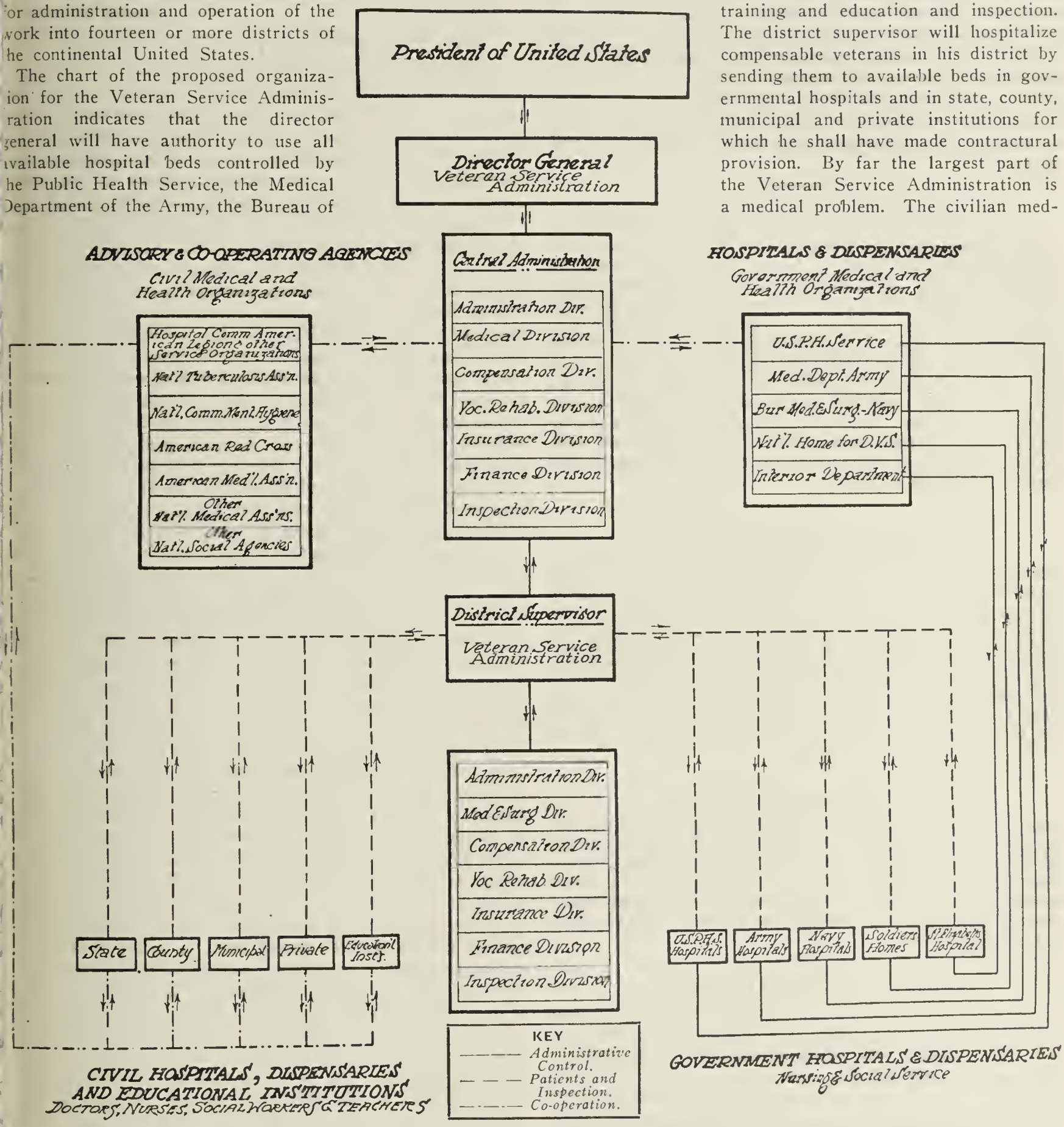


CHART OF PROPOSED ORGANIZATION FOR SOLDIER REHABILITATION PREPARED BY PRESIDENTIAL COMMITTEE

Medicine of the Navy, the National Home for Disabled Volunteer Soldiers, St. Elizabeth's Hospital, Washington, D. C., controlled by the Interior Department, and the civil hospitals and dispensaries—state, county, municipal and private. He is authorized under the law to create a medical division of administration and operation in the examination necessary for disability rating, for fitness for vocational training and to ascertain the need of hospitalization.

He will have the sympathetic and efficient cooperation of the civil medical and health organizations of the country. ical profession will be necessarily invited to take part in this work. We may confidently expect that the whole civil medical profession will respond and help in the efficient solution of this problem. While the pay for such medical and surgical services is not adequate, it affords clinical experience of value and an opportunity to relieve the present condition as to the care of the ex-service men.

Finally, it may be said with authority that the proposed reorganization of the work for the distribution of the benefits provided for disabled veterans has the approval of the Sur-

geon-General of the U. S. Public Health Service, of the Medical Department of the Army, of the Bureau of Medicine of the Navy, and of the governor of the Board of National Home for Disabled Volunteer Soldiers. The plan relieves the U. S. Public Health Service of much of the work imposed upon it, up to the present time, in the administration of districts, in the medical examinations of disability rating, in the fitness for vocational training and in inspection service. The U. S. Public Health Service will continue to supply hospitalization to compensable veterans in so far as its facilities permit. It is believed that this service will not interfere with the important functions for which the service was created and which it has performed with such great benefit to the country.

Claims Before Bureau of War Risk Insurance

An announcement just made by the Bureau of War Risk Insurance indicates that the bureau is now at work on claims amounting to 91,477, all filed by disabled former soldiers and sailors. The number of claims being received is increasing regularly, the average being about 1,000 per day. All facilities of the U. S. Public Health Service and the government, as well as private institutions, are being utilized to give medical care and treatment to those persons claiming compensation while the compensability of such persons is being established. There were during the last week in March 25,032 persons undergoing hospital treatment and 777,511 have been given medical care and treatment by the Bureau of War Risk Insurance.

Army Medical School to Enlarge

Enlargement of the Army Medical School is planned by the Medical Department of the Army just as soon as appropriations are made by Congress to cover the cost. At the present time the school is located on Louisiana Street in Washington, occupying leased buildings, but it will be transferred from its present location to a new home in Takoma Park alongside the Walter Reed General Hospital. The school's capacity is seventy-five commissioned students, but this will be greatly increased on the enlargement of the institution.

Surgeon-General Named for Board

Major-Gen. Merritte W. Ireland, surgeon-general of the Army, has been appointed as a member of a board to examine and settle claims between the Red Cross and the War Department that developed during the World War. The other members of the board are Major-Gen. John L. Chamberlain, inspector-general, and Col. Edward A. Kreger, judge advocate general's department.

Strength of Reserve Medical Corps

Surgeon-General Ireland states that the Medical Reserve Corps now numbers 6,421 officers, including 2 brigadier-generals, 101 colonels, 434 lieutenant-colonels, 2,057 majors, 2,851 captains, and 976 first lieutenants.

Government Control of Dairy Industry in the Netherlands.—To prevent a shortage of milk and milk product supplies, due to increasing demand for home consumption and excessive sales to Germany, the Dutch government recently established a dairy bureau, under the minister of agriculture, which controls the production of butter and cheese, etc., and regulates the distribution of sweet milk throughout the Netherlands. The office is supported by a tax on milk production. The minister of agriculture issues decrees at stated intervals indicating both the amount of cheese to be made and the percentage that may be exported. The bureau controls the distribution of fresh milk by purchasing it and reselling to dealers. To keep down the cost of milk to consumers the bureau loses the expense of transporting the milk from the farm to the distributing center.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 21, 1921.

The Future of Research in Tropical Medicine

In his presidential address to the Section of Tropical Diseases of the Royal Society of Medicine, Sir Leonard Rogers, while admitting the value of the work done by the expeditions of research workers to tropical countries, considered that the time had come to modify our methods. He attributed the value of his own researches to the good fortune of being able to carry out long-continued and patient investigations in a tropical country in a laboratory in the closest possible association with a wealth of clinical material, at the Calcutta Medical College. He was thus led to the conclusion that Calcutta presents the finest opportunities in the world for a great school and research laboratories of tropical medicine. To this institution a hygiene section is about to be added, and the services of ten government professors will be available with about three fourths of their time for research. Seven whole-time research appointments, two of which are held by Indian research scholars, are being financed. As each worker has one or more qualified Indian assistants, the total staff will number forty-two. Another school on similar lines has been organized in Bombay, which with four hill-top laboratories and the bacteriologic department of the Indian Medical Service and the pathologic laboratories of the medical colleges will place India in the forefront of research in tropical medicine. Had sufficient provision been made for similar work in other British tropical possessions? Much had been done in the last two decades with important results, such as the work on the cause of beriberi in the Kuala Lumpur of the Malay States, the tartar emetic cure of bilharziasis at the Wellcome laboratory of Khartoum, and the valuable work at the Queensland laboratory under Breinl and that of Macfie in West Africa, where the Sir Alfred Jones laboratory is being built at Sierra Leone. But what were these among so many? A few months ago Sir Leonard Rogers was invited to join an influential committee for the prevention of tropical disease; but on learning that it proposed to spend $150,000 on a single expedition to a very small and rather healthy (because malaria-free) West Indian island, he felt obliged to decline. He intimated that it should alter its policy to organizing permanent research laboratories in various British tropical possessions. If money was forthcoming and the support of the government could be obtained, he suggested that annual contributions toward the support of a research worker should be offered to selected British colonies on condition that the local authorities supplied a small and unpretentious laboratory adjacent to the largest available hospital. The worker should be appointed for five years, which was the shortest time any research worker should go abroad. The old plan of trusting entirely to temporary inquiries, with heavy costs for equipment and passages, and leaving no permanent organization behind the pioneers to carry on the work, should be abandoned.

Venereal Disease

A deputation of the National Birth-Rate Commission has laid before the minister of health the report of the special committee on venereal disease. The report has been compiled with great care and long deliberation after hearing the evidence of many eminent physicians, surgeons and venereologists. The committee included prominent physicians, medical women, bishops and other ecclesiastics. The ministry

f health sent three officers to assist in the inquiry, the merican army also gave help. The report points out that here are two methods of arresting the spread of infectious isease—prevention of the conditions under which contagion ccurs, and destroying by disinfection the organisms before hey have penetrated the body. The first method is the best, nd is that used for the control of yellow fever and malaria. n the case of venereal disease this means abstinence from romiscuous sexual intercourse. While the committee realizes hat chastity is the best safeguard, it is compelled to recogize that a large number of persons, male and female, do ot respond to moral appeals, but indulge more or less freuently in sexual intercourse. Both on the grounds of indidual and of national welfare the committee thinks that teps must be taken to prevent intimate contact between ealthy and diseased surfaces, or to destroy and prevent the rowth of disease germs before they can penetrate the tisues. This means some method of disinfection as soon as ossible after sexual intercourse, either by the individual or y, or under the supervision of a physician or trained assisant. The committee is in favor of "immediate self-disinection," but points out that it is liable to failure in the ands of ignorant, unskilful or careless individuals, or those nder the influence of alcohol or strong excitement. No diffiulty should be placed in the way of either (1) the spread f knowledge as to the value of disinfectants, or (2) the btaining of such disinfectants from pharmacists or other ources. The health authorities should afford instruction in he value of chastity as the only sure means of prevention, ut should also claim due, though not undue, efficacy for elf-disinfection. The inquirer should be told to regard this s a method of first aid in preventing a possible danger, to e followed by prompt resort to medical advice. If the ordiary man is both willing and able, after careful preliminary raining, to carry out self-disinfection with promptness and fficiency, it should not be necessary or desirable that local uthorities should provide at special ablution centers facilies which he ought to obtain for himself, in view of the act that the risk has been incurred by his own misconduct. or the success of this method the present legal prohibition o the sale of disinfectants by pharmacists should be withdrawn. The pharmacists should not be allowed to advertise r recommend substances which have not been approved. Sale should be at a nominal cost, and the disinfectant should be ccompanied by printed instructions approved by the minstry of health or local health authority. The committee cannot recommend legislation which would make it obligatory or all parties contemplating marriage to produce health cerificates.

In any appeal to the public, four conditions should be rged: (1) chastity as a moral obligation consistent with ood health, and the only sure preventive; (2) the moral bligation to consult a physician if exposure to risk has ccurred or disease has been contracted; (3) the serious risks nvolved and appeal to family affection, patriotism and umanity; (4) self-disinfection.

Darwin's Theory of Man's Origin

Beginning a series of lectures on this subject at the Royal Institution, Professor Keith said that it is now fifty years since the "Descent of Man" fell like a bombshell on the world. Writers are now fond of saying that the Darwinian theory has broken down; but biologists know that it has been much better substantiated, and in its broad outlines it stands. If called to edit that famous book, Professor Keith said that he would scarcely alter a single statement but he would have much to add. Additional evidence has accumulated since Darwin's time, comprising: 1. An improved knowledge of embryology. Thanks to the unrequited labors of hundreds of embryologists, every stage in man's development except the first four or five days is known. It all supports Darwin. 2. The discovery of fossil man with features found nowhere today in living man but present in apes. 3. Human weapons found in geological strata, which carry man back 1½ million years or more. 4. Increased knowledge of the anatomy of apes. 5. Experimental physiology. In his experiments on the brain, Horsley found that the animals nearest to man, such as the orang-utan, are the best guide. Sherrington found the same. 6. Experimental pathology. The animals nearest to man are those most inoculable with his diseases, the chimpanzee and the orang-utan, as, for example, in the inoculation of syphilis. The domesticated chimpanzee is liable to have appendicitis. 7. The blood affinity of the chimpanzee and the anthropoid apes to man, the greatest among animals. 8. The discovery of hormones. This would have helped Darwin in his great difficulty. How do favorable characters arise? Their survival afterward is an easy matter. Take as a concrete instance the evolution of the human from the simian hand. Long before the fetus moves its hands it has folds adapted to movements. Darwin said that there must be some mechanism by which use and disuse are inherited, that the habits of the race bear back on the seed. The physiologists of his time could give him no hint as to how useful variations arise, so he framed the theory of "pangenesis." He supposed that there was an extraordinary "postal system" by which cells threw their experiences into the circulation and reached the germ cells, where they were stored. No one believed him, but his hypothesis, at that time, was an extraordinarily acute forcast of the hormone mechanism.

We now recognize that the shape and action of man's body depend on the secretions of the endocrine glands. Every modern girl knows that if she devotes herself to athletics she must expect to take larger gloves and boots, but she does not know how this is brought about. If her pituitary responds readily to muscular efforts by liberating the hormone which gives her hands and feet the power to respond to their new burdens by increase in size and strength, her worst fears will come true. The varying power of the pituitary in different persons is shown by the experience of athletic trainers. They know that some men can put on a great chest in a month, while others cannot in a year of training. The pituitary hormone is part of the automatic mechanism which adapts and shapes old parts of the body to new functions. It is part of the evolutionary machine. In acromegaly the disordered pituitary floods the circulation with one of the elixirs of adaptation and the least exertion gives overgrowth. A blessing has become a curse. The other endocrine glands also influence growth. Indeed, every endocrine gland influences the mind as well as the body. By means of these glands, new races have been evolved in the past and will be evolved in the future.

Campaign Against Venereal Disease in the Far East

A commission appointed by the National Council for Combating Venereal Diseases, sent out to the Far East under the egis of the colonial office, has just completed a campaign in Shanghai, which the commission reached early in December. The Shanghai municipal council had appointed an advisory committee to make arrangements for the stay of the commission, and the campaign opened with a representative conference convened by the council. Publicity was secured through the medium of the press and by the issue of handbills through the principal firms and voluntary organizations. Full facilities were given for the visiting of all institutions under the control of the municipal council, and various hospitals, prisons, licensed quarters and clubs were inspected. As requested by the municipal council, the commissioners formulated their recommendations in a report presented to a

special joint session of the municipal watch and health advisory committees. This report was published in the *Municipal Gazette,* a weekly issue widely read by the foreign community, and urged that facilities for the free diagnosis and treatment of venereal diseases should be provided by the municipal council; that their health and educational departments in cooperation with voluntary organizations should secure the education of the public with regard to venereal diseases, and that all possible steps should be taken to suppress prostitution. The commission held educational conferences for heads and teaching staffs of schools, and medical conferences with physicians, showed "Damaged Goods" on the film, and organized a public meeting for foreigners resident in Shanghai. It is believed that much of the program recommended by the commissioners will be carried out, and that in any case the appointment of a venereal disease officer and the provision of free treatment for seafarers will be considered in the immediate future.

Rejection of "The Irresistible Impulse" as a Plea in a Murder Case

In a murder trial at Manchester, a physician gave evidence for the defense that the prisoner was suffering from an "irresistible impulse" and was not sane at the time of the crime. This was revealed to him when the prisoner was in a hypnotic trance and was borne out by an exhaustive examination afterward. Every particular of his conduct after the act, even his expression of satisfaction, was consistent with this view. He showed an extraordinary misconception of the enormity of his act. Rebutting evidence was called for the prosecution. A warder had observed nothing unusual about the prisoner; he was always in good spirits. The medical officer of the prison said that he had the appearance of having lived a debauched life, but there was nothing abnormal or strange in his manner. Another prison medical officer had also found him quite rational. He was asked, "Do you recognize an 'irresistible impulse' apart from insanity?" He said, "Yes; it may be the only symptom of insanity." But in such a case he would expect to find no premeditation but only an impulse which recurred from time to time. When the crime was committed there would be a mental struggle before the will gave way, and after it a feeling of relief. Afterward the man would be distressed and horrified. In this case there was premeditation: the prisoner bought the knife with which he committed the murder and sharpened it on both edges. The judge pointed out that the only evidence of uncontrollable impulse was that of a medical expert based on what the prisoner told him. A verdict of guilty was returned.

The Abolition of the Secrecy of Trials for Incest

In consequence of the secrecy of trials for incest, it constantly happens that persons are prosecuted for acts which they do not know to be criminal. Judges and the law officers of the Crown are virtually unanimous in favor of removal of the secrecy. In the House of Lords the Lord Chancellor has moved a new clause to the Punishment of Incest Act which repeals the section requiring that all proceedings shall be held in camera. He believed that unless there was some objection to the proposal which he had overlooked it would be a very useful reform. The amendment was agreed to.

Increase of Cancer

The deaths attributed to cancer unfortunately continue to increase. They numbered in England and Wales, in 1919, 42,144; 18,723 males and 23,421 females. For both sexes these numbers are the highest recorded. The most recent figures available, for the first quarter of 1920, show 10,746 deaths; 4,833 in males and 5,913 in females.

MADRID

(From Our Regular Correspondent)

March 9, 1921.

Antimalaria Campaign

Dr. Pittaluga, president of the commitee for the sanitation of malarial regions, has delivered an interesting lecture in the Madrid Ateneo. He presented figures and data to show the importance of malaria as a public health problem in Spain. Every year 2,500 persons die from malaria. As the proportion of deaths to cases in this disease is 7 per thousand the number of patients must be about 400,000 a year. Supposing, as a minimum, that the disease lasts twenty days, computing daily wages at 3 pesetas, and adding the loss from wages to the loss represented by deaths (even if we place on each human life the minimum value of 5,000 pesetas), this would represent in Spain a yearly loss of about 40,000,000 pesetas (about $6,000,000). To combat this scourge, the national budget carries only an item of 200,000 pesetas to suppress epidemics. This means that malaria must be controlled out of these funds with all the other infectious diseases. This sum is so ridiculously inadequate that not long ago the king wanted to have 500,000 pesetas devoted to an antimalaria campaign; but as yet this has not been done. In Talayuela, a town of the province of Cáceres, the malaria committee has begun its sanitary efforts. Since October, physicians and lay assistants have been looking there for germ carriers and giving them quinin; besides, they determine the presence of mosquitoes and carry out drainage works, in addition to house and individual prophylactic measures. In one or two years from now, when results will be apparent, they will show this place as an object lesson to the whole country, saying, "Here is what we have done with the money you furnished." Spain will then understand how advantageous it would be to carry out the campaign on a larger scale. In this work, besides the Spanish personnel, some prominent foreigners are also taking part, as Professor Sella, chief of the malaria section of the Geneva central office of the League of Red Cross Societies.

Dr. Chutro in Madrid

Dr. Chutro, who gained such a high reputation in Paris as a surgeon during the war, is now returning to Argentina to fill his chair of surgical pathology in the Medical School of Buenos Aires. On his way, he stopped in Madrid where he was shown many courtesies. Dr. Chutro gave several lectures which were much appreciated. At the medical school, he lectured on the treatment of fractures of the femur, advising the continuous extension of both lower extremities and not only of the fractured one. He explained how to carry out mobility of the knee so as to preserve extremities which, though shortened, may give good service. In the Royal Academy of Medicine he delivered a lecture on the pathologic relations between the right kidney and the colon. He laid stress on the fact that surgery is abandoning operations which used to be much in favor. Thus, years ago many kidneys were fixed; then, many appendicostomies were performed, and now surgeons operate on the ascending colon, plicating it when it is dilated.

Dr. Rodríguez Abaytua Leaves His Fortune to the Royal Academy of Medicine

Dr. Rodríguez Abaytua, prominent thinker, philosopher and specialist in diseases of the digestive tract, has just died in Madrid, where he practiced his profession and where all his works have been published. His first book, "Medical Thermometry," made him famous. Since the publication of that book forty-five years ago, he has written more than twenty books, including his last two, "Biochemical Phenomena from the Standpoint of Philosophy" and "Nutritive Bio-Energy and Thermometry." He was a tireless worker, a man with

an encyclopedic mind, and bequeathed to the academy a large modern library. He had no enemies. His life was exemplary; in his abstemious and aristocratic manner he recalled those monks of the middle ages who devoted their lives to religion and alchemy. As he did not want to waste a minute of his time, he lived alone and never married. He considered instead all physicians as his family, and on dying he left his whole fortune, nearly 2,000,000 pesetas, to the Royal Academy of Medicine, which will act as executor and decide which books should receive prizes according to the giver's wishes.

PARIS

(From Our Regular Correspondent)

March 25, 1921.

The Dangers of Ethyl Chlorid Anesthesia

The use of ethyl chlorid for general anesthesia is becoming more and more widespread, and the tendency is to regard it as an anesthestic entirely devoid of danger. However, the communication that Dr. Courtois-Suffit, physician to the hospitals of Paris and medicolegal expert, recently presented to the Academy of Medicine shows that this is far from being the case. Courtois-Suffit was recently charged by judicial authority to perform a necropsy on the body of a woman who died suddenly during a general anesthesia, produced by ethyl chlorid, for the purpose of extracting a carious tooth. The woman, accompanied by her husband, had presented herself to a dentist, requesting that he extract a decayed tooth that the dentist in her home town was not in a position to remove. On account of the bad condition of the gums, the dentist thought best to operate under general anesthesia, and for this purpose he referred the patient to a physician, who, after a thorough examination of the patient, agreed to give the anesthetic. The operation took place the same evening. Two ampules of ethyl chlorid were used in an improvised mask. The patient went under readily, but the dentist being unable to extract the tooth at the first attempt and the patient showing signs of returning consciousness, a third ampule was used, the mask being put back again. The patient immediately began to present respiratory difficulties, and death ensued in spite of all attempts at restoration: hypodermic injections, artificial breathing, and the like. Courtois-Suffit reached the conclusion that death was due to anesthesia by ethyl chlorid. There was no previous affection or condition that could be considered a contraindication to the operation, and no error in technic or otherwise was committed. It was merely an accident analogous to those resulting from anesthesia produced by chloroform or ether.

Courtois-Suffit thinks that it might be possible to avoid these accidents by indicating with greater precision the character of the technic to be followed in this mode of narcosis, as has already been done with regard to chloroform and ether. One point in particular seems already clearly established: Accidents resulting from the use of ethyl chlorid occur generally when, after a first dose of ethyl chlorid has been given, it becomes necessary, owing to the fact that the patient shows signs of returning consciousness before the end of the operation, to admit air within the mask in order to give a supplementary dose of the anesthetic. That is precisely what happened in the case of the patient over whose body Courtois-Suffit held the necropsy, since the death of the patient occurred after a second administration of ethyl chlorid.

Election of Professor Rénon to the Academy of Medicine

At a meeting, March 15, the Academy of Medicine took up the election of a corporate member in the section of therapeutics, to fill the vacancy caused by the death of Professor Debove. Dr. Rénon, who was recently appointed professor of internal pathology in the University of Paris Medical School, was chosen by sixty-one votes out of sixty-six.

VIENNA

(From Our Regular Correspondent)

March 22, 1921.

Empty Schoolrooms

In 1920, 34,197 persons died in Vienna; the number of births was only 27,821. This year the surplus of deaths over births amounted to 1,220 in the first ten weeks. The low number of births is manifested also in the decreasing number of children entering the first grades of the public schools. Oct. 1, 1910, 36,000 children of 6 years were enumerated in all schools in Vienna; on the same date in 1919, only 25,400 were present. The figures for 1921 have been calculated at 20,000. For the year 1923 only 15,000 children are expected to enter the schools, and for next year only 13,000 children aged 6 years are figured on; i. e., 35 per cent. of the number entering in 1910. These figures are fairly safely arrived at by considering the birth rate of the war years. The children missing in the schoolrooms will also be missing if the number of working persons is considered. In eight years there will be a lack of apprentices; in twelve years, assistants and junior clerks will be rare and skilled workmen will not be available, while those present and working at that time will be less fit for the prolonged work required. The generation of the next ten or fifteen years will not be up to the mark in physical efficiency. Only 15 per cent. of the total of school children were classified as not underfed, and there will be little improvement in the condition of the remainder. The empty schoolrooms are a bad symptom and a bad prognosis for this country's restoration.

Hospital Beds for Tuberculous Children

Austria can boast at present of no more than 2,000 beds in hospitals and sanatoriums for the treatment of tuberculous children, of which number Vienna alone has 430 beds for internal tuberculosis and 360 beds for surgical tuberculosis. In the country there are only a few institutes appropriately fitted with all requirements, of which may be mentioned Krems with 300 beds for suspicious cases, and three institutes in the Alps organized for sun treatment. Owing to the generosity of the Swedish Red Cross, a hospital for 350 surgical cases has been recently added to the existing ones, and various smaller institutes have been opened wih the aid of the government in the well known Fordine brine baths of Hall and Ischl. Endeavors are being made to induce the erection of temporary insolation pavilions in the Alpine districts for such children as require no direct medical or surgical interference; heretofore the financial problem has proved to be a most serious drawback of this eminently prophylactic undertaking. It is a sad feature of the fight waged by the board of health against this menacing disease that it must turn to grants and gifts from foreign countries to obtain means for its purposes. Only recently it was put in a position to open a small pavilion for tuberculous nurses who fell victims to the disease while in active service, during the war, among the soldiers.

Higher Taxes and Fees for Foreign Students

The Rockefeller Foundation in New York has granted a gift of $60,000 to the three universities in Austria for the purpose of purchasing such apparatus and requirements as cannot be obtained in this country but are necessary for the upkeep of scientific medical institutions. The prohibitive exchange rates will thus no longer throttle the teaching in our institutes. The generous gift was granted under the condition that the fees for foreign students be raised in a reasonable degree; for it is deemed unfair that the Austrian state, in spite of its financial position, should enable foreigners to follow up their studies here by paying fees which fall far below the actual costs and were much below the costs of

studying abroad. Thus, by order of the board of education, foreign students at the three medical faculties in Austria—Vienna, Graz and Innsbruck—have to pay twenty-five times higher fees for lectures and laboratories than Austrians and ten times higher fees for the diploma. Thus, a diploma will cost 9,000 kronen ($15), while each lecture (one hour a week) will cost about 250 kronen a term, or about 40 cents. If the student takes courses lasting twenty hours a week, he will have to pay for the term (semester) about 6,500 kronen ($10) all told. That is still cheap enough. Altogether, a sum of five million kronen is expected to accrue from this source in Vienna alone which will be allotted entirely to the augmentation of the funds for the outfit of the laboratories and institutes of the medical faculty. But this measure is rather of the nature of a two-edged weapon. A good number of foreign students taking their degrees in Vienna come from the now foreign countries, formerly part of the broken-down empire. Their exchange rates are not twenty-five times higher than our own; and they will no doubt cease to flock to Vienna, and thus the commanding position of Vienna as the university for eastern Europe may be in danger. Due precautions against such an outcome must be taken into consideration.

Laparatomy for Determination of the Patient's Sex in Hermaphrodism

At a recent meeting of the Vienna Medical Society, Professor Meixner showed a child, aged 9 years, whose sex could not be ascertained until that age. The child had a very large clitoris, two very prominent fat ridges like labia majora, and a small fossa navicularis leading into a blind sac, presumably the vagina. In order to find out definitely whether the individual was male or female, Professor Meixner suggested a laparatomy. This was performed, and showed the presence of a bicornate uterus, attached to it an organ recognized by the gynecologists present at the operation as a normal ovary, and on the other side a small brownish organ which immediate microscopic examination proved to be a rudimentary testis. The operation thus definitely settled the question of sex in favor of a female. An interesting discussion ensued the demonstration, in which the admissibility of a laparatomy for this purpose was questioned. Professor Meixner, however, insisted that laparatomy, being a safe and simple procedure nowadays, was not so serious as numerous other operations performed on children for even minor ailments. The importance of ascertaining as early as possible the true sex of a child would permit of an operation. Professor Schnitzler pointed out that the misinterpretation of true sex sometimes led to appalling conditions. In one case a child supposed to be a boy had twelve plastic operations for the formation of a penis performed on his urethra with the result that he actually urinated through a penis-like tube, when at the age of 15 two well developed female breasts appeared and the true female characteristics of the being came forth. Still, such an operation could be done only with the permission of the parents and the consent of the board of guardians.

Special Graduate Courses in Vienna

The Vienna Medical Faculty has organized for the benefit of practitioners desiring to keep in touch with the progress in medicine a series of graduate courses covering the whole field of medicine so far as diagnosis and treatment are concerned. The courses take place in April, June, September (this one chiefly for country physicians) and December. They last two weeks and are arranged in such a way that a number of lecturers deal with a certain subject on the same day. Thus two days are devoted to diseases of the heart and the circulatory system, one day to the problem of the kidney function, two days to the diseases of the alimentary tract (including surgical aspects), one day to problems of metabolism and nutrition, and one day each for balneotherapy including open air treatment, and for modern views on phthisis, the blood, the endocrines, the brain, the nerves and organs of locomotion, as well as radium treatment and the treatment of general paralysis and tabes. The fees are low 1,000 kronen, about a dollar and a half, for foreigners and 200 kronen for Austrians for the two weeks; the lectures are given from 9 to 12 and from 2 to 6 p. m., and the lecturers have consented to give over their fees to the funds for the upkeep of the university institutes.

Malaria Statistics for 1920

Since the end of the war, malaria has become a fairly frequent and well known disease in our country, while formerly it was more of a theoretical interest for our practitioners and students. In fact, smallpox and malaria could hardly ever be shown in Vienna at the clinical lectures in the years between 1895 and 1914. They were rarities. Now with the return of our prisoners of war from long-standing captivity, as well as through soldiers coming from the fighting lines in Russia, Turkey, Italy, Albania and other distant countries, these diseases appeared in daily increasing numbers. In fact Vienna had to establish a special malaria hospital of enormous extent to deal with all exigencies. In 1920 there were reported, however, only 1,603 new cases in all the country, of which 388 were observed in Vienna alone. Naturally, when the bulk of the prisoners returned from Italy and Siberia (1918-1919) the figures were highest. Thus January to June showed more than 1,400 new cases. Altogether, Dec. 31, 1920, the number of malaria cases reported to the board of health since 1918 reached the figure of 10,610. In Vienna alone, 4 526 cases were reported. In parenthesis it may be mentioned that for the first time since the war, one week was reported as being completely free from epidemics (week ending March 19) in this country.

BERLIN

(From Our Regular Correspondent)

March 12, 1921.

Personal

The prize of 25,000 marks, established two years ago by the late Berlin bacteriologist Prof. Hans Aronson, has been awarded to Prof. von Wassermann for his investigations on the Wassermann reaction.——As successor of Prof. O. Hertwig, who is retiring, the name of the Heidelberg anatomist Professor Braus has been mentioned.——Professor Bonnet of Bonn, formerly head professor of anatomy, recently celebrated his seventieth birthday.——As the successor of Professor Grawitz, Greifswald, who is retiring, the name of Professor Gross of Heidelberg has been proposed as ordinarius for pathologic anatomy.——February 24, the Berlin Ophthalmologische Gesellschaft held a special session in honor of the semicentennial of Albrecht von Graefe's death. The only living former assistant of Graefe, the ophthalmologist Prof. Julius Hirschberg, delivered an excellent memorial address in spite of his advanced age—78.

Instruction in Hygiene in the Schools

More and more the idea is gaining ground that the expensive institutions are not the most important thing for the preservation and amelioration of the health of a people, but that the main thing is to secure the cooperation of the individual. Hygienic teachings and hygienic institutions must, therefore, fail of their purpose so long as the people take no interest in them. This fact is brought out by Professor Selter, the director of the Königsberg Hygienic Institute, in an article in the *Deutsche medizinische Wochenschrift* in which he advocates instruction in hygiene in the schools. He

expresses the view that the expensive tuberculosis sanatoriums have not exerted so favorable an influence on the mortality from tuberculosis as was expected. The welfare stations for tuberculous patients he thinks have proved of greater value in that an influence has been brought to bear on the patients within the family circle. Likewise, he thinks that infant mortality can be better combated by giving the mother a correct understanding of how to care for her child than by erecting special homes for infants.

But the best and most effective means of promoting the public health is by hygienic instruction in the schools. Attempts to have such hygienic instruction given by the school medical examiner have not proved successful. Hygienic instruction must, therefore, be turned over to the regular teachers. Such a plan presupposes good hygienic training of the teaching personnel. Selter therefore demands that not only the principals of the public schools but also the whole teaching force be required to pursue courses in hygiene. Teachers must present a more thorough knowledge of anatomy and physiology than has been the case in the past. "Of every skilled workman," the writer says, "the demand is made that he must be familiar with the construction of the machine that he operates, but to teachers we turn over our children—our most valuable possessions—without requiring that they shall be familiar with the human organism." It is well known today that the brain of a child is not an organism of such simple construction as was formerly supposed, and that the mental powers of a pupil are to a great extent dependent on the character of his bodily constitution. Instruction in hygiene should be woven into the whole course of instruction. In the upper classes, special lessons in hygiene can be provided. In the case of the girls, hygienic instruction should be combined with instruction in domestic science, and it should take into account their future occupation as housewives and mothers.

A New Type of Health Certificate

Dr. Crzellitzer, the Berlin social hygienist, has presented to the Berlin Gesellschaft für öffentliche Gesundheitspflege a plan by which the birth certificate, the vaccination certificate, the individual health report of the infant welfare stations and the health report of the school medical examiner may be combined so as to constitute a single health certificate, which he thinks might follow the child not only from the time of his birth until he enters the continuation school, but, on his entrance into industrial life, might be handed on to the health insurance society (Krankenkasse) in which he is registered, in order that it might serve here, as in the schools, to secure a survey of all persons whose health is such as to require governmental control. From the time the child is 3 months old, at which age all Berlin children must be registered in the welfare station of the quarter in which they reside, the health certificate would remain in the hands of the officials of the walfare station. At the age of 6, when the child enters school, it would be handed over to the school. Thence it would be sent automatically to the vocational guidance bureau, whose function it is to give advice on the choice of one's life work, thence to the continuation school, and finally, to the health insurance society. The entries in the health certificate in regard to physical development, family history, diseases undergone, and the like, would give every physician attending the individual the desired scientific background, and every physician called on to pass on disability claims would thus have just the material he needed in order to form an opinion in regard to diet, where the individual should spend vacations, adaptation to various trades and professions; in fact, he would be in a position to give advice even on marriage. Health certificates, after the death of their holders, would be collected in a central bureau, where they would furnish most excellent material for the study of questions pertaining to heredity.

Marriages

JOHN B. BAUGUSS, Surg., U. S. P. H. S., to Miss Anna Schlafendorf of Gloversville, N. Y., at Houston, Texas, February 25.

ABRAHAM LINCOLN BLESH, Oklahoma City, to Miss Beatrice Rogers of Sulphur, Okla., at Ardmore, Okla., January 22.

NEEDHAM BRYANT BROUGHTON, Raleigh, N. C., to Miss Sonia Helen Bell of Wakefield, N. C., March 19.

CHARLES BROWN HUESTIS, Omaha, to Miss Mary Bennett of Brooklyn, at New York, February 21.

BENJAMIN FRANKLIN LORANCE and Miss Pearl Stevenson, both of Auburn, Neb., February 17.

ALLEN HOYT MOORE, Clover, Va., to Miss Faye Allstatt of Kokomo, Ind., March 15.

HARRY WILLIAM ARNDT to Miss Ethel Williams, both of Frazee, Minn., March 19.

Deaths

William Owen Roberts, Louisville, Ky.; University of Louisville, Ky., 1870; Bellevue Hospital Medical College, 1871; aged 72; emeritus professor of surgery and clinical surgery in the University of Louisville; president of the Kentucky State Medical Association in 1914, and of the Southern Surgical and Gynecological Association in 1916; chief surgeon for the Louisville and Nashville Railroad for nearly forty years; died, April 1, from chronic interstitial nephritis.

John Clayton Taylor ⊕ Asst. Surg., Lieut. (j. g.), M. C., U. S. Navy, Norfolk, Va.; Medical College of Virginia, Richmond, 1917; aged 32; entered the U. S. Navy in 1917, and was on duty at Norfolk; was shot and instantly killed by a sentry at the naval base, January 30, when, it is alleged, he disregarded an order to halt.

Hemon Hampton Brown ⊕ Chicago; University of Michigan, Ann Arbor, 1886; aged 57; formerly president of, and professor of ophthalmology in the Illinois Medical College, Chicago; formerly president of the Chicago Ophthalmological Society; died at Orlando, Fla., April 10.

Frank Anderson ⊕ Med. Dir., Capt., M. C., U. S. Navy (retired), Washington, D. C.; College of Physicians and Surgeons in the City of New York, 1874; aged 68; entered the U. S. Navy in 1875 and was retired in 1914; died, March 31, from heart disease.

Frank Lafayette Thigpen, Hookerton, N. C.; Jefferson Medical College, 1917; aged 26; a member of the Medical Society of the State of North Carolina; lieutenant, M. C., U. S. Army, and discharged, Feb. 28, 1919; died, February 27, from pneumonia.

William Thaddeus Gabbert, Fayetteville, Ark.; St. Louis College of Physicians and Surgeons, 1889; aged 53; died in Fort Smith, Ark.; St. Louis College of Physicians and Surgeons, 1889; aged 53; died in Fort Smith, Ark., March 20.

Charles Wilmot Coburn, Philadelphia; Jefferson Medical College, 1893; aged 54; died at Carrizio, N. M., March 29, on board a passenger train en route to California for recuperation following an attack of influenza.

John Coy Farmer ⊕ McKinley, Minn.; University of Minnesota, Minneapolis, 1895; aged 49; founder and superintendent of McKinley (Minn.) Hospital; lieutenant, M. C., U. S. Army, during the World War; died, February 9.

Larned Van Patten Allen, Davenport, Iowa; Rush Medical College, 1912; aged 34; a member of the Iowa State Medical Society; captain, M. C., U. S. Army, and discharged, Dec. 23, 1918; died, March 31, from scarlet fever.

Ransford Everett Van Geisen, Brooklyn; College of Physicians and Surgeons in the City of New York, 1859; aged 84; a practitioner of Brooklyn for sixty years; died, April 1, from pneumonia.

Harry Ferris Taylor ⊕ Mount Clemens, Mich.; Michigan College of Medicine, Detroit, 1886; aged 58; captain, M. C., U. S. Army, and discharged, Dec. 3, 1918; died, March 17, from pneumonia.

Julius Schoenith, Detroit; Michigan College of Medicine and Surgery, Detroit, 1893; aged 70; a member of the Michi-

⊕ Indicates "Fellow" of the American Medical Association.

gan State Medical Society; died, March 6, from cerebral hemorrhage.

Willard Rodney Fitch, Medina, N. Y.; University of the City of New York, 1851; aged 95; assistant surgeon, New York Volunteer Infantry, during the Civil War; died, March 26.

Harry J. Hartz ⊕ Philadelphia; Jefferson Medical College, 1908; aged 38; a member of the staff of Jefferson and Methodist hospitals; died, March 31, from gastro-intestinal disease.

William Henry McIlhaney ⊕ Easton, Pa.; Jefferson Medical College, 1885; aged 65; a member of the local school board for many years; died, March 28, from heart disease.

George Henry Davis, Shiprock, N. M.; Sioux City (Iowa) College of Medicine, 1905; aged 45; lieutenant, M. C., U. S. Army, and discharged, Oct. 26, 1919; died, February 27.

Wharton D. Little ⊕ Maiden Rock, Wis.; College of Physicians and Surgeons, Keokuk, Iowa, 1887; aged 52; died at Bethesda Hospital, St. Paul, March 27, from ascites.

Philip N. Matlock, Minnick, Tenn. (license, Tennessee, 1889); aged 76; a member of the Tennessee State Medical Association; a Confederate veteran; died, March 25.

John Martinez Cardeza, Brooklyn; Long Island College Hospital, Brooklyn, 1906; aged 41; physician to Long Island College Hospital; died, March 30, from pneumonia.

James R. Thompson ⊕ Pittston and Fortyfort, Pa.; Jefferson Medical College, 1877; College of Physicians and Surgeons, Baltimore, 1893; aged 52; died, March 19.

William Richeson, St. Paul; Medical College of Ohio, Cincinnati, 1863; aged 85; surgeon of the Fifty-Third Ohio Regiment during the Civil War; died, March 11.

David M. Currier, Newport, N. H.; Dartmouth Medical School, Hanover, N. H., 1867; aged 80; a member of the New Hampshire Medical Society; died, March 1.

David Gibbs Fleming, Chatham, Ont.; Victoria University, Cobourg, Ont., 1868; L.R.C.P., L.R.C.S. (Edin.), M.R.C.S. (Eng.), 1869; aged 79; died, March 16

Robert James Wilson, Toronto, Ont.; Victoria University, Cobourg, Ont., 1886; L.R.C.P. (London) and R.C.S. (Eng.), 1886; aged 59; died suddenly, March 19.

J. C. B. Foster, Owenton, Ky.; Louisville (Ky.) Medical College, 1877; aged 70; a member of the Kentucky State Medical Association; died, March 26.

Benjamin A. Allan, Louisville, Ky.; Hospital College of Medicine, Louisville, Ky., 1878; aged 62; died, March 31, from hypostatic pneumonia.

Ernest Llewellyn Wrentmore, Warren, Ohio; Western Reserve University, Cleveland, 1901; aged 46; died, February 23, from heart disease.

Lee Hazelwood, Louisville, Ky.; Indiana University, Bloomington and Indianapolis, 1919; aged 33; died, March 26, from heart disease.

William E. Morgan ⊕ La Grange, Ga.; Atlanta (Ga.) College of Physicians and Surgeons, 1898; aged 45; died, March 9, from pneumonia.

Eliza Louise Orleman, Detroit; University of Michigan Homeopathic Medical School, Ann Arbor, 1887; aged 64; died, February 27.

John Nelson Winston, Valley Head, Ala.; University of Louisville, Ky., 1866; aged 82; died, February 26, from arteriosclerosis.

Safford R. Hamer, Denver; Medical College of Ohio, Cincinnati, 1868; aged 83; a veteran of the Civil War; died, about March 25.

George Hazleton Post, Fithian, Ill.; Eclectic Medical Institute, Cincinnati, 1875; died, March 9, following surgical operation.

Henry Colistus Carroll, Canandaigua, N. Y.; College of Physicians and Surgeons, Chicago, 1899; aged 70; died, March 6.

Wilbur Allerd Bumps ⊕ Dexter, Maine; University of the City of New York, 1879; aged 66; died, March 11.

Elebertus Bolink, Seattle; Long Island College Hospital, Brooklyn, 1885; aged 75; died, February 6.

Joseph Henry Ablett, Lansing, Mich.; Cleveland Medical College, 1893; aged 62; died, February 8.

Correction.—The announcement of the death of Dr. H. P. Wilson, THE JOURNAL, April 2, was an error as Dr. Wilson writes (page 1121) that he is still among the living.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

SOME OF LOESER'S INTRAVENOUS SOLUTIONS

Report of the Council on Pharmacy and Chemistry

The Council has authorized the publication of the following report on "Loeser's Intravenous Solution of Hexamethylenamin," "Loeser's Intravenous Solution of Hexamethylenamin and Sodium Iodid," "Loeser's Intravenous Solution of Sodium Salicylate," "Loeser's Intravenous Solution of Salicylate and Iodid," "Loeser's Intravenous Solution of Sodium Iodid" and "Loeser's Intravenous Solution of Mercury Bichlorid," put out by the New York Intravenous Laboratory, Inc.

W. A. PUCKNER, Secretary.

The intravenous solutions of "Hexamethylenamin," "Hexamethylenamin and Sodium Iodid," "Sodium Salicylate," "Sodium Salicylate and Sodium Iodid," "Sodium Iodid" and "Mercuric Chlorid" marketed by the New York Intravenous Laboratory, Inc., are solutions of official substances sold under their official names. They would, therefore, be outside of the scope of the Council, were it not that special and general therapeutic claims are made for them. Such special claims, for instance, are contained in an advertisement in the *Illinois Medical Journal* for Oct. 20, 1920, which gives, under the various drugs, a list of diseases in which the drugs are said to be "indicated." The Council is unable to agree with some of these recommendations. The fundamental objection, however, is the general claim of superiority and safety of the intravenous method.

The intravenous solutions named above would naturally have little sale if such special claims were not made for them. While the claims may not be made directly, they are carried by such display phrases as: "For the progressive physician seeking improved clinical results" and "A safe practical office technique."

The Council continues to hold that intravenous medication, generally, is not as safe as oral medication even with relatively harmless substances (a fact again illustrated by the results of Hanzlik and Karsner 1920, *Journal Pharmacology and Experimental Therapeutics*, **14,** 379), and that it does not give "improved clinical results" except under rather narrowly confined circumstances—namely, if the drug undergoes decomposition in the alimentary tract, if it is not absorbed, if it causes serious direct local reaction or if time is an urgent element. Each intravenous preparation for which advantage over oral administration is claimed, directly or by implication, must be examined from these points of view.

The Council has recognized intravenous preparations which satisfied these requirements. It is evident, however, that hexamethylenamin, sodium iodid and sodium salicylate do not. When given orally they do not undergo material decomposition in the digestive tract, they are rapidly absorbed, they cause no direct local reaction, and in the conditions in which they are used the hour or so which is required for absorption is immaterial, especially as they are used continuously for some time. Mercuric chlorid does indeed produce some local irritation, but there is as yet no convincing evidence that its intravenous injection causes less injury than oral administration. More experience under controlled conditions is needed before the intravenous use of mercuric chlorid can be approved. Especially objectionable are the fixed proportion mixtures of sodium iodid with sodium salicylate and with hexamethylenamin. The dosage of all three drugs has to be adapted to individual conditions. This is impossible when giving them in fixed proportions.

The Council voted not to accept "Loeser's Intravenous Solution of Hexamethylenamin," "Loeser's Intravenous Solution of Hexamethylenamin and Sodium Iodid," "Loeser's Intravenous Solution of Sodium Salicylate," "Loeser's Intravenous Solution of Salicylate and Iodid," "Loeser's Intravenous Solution of Sodium Iodid" and "Loeser's Intravenous

Solution of Mercury Bichlorid" for New and Nonofficial Remedies because they are sold under misleading claims regarding their alleged safety and efficiency. In view of this fundamental objection the individual claims for each preparation were not passed on.

Correspondence

TEST OF PHYSICAL EFFICIENCY

To the Editor:—In a recent issue of THE JOURNAL (March 12, 1921) Captain Scott reports on the use of certain physical efficiency tests—Schneider's and Crampton's—which he compares. He uses as a test for the reliability of these tests their coincidence with the findings of the neuropsychiatry department. It is gratifying to note this evidence of increasing interest in tests of the efficiency of the circulation. After I first presented my test (*Med. News,* Sept. 16, 1905), little attention was given to the subject until 1913, when the work of Foster, Meylan and McCurdy appeared. Kahn and Barringer followed, and during the last five years considerable attention has been given to the subject, including a notable paper by Sewall (*Am. J. M. Sc.* **157**:573 [Dec.] 1919) and Smith (THE JOURNAL **71**:171 [July 20] 1918). These are somewhat summarized by my recent report (*Am. J. M. Sc.* **160**:721 [Nov.] 1921), but it was left to Schneider to assemble most of these tests and melt them together into one index in his work with aviators reported in THE JOURNAL (**74**:1507 [May 29] 1920). Schneider's six tests include two I originally suggested, i. e., the action of the heart rate and the systolic blood pressure on rising from the horizonal to the vertical position, and in addition four additional notations: reclining pulse, standing pulse (both of which are noted in my tests) with the pulse after exercise and its return to normal. It therefore possesses five pulse rate items as against one blood pressure item, whereas my test included one blood pressure and one pulse rate item. The fact that Schneider's index showed a closer coincidence to neuropsychiatry findings than mine is possibly explicable on this basis.

But the strength and weakness of Schneider's index lie in its inclusiveness, although he omits the important evidence of circulatory condition presented by Greupner and developed by Barringer. It is true that the more functional elements of the circulation we can test the better position we hold to determine its efficiency; but when we seek to make an index of the results of all of these tests for the purpose of evaluating the total efficiency of the circulation, difficulties arise. I found it hard enough to adjust two scales of frequencies, i. e., heart rate and blood pressure, to each other with statistical accuracy over a short range, and I do not claim a coincidence of significance beyond a reasonable degree. To make a scale for six different tests and to adjust them to each other, as Schneider has done, for the purpose of making an index, is perhaps more ambitious than some of us care to essay. The much exploited imbalance of the endocrins is little greater than the imbalance of circulation elements when an endeavor is made to harmonize their various records.

To bring the subject up to date and to reestablish a balance against the preponderance of heart rate elements in the Schneider test, one might add as a seventh item the Barringer test; eighth, the action of the diastolic on standing; ninth, the phenomenon of delayed gravity resistance failure reported by Sewall. But perhaps we should not try to assemble the results of various tests in one index. Possibly it would be helpful to the clinician more completely to define the significance of each component.

Schneider and his associates have done a real service in calling to the attention of the medical profession ways in which they may find out more about a case than they ever could by the usual instrumental means alone. The recent report of Brush (*Med. Rec.,* Feb. 17, 1921) emphasizes the fact that there are tremendous variations in the efficiency of the circulation of cardiac cases; and further, the more important fact, that the efficiency of the circulation can be tremendously increased despite the crippled condition of the heart valves. Modern medicine is dealing more with men and women and less exclusively with their lesions. Schneider and Scott have helped this advance.

Let more use be made of tests of the circulation and let us have more new tests.

C. WARD CRAMPTON, M.D., New York.

DR. WILSON PROTESTS PREMATURE ANNOUNCEMENT OF DEATH

To the Editor:—In THE JOURNAL of April 2, the following notice was published:

> **Horace Plummer Wilson,** Whittier, Calif.; Chicago Medical College, 1896; aged 49; captain, M. C., U. S. Army, and discharged, June 20, 1919; died, March 4.

Relative to this report of my demise, I would like to say, that I see no special reason for being in such a hurry over this little trivial incident in my experience, and that since my pseudo-passing on March 4 as stated, I have been enjoying the wonderful climate of this most wonderful country, the various forms of amusement afforded, and find my present status not incompatible with a daily plunge in the municipal swimming pool.

Really, gentlemen, it isn't half bad and I am very glad to be able to assure you that all the misgivings and consternation that haunt your pillow, nightly, in anticipation of this little affair in your lives, are entirely unnecessary. In fact, I am having a most delightful time and can state, as has been said by another individual who found himself in the same very strange and embarrassing situation, that "the reports of my death" have been very much exaggerated. I am very sorry to dissipate the fond dream of some of my confreres by assuring them that it is absolutely bone dry in the place wherein I find myself. Being in the land of flowers, the floral contributions have been all that could be desired.

The letters of condolence that are coming from my personal friends in various states are a source of great comfort and support to my family in this hour of their great affliction.

HORACE PLUMMER WILSON, M.D., Whittier, Calif.

[COMMENT.—We apologize for demising Dr. Wilson in this routine manner. We find that our information was received from the *California State Journal of Medicine,* which we have always found dependable. We are glad that Dr. Wilson takes this premature demise so philosophically—no doubt due to the salubrious climate in which he now resides. The last man to be thus prematurely removed from our midst by THE JOURNAL threatened everything, including legal redress.—ED.]

TREATMENT OF LEPROSY WITH THE DEAN DERIVATIVES OF CHAULMOOGRA OIL

To the Editor:—On Nov. 27, 1920, THE JOURNAL published my paper on "Treatment of Leprosy with the Dean Derivatives of Chaulmoogra Oil: Apparent Cure in Seventy-Eight Cases." As supplementary to that report I wish to add that during the present month, after an examination by a committee of physicians representing the Territorial Board of Health, sixty-four additional patients have been released from Kalihi (Leprosy) Hospital on parole as no longer a menace to the public health, and one hundred and forty-two patients have been paroled since Oct. 1, 1918, not one of whom thus far has suffered a relapse.

J. T. MCDONALD, M.D., Honolulu.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

POLYURIA IN DIABETES MELLITUS

To the Editor:—Please give suggestions concerning the cause of an increasing polyuria in a case of diabetes mellitus. The patient has been under observation for three months, and during that time the twenty-four hour quantity of urine has increased from 8 to 12 pints. The patient has a low carbohydrate tolerance, a high blood sugar percentage, a blood pressure not increased, no albumin or casts in urine, and a normal phenolsulphonephthalein kidney excretion in two hours.

G. A. CHICKERING, M.D., Hutchinson, Kan.

ANSWER.—The phenomenon of increased diuresis in diabetes is commonly identical with that which is produced by intravenous injections of glucose at such rates that there is a heavy excretion of glucose in the urine. Like all other sugars and salts, glucose has a strong affinity for water. Glucose held in the mouth causes an accumulation of water in the mouth. When injected into the bowel in strong solutions, it causes a watery movement, and when it passes from the blood through the kidney, it carries water along with it. Other things being equal, the polyuria of a case of diabetes is usually more or less parallel to the total quantity of sugar that is excreted in a given time. Increasing diuresis usually means increasing excretion of sugar.

However, diabetic patients are very much like normal individuals in respect to the action of other diuretic substances. A diabetic might have a polyuria due to a complication in the nature of diabetes insipidus, pyelitis, the use of too much salt, and so on. The proof of the pudding would lie in putting the patient on diabetic management and making him free of glycosuria. The probabilities are that the hyperdiuresis will disappear when the diabetes itself is controlled. There is no very good reason for allowing an ordinary patient with diabetes to pass sugar constantly in the urine. The possibility that the patient is surreptitiously taking a nostrum for diabetes should not be lost sight of. Most of these nostrums contain diuretics which by further stimulating the already irritated kidneys produce a larger excretion of urine, although without any diminution in the amount of sugar. The greater dilution of the glucose excreted, however, frequently leads those patients who roughly estimate the amount of sugar excretion by means of a urinometer to believe that the nostrum is "curing" their condition.

BOWEN'S DISEASE

To the Editor:—Please furnish me information on the so-called Bowen's Disease, its etiology, diagnosis, bacteriology and roentgen-ray treatment. This disease seems to owe its name to Dr. Bowen of Harvard University.

E. PASCUAL GISPERT, M.D., Colon, Cuba.

ANSWER.—In 1921, Bowen reported two cases of precancerous dermatosis—an atypical epithelial proliferation characterized by the development of pinkish papules covered with a thick horny layer which tend to form rounded nodular lesions. In some instances the little tumors remain discrete; in others, they tend to become grouped or confluent. Histologically the lesions, in some respects, resemble those of Paget's disease. Sutton regards the condition as being the same as dyskératose lenticulaire et en plaques of Darier. Excision or complete destruction of the lesions appears to be the only successful method of treatment.

ALIMENTARY ANAPHYLAXIS

To the Editor:—Please tell me in what number of THE JOURNAL the article by P. Pagniez on his work in prophylaxis of migraine was summarized. Any additional sources of information on that subject will be greatly appreciated.

V. W. DUTTON, M.D., Utica, N. Y.

ANSWER.—No doubt the article referred to is that which appeared in the *Annales de médecine,* Paris, October, 1920. This article described the experiences of Pagniez and Vallery-Ridot with the preliminary ingestion of peptone to ward off alimentary anaphylaxis. The symptoms of such anaphylaxis were described, as transient edema, urticaria, migraine or asthma. A small amount of the harmful food may be taken an hour before the meal, or a tablet of 0.4 or 0.5 gm. of peptone, which the authors say seems to be polyvalent for most of the food substances inducing the disturbances. The summary appeared in THE JOURNAL, Feb. 19, 1921, page 551.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 10. Sec., Reg. Bd., Dr. T. J. Stout, Brinkley. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

KENTUCKY: Louisville, May 10. Sec., Dr. A. T. McCormack, Sixth and Main Sts., Louisville.

LOUISIANA: New Orleans, May 3. Sec., Dr. F. H. Hardenstein, 702 Macheca Bldg., New Orleans.

NEVADA: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

Texas Reciprocity Report

Dr. T. J. Crowe, secretary, Texas State Board of Medical Examiners, reports that 192 candidates, including 26 osteopaths and 2 undergraduates, were granted physician's and surgeon's certificates by reciprocity from Jan. 1, 1920, to Jan. 1, 1921. Four candidates were licensed on Navy and Army Credentials. Seven candidates received verification licenses. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Alabama		(1912)	Alabama
College of Physicians and Surgeons, Little Rock		(1911)	Oklahoma
University of Arkansas	(1903), (1913, 2)	(1918)	Arkansas
University of Colorado		(1913)	Colorado
George Washington University		(1912)	Dist. Colum.
Atlanta College of Physicians and Surgeons	(1903), (1913)		Georgia
Atlanta Medical College	(1895), (1916), (1917, 2)		Georgia
University of Georgia		(1919)	Georgia
Bennett Medical College		(1914)	Illinois
Coll. of Phys. and Surgs., Chicago	(1903) Illinois, (1904)		Oklahoma
Hahnemann Med. Coll. and Hosp. of Chicago	(1906) Illinois	(1893)	Illinois
Illinois Medical College		(1910)	Illinois
Loyola University	(1916) Illinois, (1916), (1917) Illinois		Missouri
Northwestern University		(1907), (1920)	Illinois
Rush Medical College	(1890) Indiana, (1898) (1916) California, (1919) National Board of Medical Examiners.		Michigan,
University of Illinois		(1916)	Illinois
Indiana University		(1908), (1909)	Indiana
Medical College of Indiana		(1900)	Indiana
College of Physicians and Surgeons, Keokuk		(1885), (1887)	Missouri
Iowa College of Physicians and Surgeons		(1898)	Iowa
Keokuk Medical College		(1891)	Iowa
State University of Iowa Coll. of Homeopathic Med.		(1899)	Iowa
University of Kansas		(1906, 2)	Kansas
Hospital College of Medicine, Louisville		(1906, 2)	Kentucky
Kentucky University Med. Dept., Louisville	(1903) Missouri	(1903)	Kansas
University of Louisville	(1892) Oklahoma, (1902) (1903) Mississippi, (1907) Alabama, (1907) Kansas, (1914), (1920) Kentucky		Kentucky
Flint Medical College		(1908)	Louisiana
Tulane University	(1899), (1905), (1912), (1916), (1918), (1919, 6)		Louisiana
Baltimore Medical College		(1906)	Maryland
College of Physicians and Surgeons, Baltimore		(1905)	W. Virginia
Johns Hopkins University		(1917)*	Dist. Colum.
Maryland Medical College, Baltimore		(1906)	W. Virginia
Harvard University		(1917), (1918)	Mass.
University of Michigan Medical School	(1908), (1917) Michigan	(1892)	Ohio
University of Minnesota Medical School	(1903) Minnesota	(1894)	Dist. Colum.
Barnes Medical College	(1902) Illinois, (1903) (1904) Kansas		Missouri
Eclectic Medical University, Kansas City, Mo.	(1906), (1910), (1912), (1914)		Arkansas
Ensworth Medical College	(1904) Kansas, (1904)		Oklahoma
Homeopathic Medical College of Missouri		(1902)	Kansas
Kansas City University of Physicians and Surgeons		(1919)	Nevada
Kansas City College of Medicine and Surgery	(1917, 2), (1918, 5), (1919, 6)		Arkansas
Marion-Sims College of Medicine	(1898) Missouri, (1899)		Illinois
National University of Arts and Sciences		(1918)	Missouri
St. Louis College of Physicians and Surgeons	(1918) Missouri	(1918)	Nevada
St. Louis University School of Medicine		(1914), (1916)	Missouri
Univ. Med. Coll. of Kansas City, Mo.	(1903) Kansas, (1913)		Missouri
Lincoln Medical College		(1897)	Nebraska
Cornell University		(1900)	New Jersey
Long Island College Hospital		(1910)	New York
Syracuse University		(1910)	S. Dakota
University of Buffalo		(1905), (1917)	New York
Leonard Medical School		(1906)	Georgia
Homeopathic Hospital College, Cleveland		(1883)	Ohio
Laurel Memorial Woman's Med. College, Cincinnati		(1901)	Kentucky
Medical College of Ohio		(1894)	Nebraska

Western Reserve University	(1909)	Ohio
Hahnemann Med. Coll. and Hosp. of Philadelphia	(1907)	Penna.
Temple University	(1917)	Penna.
University of Pennsylvania	(1906) New Jersey, (1911) (1914) South Carolina, (1919) Pennsylvania	Virginia
Chattanooga Medical College	(1904) Oklahoma, (1906)	Tennessee
Meharry Medical College	(1918)	Tennessee
Memphis Hospital Med. Coll.	(1895, 2) Arkansas, (1897) (1903) Arkansas, (1911) Mississippi	Louisiana
University of Nashville	(1903) Arkansas, (1905)	Alabama
Universities of Nashville and Louisville	(1910)	Tennessee
University of Tennessee	(1891) Arkansas, (1892) (1897), (1913), (1914), (1916), (1917), (1919) Tennessee, (1919) Arkansas	Kentucky
Vanderbilt University	(1893), (1900), (1910), (1916), (1917), (1918), (1919)	Tennessee
Fort Worth School of Medicine	(1907)	Oklahoma
University of Texas	(1920)	Kansas
University of Vermont	(1884)	Vermont
Medical College of Virginia	(1898) Michigan, (1917)	Virginia
University of Toronto	(1907)	Georgia
Western University	(1909)	Illinois
Bohemian University of Prague	(1883)†	Germany
Two undergraduates		Arkansas

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
St. Louis College of Physicians and Surgeons		(1918)	U. S. Army
Vanderbilt University		(1913)	U. S. Army
University of Texas		(1917, 2)	U. S. Navy

* License not verified.
† Graduation not verified.

Social Medicine and Medical Economics

ESSENTIAL FACTORS FOR GROUP SUCCESS

L. W. MORSMAN, M.D.
HIBBING, MINN.

It is now admitted that modern medicine is so great in scope that no human mind can be adequately trained to cover the entire field with success: hence the specialist. Now there are recognized fifteen distinct specialties, and in some cities there are private practitioners limiting their work to further subdivisions of these fifteen specialties. Few will deny that this is of a distinct advantage and in line with progressive thought and modern development. From this situation has arisen one great difficulty: expense to the patient. To overcome this difficulty, there became associated groups of specialists, working together, and thus the clinic or group medicine was born. This is not to be regretted, for it is only a farther step in the ever upward progress of scientific endeavor. It is not my intention here to take up the manifest advantages, such as closer cooperation, exact diagnosis and encouragement to study, which have been recently and ably set forth,[1] but rather to discuss such factors as are necessary to promote this better method of medical practice and to analyze other factors that have in the last few years rendered attempts at group practice a failure.

Group practice has perhaps been more enthusiastically taken up and developed in the state of Minnesota than elsewhere. Many private practitioners, both general and special, are complaining that once they send a patient to such an organization, this patient is likely to be lost to them; that certain groups do not refer cases back with detailed report and, in many instances, do not refer them back at all; and again, others complain that as soon as a group is under way and apparently making progress, it has a tendency to assume superiority over the general practitioner and does not give him proper recognition.

REQUIREMENTS OF PERSONNEL

In discussing the requirements for success of a group, the personnel should be considered. First, preliminary educational requirements should be a minimum of high school diploma and a combined university and medical course, as now prescribed by most states, leading to the degrees of bachelor of science and doctor of medicine, this to include not less than twelve months' internship in a general hospital. To the group that wishes to be most successful, chiefs of departments should be selected who have had broad experience in the general practice of medicine. The time spent in general practice would depend somewhat on the specialty of the individual, and should be the greatest number of years for the individual who intends to be an internist. A minimum of five years of general practice should be required. This is of the greatest advantage, for during that time the young man has an opportunity for the study of human nature and living conditions that cannot be obtained elsewhere.

Then comes special study The time necessarily spent in the different specialties may vary. However, it is now generally admitted by the leaders in the profession that no man can cover a specialty so that he may be referred to as having a special knowledge of the subject in less than a minimum period of two years, these two years to be spent in the best postgraduate work obtainable.

It is to be hoped that there will be soon a national examining board for each of the distinct specialties, as there is now the national board of ophthalmic examiners, before whom one may voluntarily go and be examined, and if qualified, receive a certificate of special knowledge of ophthalmology that can be accepted by the profession in general. The personal requirements of a member of a group must be those required to obtain a certificate to practice medicine, but in addition he must be a person that can work in harmony with others, a man who is broad enough to admit and respect a superior authority, and one whose chief ambition is to do constantly better work.

ORGANIZATION

In the organization of a group to practice scientific medicine, the size of the group will depend on the community needs. In a community of 100,000 or more, an ideal basis of subdivision would be that of the following specialties: (1) internal medicine; (2) surgery, general and abdominal; (3) obstetrics; (4) gynecology; (5) ophthalmology; (6) otolaryngology; (7) diseases of children; (8) pathology; (9) nervous and mental diseases; (10) dermatology; (11) syphilology; (12) orthopedic surgery; (13) stomatology; (14) gastro-enterology and proctology; (15) dentistry.

For a small community of 5,000, a division of the work among five specially prepared men would be most practical. Let me predict that before a great length of time every county seat town, especially in the more populous states, that has a population of 5,000 or more will have its group and with it a small associated hospital, so that expert service may be given to our entire population without a trip of any great distance from home and with the expenditure only of a reasonable fee. The five specialists for the small group mentioned would be: (1) internist; (2) ophthalmologist and otolaryngologist; (3) general surgeon; (4) orthopedist; (5) pathologist. Necessarily, then, the department of internal medicine would cover nervous and mental diseases, dermatology and syphilology as well. The eye, ear, nose and throat department would also cover stomatology, with perhaps a subdivision of dentistry. The surgeon would cover gynecology, gastro-enterology and proctology, and orthopedic surgery as well as general and abdominal surgery. The orthopedist would cover the closely associated obstetrics. The pathologist would carry out all laboratory work, roentgen-ray diagnosis, bacteriology, blood chemistry, radium treatment and allied subjects. Such a group would have an associated dentist or, depending on conditions, work in conjunction with the two or three dentists already established in the community.

1. Leonard, V. N.: Significance of Group Practice in Its Relation to the Profession and to the Community, J. A. M. A. **76**: 421 (Feb. 12) 1921.

Financial compensation would be in proportion to the scientific endeavor and qualifications of the individual specialist and to the amount of work, time and hours done by him. This absolutely eliminates the common fee or equalization of fees clinic. This has been, of all things, the greatest factor of internal dissension in group practice. In other words, group practice can succeed, particularly in small groups, in smaller communities, only by a group of specialists who are conducting private practice. If, by diligence and extra endeavor, one of the group receives more direct or referred business and his department becomes larger, he should still be the head of this department, and such assistance as neccssary should be hired by him. If, however, his patients become so numerous that it is impossible for him to give them personal and detailed attention, then that department is ready for a subdivision. No assistant in any group, large or small, should have or be allowed the exclusive handling of a case. When it becomes necessary to subdivide a department, as, for instance, adding a department of orthopedic surgery, then such an orthopedist, who has not less than the minimum qualifications mentioned, should be invited to join this group; and, barring his pro rata of the overhead expense, he should have for himself all fees paid for his services.

There must be a centralization of authority, the lack of which has been perhaps the second most common cause of failure of group practice. No business, no organization, regardless of what its endeavors may be, can exist without the members submitting themselves to such authority. In the large cooperative group, where it is owned by individuals, a governing board should be appointed which, in turn, controls a business manager. In small cooperative groups the personnel to succeed in harmony must be such that they are willing to submit gracefully to majority rule.

The golden rule must ever be the standard of a cooperative group in its dealings with the profession at large. The absence of such application of the golden rule has been the largest factor in creating unfavorable impressions on the general practitioner of medicine. The result of such impressions was well protrayed in a recent communication to The Journal.[2]

A cooperative group should, by its actions and deeds, let the professional members of the community know that it considers the family physician the chief in a consultation diagnosis. The case histories should be made up so that the family physician's name and address and whether the patient was referred or not should appear on the first page of the patient's history. A detailed report of the examination, as well as diagnosis and recommendations, should be typewritten and sent to the family physician. When the patient is accompanied by a letter, the family physician's instructions should be carried out, and whether a patient comes direct, or at the recommendation of a nonprofessional friend, if the patient claims a family physician, it would be only professional courtesy for the specialist or specialists of the group to report their findings, that the general practitioner might have the benefit of such knowledge in future care of the family.

THE GENERAL PRACTITIONER—A SPECIALIST

And now, a word as to the general practitioner. He is not losing his own. He will always be filling an important mission in the medical field, and such men who, after, let us say, a five year period have become successful general practitioners and wish to continue their endeavors in that field will, as they have in the past, become specialists through study and application on those particular diseases with which they are daily coming in contact. And the young man who is doing limited work should be led to realize that the sum total of the knowledge and skill possessed by these specialists in general practice is far superior to his.

CHIEF FACTORS FOR GROUP SUCCESS

1. Group practice must be conducted on a cooperative basis.
2. The personnel of the group must be carefully selected as to its professional and personal qualifications.
3. There must be a centralized authority.
4. Specialists should practice as in private practice, but should group themselves together with the advantage of the patient in mind.
5. The organization must be in keeping with the community needs.
6. The golden rule must be the applied ideal in its relation to both the public and the profession.

203 Congdon Building.

2. Reilly, F. S.: The Doctor's Defense, J. A. M. A. **76**: 607 (Feb. 26) 1921.

Miscellany

GLAND TRANSPLANTATION IN SOUTH AFRICA

The wide publicity given to the ideas of Voronoff by newspapers throughout the world has led to the performing in Pietersburg, Transvaal, South Africa, of the operation he suggested. A description of the operation in the *Cape Times* published at Cape Town is sufficiently bizarre to merit special notice.

An elderly farmer, named Ben Knott, who had convinced himself of the efficiency of Voronoff's method decided to submit himself to the operation. His faith in the operation appears to have been influenced by an article which appeared in the *Star* describing Voronoff's work. Mr. Knott is a man of fine physique and had been blessed throughout life with excellent health, but he "found his vitality" appreciably diminishing or to quote his own words "he did not feel as he used" and therefore decided to be inoculated with the interstitial gland of a monkey. Several times he consulted his medical adviser in Pietersburg, Dr. Clarence Andrew, who at first regarded the idea as somewhat of a joke, but finally Mr. Knott presented himself at the office of Dr. Andrew accompanied by a large male baboon. "Having assured himself that the patient was quite serious and that the monkey was free from disease," says the *Cape Times,* "the doctor consented to perform the operation at the local hospital, whither Knott proceeded with the ape. When he presented himself at the institution quite a sensation followed. Staff nurses fled in all directions out of sight of the baboon, but Knott calmly remained by his charge and they were eventually conducted to the operating theater. Here also there was a panic when it was decided that the gland should be removed from the monkey without its being killed. Some half dozen hefty natives being requisitioned to tie the monkey up, the animal menacingly gnashed its teeth and assumed an undoubtedly hostile attitude." . . . "Ultimately, in order that the operation might be conducted under ideal conditions, it was deemed advisable to terminate the ape's existence. . . ." The patient being anesthetized the doctor, assisted by three nurses, proceeded with the surgical work. The monkey's glands were speedily removed, and as equally quickly they were grafted into the tissues of the abdomen. It is stated that Knott reacted to the introduction of a foreign body for a few days. Then his temperature and pulse becoming normal on the sixth day following the operation, he declined to remain in the hospital any longer declaring he was in excellent health. Knott, who is of English descent, is a married man with a wife and family, and claims that as a result of the operation there has been a great improvement in his constitution. This, he asserts, is due to the implantation of the monkey's gland and further claims that there has been a vast improvement in his sight, as he can now read newsprint, which he could not do heretofore without the aid of glasses.

The report appeared within a short time after the operation and ultimate results are awaited.

Book Notices

French-English Medical Dictionary. By Alfred Gordon, A.M., M.D., Neurologist to Mount Sinai Hospital. Cloth. Price, $3.50 net. Pp. 161. Philadelphia: P. Blakiston's Son & Co., 1921.

French literature is not studied in this country as much as its importance justifies. Therefore, a medical French-English dictionary is exceedingly welcome. We regret, however, the presence in this book of many defects which are certainly serious in a work on which one depends for accuracy. Unnecessary space has been consumed in giving at length definitions that are supposedly familiar to any medical reader. Random illustrations to the point are abasia, Addison's disease, neoplasia, prodrome and sassafras. Many other words have not been translated but defined, not always accurately. Take, for example, *abstéme* (abstinent, teetotaler) *autolyse, epulie, gingivite, neosalvarsan, saprophyte, serre-fine, strongle* (mispelled, by the way), *des bronches* (strongylus apri), *veille* (wakefulness), *smegma, yaws* (frambesia), a word not so French, either. In still other cases the word that best expresses the English meaning has been left out, as in *abaissement* (sagging, ptosis), *accéleration* (rapidity, quickening), *acinus* (acinus), *adipocire* (adipocere), *pelade* (pelade or alopecia areata), *mal d'oreilles* (earache), *nictation* (nictitation), *procidence* (procidentia), *régles* (period). Some words are misplaced. There is no good reason for capitalizing words which are not proper nouns. Another questionable innovation is the introduction of the names of some authors, such as Avelis, Bichat, Pasteur, especially when others of equal prominence are left out, such as Charcot, Fournier, Laënnec. The key to the pronunciation is somewhat complicated and not very clear or exact. The pronunciation of "e" is said to be like that of "e" in the word never; of "i," like that of English "e," and farther on like "ea" in "teamster"; and of "u" like the English "u." The book is well printed, on good paper, and should prove useful, as it fills a long felt need.

Tice's Practice of Medicine. In ten volumes; Volumes 1, 2, 3, 4, 9, 10. Editor-in-Chief, Frederick Tice; Advisory Editor in Medicine, Luther F. Warren; Advisory Editor in Neurology, Julius Grinker. Price, $115. Pp. 7,000, with illustrations. Hagerstown, Md.: W. F. Prior Company, Inc.

One thing that strikes the reader of this system is the large number of new names in the list of contributors. Some of the names are entirely unknown to us. This absence of the better known writers, however, does not by any means imply that the articles are of inferior quality. On the contrary, many of them show a care in their composition that is sometimes lacking from the article of the writer who pauses just long enough from his arduous duties as professor, practitioner or research worker, to recast hurriedly some of his old ideas that he has more than once expressed in different books and periodicals. It is a good thing once in a while to have the fresh young blood of the assistant professor or the instructor injected into such a collection of monographs as this.

We have heard of the physician who, as Ziemssen's "Encyclopedia of Medicine" was published, read each volume as it appeared. We have not done that with Tice's system either for our own edification or for the purpose of reviewing the several articles in detail. We have read some articles in their entirety, others partially, and have at least glanced at all. As a result of this perusal we may say that we regard these volumes as a whole as creditable and well worth while. Naturally the articles are of unequal merit; that is the inevitable character of multiple authorship. But the average is good. Certain articles are practical and condensed, with unnecessary details cut out. Such are Stitt's article on malta fever, and Mosenthal's on diabetes. Others are long and encyclopedic, as those of Max Kahn on functional diagnosis. One may wonder why he devotes twelve pages to the virtually discarded subject of cryoscopy of the urine; yet it has a certain value, historical value at least, in a work that is intended to be a work of reference.

There is an evident attempt to make the system of value to the general practitioner. This is seen especially in the emphasis placed on treatment. This is in many of the articles very full indeed, in fact, too full of drugs, serums and vaccines to be to our personal liking. But suggestions as to what to do are what the physician wants, and he will find such suggestions here, with the drugs and other remedial agents pointed out in boldface type. Where treatment by drugs is of supreme importance and where the manner of giving the drug is a matter of great moment, minute details are essential. We cite as especially praiseworthy in this respect the discussion by Lespinasse of the treatment of syphilis. Details are full enough to enable the general practitioner to give safely and efficiently mercury by mouth, by inunction, or by the hypodermic route, or to give arsphenamin.

Of interest is the history of medicine covering about 100 pages of Volume I. Also there is an unusually well-written article by Byfield on case history taking. There are helpful bibliographies to all the articles. There are, so far as we have observed, no outstanding monographs that bid fair to become classic, as did some of those in Nothnagel's system. There is too much of an effort to make the book a ready reference book for the practitioner, and there is too much of a necessity of fitting the article into a rather cramped space. But the average is good and the volumes fulfil their purpose. The loose-leaf feature, as seen in Tice's system and in others that are now being published, is to be given a trial. Whether it will be regarded as a success will be determined in the future. We have grave doubts whether the special features of this system will survive more than a very few years. These features are new pages of new material issued periodically for insertion in the volumes, the monthly medical digest, a medical research service, and a complete desk index.

Mental Disorders Briefly Described and Classified with a Few Remarks on Treatment and Prevention. By Charles B. Thompson, M.D., Medical Director of the Mental Hygiene Society of Maryland. Paper. Price, 75 cents. Pp. 48. Baltimore: Warwick & York, 1920.

This syllabus is recommended especially to teachers who want a short summary of the various types of mental disorders about which to group their lectures. The first part, concerned with the mental disorders with definite injury to brain tissue, enumerates the various states in which mental disorders frequently occur, and gives a short description of the form of the disorder to be expected. No attempt at analysis of the genesis of these disorders is attempted. The second part, on mental disorders explicable in psychologic terms, begins with a short introduction calculated to lead the reader away from the mystical, inexplicable conception of instanity. Manic-depressive, atypical depressions and excitements, paranoia and the simple, hebephrenic, catatonic and paranoid forms of dementia praecox are briefly described. There is a short discussion of the causes of dementia praecox from the standpoint of the psychogenists. The neuroses are also discussed from the same point of view, though the author begins this discussion with the statement that "these states are quite different from any of the foregoing" (the psychoses). Treatment, including prevention, is covered in less than four pages. The author recommends laying the matter before the patient as completely as possible so as to allow of an improvement in adjustment wherever possible. There is no attempt made at a thorough presentation of the arguments of the psychogenetic school; the statements that are made are already worded and easily understood.

Tratado Práctico de Radiología. Por el Dr. Carlos Heuser. Paper. Pp. 498, with 265 illustrations. Buenos Aires: La Semana Médica.

The author has endeavored to set down as specifically as possible every technical detail. The first chapter, for instance, comprises a set of simple rules, illustrated with fifty-eight photographs, taking up successively the roentgenography of the various parts of the body. Other chapters are devoted to laboratory equipment, technic, procedure, interpretation of roentgenograms, etc. The last chapter describes Dr. Heuser's own apparatus for the localization of foreign bodies. This book, by the most prominent Argentine roentgenologist, serves well its purpose, containing numerous helpful hints by a man who knows every angle of his subject. The list of references seems to have been carelessly prepared, and the literary style of the book might be improved to advantage.

Medicolegal

When Entitled to Medical and Hospital Aid

(Chicago-Sandoval Coal Co. v. Industrial Commission et al. (Ill.), 128 N. E. R. 567)

The Supreme Court of Illinois says that, Sept. 10, 1918, an employee of the coal company received an injury as the result of a strain while attempting to lift a coal car that had left the track. He continued to work at his usual employment, however, until January, 1919, when it became necessary for him to go to a hospital and submit to an operation. The company contended that it was not liable for the medical, surgical and hospital services because none were rendered or requested within eight weeks from the date of the injury. The workmen's compensation act of Illinois provides that the employer shall provide necessary first aid and medical, surgical and hospital services; also medical, surgical and hospital services for a period not longer than eight weeks, not to exceed the amount of $200; but the employee may elect to secure his own physician, surgeon or hospital services at his own expense. It is evident from these provisions that the legislature did not intend that the eight weeks should necessarily be confined to the time immediately following the injury. Nor could such construction be reasonably put on the statute, as it frequently occurs, as in this case, that the results of the injury do not develop to such an extent as to require medical, surgical or hospital services for a considerable period of time after the injury is received; and to hold that such services are to be supplied only within the first eight weeks following the injury would, in many instances, limit such services to but a part of eight weeks, and in other cases prevent recovery for such services altogether. It is evident that the legislature intended that the medical, surgical and hospital services for which the employer is liable must be necessitated by the injury, but that such liability is not limited to the eight weeks immediately following the injury, where the necessity for such services does not arise immediately following the injury. But the applicant should show knowledge on the part of the employer of facts from which the latter might reasonably be presumed to know or believe that such services were necessary; or he should show a request therefore on his part. The industrial commission did not err in awarding, in this case, $200 for medical, surgical and hospital services.

City Not Liable for Wrongful Acts of Officers

(Franklin v. City of Seattle (Wash.), 192 Pac. R. 1015)

The Supreme Court of Washington, in affirming a judgment dismissing the plaintiff's action for damages, holds that the defendant city was not liable for the alleged wrongful arrest, detention and treatment of the plaintiff. The court says that the complaint alleged that the defendant had created and maintained a board of health and a department of police; that those two departments conspired together to arrest certain persons accused by them of having some infectious or contagious disease; that it was a part of the conspiracy that, when the police had caused the arrest, the person so arrested would be placed in the city jail, and turned over to the board of health, which would make blood tests and give treatments for diseases which the person under arrest did not have, and under pretense of such treatment, and the necessity therefor, would keep such person in confinement in the board of health department of the jail for long periods. Continuing, the complaint alleged that police officers of the city unlawfully and maliciously entered the home of the plaintiff, and, without having any warrant therefor, arrested her and forcibly took her into custody and to the city jail, and there falsely and maliciously caused her to be charged with being a disorderly person, and set opposite her name the letters "B. T.," meaning "blood test"; that as a part of the conspiracy the health officer took charge of her, and forcibly took from her arm quantities of blood for the pretended purpose of making a blood test; that thereafter the health officer maliciously and falsely charged her with having an infectious and contagious disease, when, in fact, she had no such or other disease, of which fact the health officer had full knowledge; and that, without authority of law, the plaintiff was maliciously confined in jail, with other prisoners, for more than a year. In short, the charge was that the city police unlawfully and without cause arrested the plaintiff and put her in jail, and then turned her over to the city health officer, who made a blood test and falsely found that she had a certain disease, and kept her in jail for more than a year, and that all of this was done falsely, wrongfully and maliciously. The question was: Did these facts state a cause of action against the city? The court does not think that they did. The only direct connection that the city had with these transactions was that it created the board of health and appointed its officers, and created the police department and made appointments thereto and owned the jail. Every other thing was done by the health officers and the policemen. They, and they alone, were guilty, if any one was, of all the wrong, fraud, conspiracy and maliciousness charged in the complaint. Under these facts the city was only discharging a governmental duty cast on it by the state, and was not liable. The same immunity applies in the case of the quarantining of persons because the city in that instance is engaged in the duties of the state and acting for it. While the courts are not altogether in agreement as to where the line should be drawn, showing when a municipality is and when it is not in the performance of a purely governmental duty, the court's attention was not called to a single adjudicated case in which the facts were similar to those involved here, which did not hold as the court here decides; and it has no doubt that the trial court was right in dismissing the case.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.

Alabama, Medical Association of the State of, Montgomery, April 19-21.
American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2-3.
American Association of Physicians, Atlantic City, May 10-11.
American Climatological and Clinical Association, Lenox, Mass., June 3-4.
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston 3-6.
American Society for Clinical Investigation, Atlantic City, May 9.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Arkansas Medical Society, Hot Springs, May 3-5.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
California, Medical Society of the State of, San Diego, May 10-12.
Conference of State and Provincial Health Authorities, Boston, June 3-4.
Connecticut State Medical Society, Hartford, May 18-19.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Illinois State Medical Society, Springfield, May 17-19.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Iowa State Medical Society, Des Moines, May 11-13.
Kansas Medical Society, Wichita, April 26-28.
Louisiana State Medical Society, New Orleans, April 19-21.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-28.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Mississippi State Medical Association, Laurel, May 10-11.
Missouri State Medical Association, St. Joseph, May 17-19.
Nebraska State Medical Association, Lincoln, May 9-12.
New Hampshire Medical Society, Concord, May 25-26.
New Mexico Medical Society, Albuquerque, April 28-30.
New York, Medical Society of the State of, Brooklyn, May 3.
North Carolina, Medical Society of the State of, Pinehurst, April 26-28.
North Dakota State Medical Association, Fargo, May 26-27.
Ohio State Medical Association, Columbus, May 3-5.
Oklahoma State Medical Association, McAlester, May 17-19.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
South Carolina Medical Association, Columbia, April 19-20.
South Dakota State Medical Association, Aberdeen, May 24-26.
Texas, State Medical Association of, Dallas, May 10-12.
Western Electro-Therapeutic Association, Kansas City, Mo., April 21-23.
West Virginia State Medical Association, Charleston, May 24-26.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Hygiene, Baltimore

March, 1921, **1**, No. 2

*Experiments on Carriage of Intestinal Protozoa of Man by Flies. F. M. Root, Baltimore.—p. 131.
*Comparative Study of Hemolytic Streptococci from Milk and from Human Lesions. R. C. Salter, Baltimore.—p. 154.
Problem of Plague in United States. G. W. McCoy, Washington, D. C. —p. 182.
*Relation of Certain Carrier Conditions to Virulence of Hemolytic Streptococci. L. C. Havens, Baltimore and M. L. Taylor, Iowa City. —p. 192.
*Real Risk-Rate of Death to Mothers from Causes Connected with Childbirth. W. T. Howard, Jr., Baltimore.—p. 197.
*Bacterial Content of Telephones with Special Reference to Respiratory Pathogens. C. C. Saelhof, Chicago.—p. 234.
*Vitality and Viability of Hemolytic Streptococci in Water. G. S. Livingston, Chicago.—p. 239.

Intestinal Protozoa Carried by Flies.—The results of Root's observations emphasize the importance of flies as carriers of disease-producing organisms from human feces to human food, and second, because they define more exactly the limits of such carriage, in so far as the cysts of intestinal protozoa are concerned. Flies feeding on a human stool containing cysts or free forms of intestinal protozoa will take large numbers of them into their intestines and deposit them again in their own feces. Since all stages of the protozoa are killed within a few minutes by drying, such fly feces are only dangerous to human beings when deposited on moist or liquid foods. A fly which has once ingested fecal material containing protozoa may deposit feces of its own which contain the infective forms of the protozoa at any time, from a few minutes after feeding until the most resistant forms, the cysts, are dead. The experiments reported show that the time of survival varies for the cysts of different species of protozoa. If a fly containing cysts is drowned in water, milk, soup or other liquid food, the cysts will live still longer, about a week, and there seems to be a possibility that human beings might be infected by swallowing such drowned flies.

Hemolytic Streptococci in Milk.—Salter found that hemolytic streptococci which differ in many respects from human pathogenic streptococci occur quite generally in raw and pasteurized milk. A large number of these strains behaved alike in a series of tests, and, therefore, they seem to form a hemogeneous group or species. The most constant difference between the two groups is the failure of the milk strains to ferment saccharose. The milk hemolytic streptococci are not pathogenic for mice and virulence cannot be demonstrated even by successive passages. The difference in thermal death rates differentiates the milk and pathogenic strains. With a very large number present it is possible for pathogenic streptococci to survive pasteurization at 60 C. for thirty minutes. The number of survivors is undoubtedly very small, but they are able to produce a culture virulent for mice. Higher pasteurizing temperatures would give a better margin of safety. Successive heating of pathogenic streptococci does not result in the production of a heat resistant strain. Hemolytic streptococci resembling the pathogenic type in every respect were isolated from certified milk. They are of low heat resistance and could readily be destroyed by proper pasteurization.

Tonsillitis Patients Carriers of Hemolytic Streptococci.—It is shown by Havens and Taylor that a large percentage of patients with acute tonsillitis become chronic carriers of hemolytic streptococci, as evidenced by cultures of tonsils removed from three to six months following the acute attack.

Death Rate Among Mothers Due to Childbirth.—The average percentage of still to total births in the United States Birth Registration Area for 1918 was 3.44. In Kentucky, Maryland, North Carolina and Virginia it was 4.07. The highest percentage during the years 1915-1919 was in Baltimore, 6.05 for whites and 13.28 for negroes, an average of 7.44. During the same period the percentage in Stockholm was 2.16; in New York, 4.38; in Philadelphia, 4.39; in Boston, 3.60; in Birmingham, 3.24. In the birth registration area of the United States for 1918, the total rate was more than double that for England and Wales calculated on live births alone, and this, Howard claims, is due to the great excess in the United States rates for puerperal albuminuria, convulsions, septicemia and accidents of pregnancy and labor. The total rate in urban communities was considerably greater (10 per cent.) than that in rural communities.

Bacterial Content of Telephones.—Hemolytic streptococci were isolated by Saelhof in 15.9 per cent., the diphtheria bacillus in 2 per cent., and the pneumococcus in 1 per cent., from the transmitters and receivers of ninety-four telephones. Of eleven strains of hemolytic streptococci isolated 90.0 per cent. were virulent for rabbits. Saelhof urges that sterilization of telephones should be practiced to prevent the spread of virulent organisms. Cleansing with soap and warm water and subsequent sterilization in mercuric, chlorid, compound solution of cresol, etc., for a period of ten minutes, is recommended. In speaking, the mouth should not come in direct contact with the transmitter. The public should be taught how to use the telephone hygienically.

Viability of Hemolytic Streptococci in Water.—Livingston found that hemolytic streptococci, when placed in water, remain alive for a variable length of time, depending on their number, on the temperature, on the presence of other organisms, and on virulence. They are capable under special conditions, of retaining their vitality for a long time, but under natural conditions, if placed in water, they will succumb quite rapidly, especially if recently isolated.

American Journal of Medical Sciences, Philadelphia

March, 1921, **161**, No. 3

*Importance of Recognizing and Treating Neurosyphilis in Early Period of Infection. J. A. Fordyce, New York.—p. 313.
*Effect on Blood Pressure and Nonprotein Nitrogen in Blood of Excessive Fluid Intake. J. L. Miller and J. L. Williams, Chicago.—p. 327.
Problems Concerning Urinary Calculi. E. L. Keyes, New York.—p. 334.
Experimental Studies in Diabetes: Series II. Internal Pancreatic Function in Relation to Body Mass and Metabolism. F. M. Allen, New York.—p. 350.
*Pulmonary Sequels of Influenza. M. Fishberg, New York.—p. 365.
Study of Case of Unexplained Low Carbon Dioxid Combining Power of Blood. L. Jonas and O. H. P. Pepper, Philadelphia.—p. 383.
*Empyema Thoracis: Analysis of Fifty-Six Cases. J. Wynn, Boston.—p. 387.
Experience with Certain Physical Efficiency and Low Oxygen Tests. E. C. Schneider, Middletown, Conn.—p. 395.
*Saccular Aneurysm of Descending Thoracic Aorta. E. S. DuBray, San Francisco.—p. 407.
Silver Salvarsan in Treatment of Syphilis. C. M. Walson, U. S. Army. —p. 418.

Treatment of Neurosyphilis.—A prolonged study of early cases of neurosyphilis as regards the therapeutic response of the fluid changes to treatment has convinced Fordyce that, on the one hand, are superficial types rapidly curable, and, on the other, deeper ones which yield only to prolonged treatment. In their therapeutic response and fluid formulas the latter are probably of the preparetic type which without treatment would eventually result in degenerative encephalitis. A definite and constructive plan for the prophylaxis of the degenerative stage of syphilis of the central nervous system and its treatment in the initial stages can only be devised by a study of the infection in its inception. Syphilis of the nervous system probably begins in the first year of the infection. Early neurosyphilis may manifest itself by obtrusive symptoms by slight objective signs or by asymptomatic. Treatment by the usual channels may control the obtrusive symptoms. It seldom cures the underlying infection. Symptoms, at times, develop during or shortly after intensive courses of arsphenamin and mercury. If not cured these early infections may persist and cause late neurosyphilis. No case of syphilis should be discharged without the knowledge gained by examination of the spinal fluid. In case no evidence of infection is found, a prognosis of probable future immunity may be made. If infection exists, it should be treated by methods shown by experience to be effective. Fordyce is convinced by an experience of seven years in the use intra-

spinal therapy that practically all cases of early neurosyphilis can be cured more rapidly, and in the majority of cases only cured by the combined intravenous and intraspinal method.

Effect of Excessive Fluid Intake on Blood Pressure.—Miller and Williams state that in patients with hypertension and presumably chronic interstitial nephritis, large amounts of fluids may cause a very decided increase in blood pressure. Whether this rise occurs depends on promptness with which the kidneys function in excreting water. In three cases studied the taking of large amounts of fluid daily for a period of six days was without effect on the urea nitrogen in the blood. In two of these three cases the uric acid in the blood was definitely lessened. This was probably due to the treatment as following its discontinuance there was an increase to the previous level.

Pulmonary Sequels of Influenza.—Fishberg emphasizes the fact that in many patients attacked by acute epidemic influenza certain sequels are left in the respiratory tract after the acute disease had run its course. A large number remain with subacute rhinopharyngitis some with general bronchitis, and now and then the residual lesion is a localized bronchitis. When the latter affects an upper lobe of the lung, it is very difficult to differentiate it from pulmonary tuberculosis. When these sequels are instrumental in keeping the patient weak and debilitated for weeks and months, which is often the case, this, in addition to the cough and expectoration, may lead to a diagnosis of pulmonary tuberculosis. More serious pulmonary lesions are bronchiectasis and lung abscess which have increased in frequency since the last pandemic of influenza. Bronchiectasis remains in cases in which influenza was complicated by pneumonia or pleurisy or both. The diagnosis is at times very difficult mainly because of the ancient notion that influenza is a strong predisposing factor to tuberculosis. When the lesion is found strictly localized in one of the lower lobes of the lungs, and this is the case in the majority tuberculosis should be excluded for this reason alone. In those in whom the lesion is in an upper lobe, only repeated sputum examination decided, though the fact that the disease began with influenza that emaciation is not pronounced, that fever is lacking, the pulse rate is normal, and that there is obtained clear resonance above the clavicle, etc., should be counted against tuberculosis. The more severe lesions in which pulmonary abscess remains after influenza, the diagnosis may be made along the same lines as in bronchietasis, and in addition note should be made of the fact that the sputum is abundant, at times fetid, the fever continuous or undulating, the pain in the chest and the physical signs, all of which combine to clear up the diagnosis. If several examinations of the sputum fail to disclose tubercle bacilli the diagnosis may be safely made. Leukocytosis, with an increased proportion of polymorphonuclear cells, has the same significance.

Empyema Thoracis.—In a series of fifty-six cases of empyema analyzed by Wynn, the mortality has been 7.1 per cent. Most cases followed pneumonia, though injury, pertussis, measles, etc., have also been antecedent conditions. Twenty per cent. had familial tuberculosis but a negligible percentage gave personal history of pulmonary predisposition. The treatment of acute cases in this series has been palliative aspiration until cicatrical exclusion of the general pleural cavity has made rib resection the operation of safety and choice. Sixty per cent. of these cases have had rib resections—usually the seventh or eighth in the midaxillary or posterior axillary or posterior axillary lines. The average postoperative hospital residence has been four and a half half weeks, the posterior axillary line cases leaving the hospital first. In chronic empyema the aim has been cavity obliteration by subperiosteal rib resection and at times parietal pleura extirpation. The mortality with this plan of treatment is 9 per cent. in eleven cases.

Aneurysm of Descending Thoracic Aorta.—A case of descending thoracic aneurysm is presented by DuBray which had ruptured directly into the left lower lobe and left pleural cavity. The physical signs were misleading and the clinical diagnosis was incorrect. A roentgen-ray study was not made. The literature on this subject is reviewed.

American Review of Tuberculosis, Baltimore

March, 1921, **5**, No. 1

Roentgenographic Pathology of Pulmonary Tuberculosis. J. B. Amberson, Jr., Loomis, N. Y.—p. 1.
*Absorption of Acacia from Pleural Cavity of Normal and Tuberculous Rabbits. H. J. Corper and O. B. Rensch, Denver.—p. 49.
*Tonsillar Route of Infection in Pulmonary Tuberculosis. J. G. Van Zwaluwenburg and G. P. Grabfield, Ann Arbor, Mich.—p. 57.
Consolidated Medical Report Covering Discharges from Thirteen Minnesota County Sanatoria. R. Bosworth, St. Paul.—p. 66.

Absorption from Pleural Cavity.—The absorption from the pleura in normal and tuberculous animals of some colloidal substance resembling in many particulars the proteins of pleural effusion was investigated by Corper and Rensch. There was found to be no difference in the absorption of 7 per cent. acacia in saline solution, without or containing a suspension of virulent human tubercle bacilli, after intrapleural injection in rabbits both normal or previously sensitized by the subcutaneous or intravenous injection of the same culture of virulent human tubercle bacilli. There is no evidence in these experiments to prove that in the rabbit tuberculous pleural effusions or empyemas were more prone to form in animals previously sensitized with the same culture of living virulent human tubercle bacilli than in those animals which did not receive a sensitizing injection. These and previously reported observations do not agree with those of Paterson concerning tuberculous pleural effusions in the rabbit.

Tonsil Route of Infection in Pulmonary Tuberculosis.—A shadow that Van Zwaluwenburg and Grabfield believe represents a thickening of the pleura over the apex of the lung is described and its relationship to tonsillar and cervical gland tuberculosis was studied. Such an apical pleuritis is seen in at least 10 per cent. of all roentgen-ray examinations of the chest coming to the university hospital laboratory. It occurs most frequently in cases showing tuberculous deposits in the faucial tonsils (93 per cent.). With the cervical gland tuberculosis this lesion is recognizable in 59 per cent. of all cases and probably occurs in a larger number, being obscured by the shadows of pulmonary tuberculosis, 71 per cent. in this group showing either this lesion or frank tuberculosis of the lung or both. Cases without tuberculosis of the tonsil show an apical pleuritis in only 11 per cent. of the cases. It is suggested that common route of infection may lie through the tonsil and cervical lymphatics to the apical pleural and thence into the lung. This hypothesis offers a singularly satisfactory explanation for the frequency of apical lesions, the predominance of right-sided lesions, of the pathogenesis of tuberculous pleurisy with effusion and other obscure feature of this infection.

Annals of Surgery, Philadelphia

March, 1921, **123**, No. 3

Ligation of External Iliac Artery and Vein Above and Below a Communicating Bullet Wound of These Two Vessels. G. P. La Roque, Richmond, Va.—p. 265.
Cancer Infection. A. J. Ochsner, Chicago.—p. 294.
Carcinoma of Kidney. J. T. Pilcher, Brooklyn, N. Y.—p. 301.
Carcinoma of Pelvis of Kidney. A. McGlannan, Baltimore.—p. 310.
End Results of Operations for Bony Ankylosis of Jaw. W. P. Carr, Washington, D. C.—p. 314.
Laryngeal Function in Thyroid Cases. E. S. Judd, Rochester, Minn.—p. 321.
*Gastric and Duodenal Ulcers. C. H. Mayo, Rochester, Minn.—p. 328.
Subphrenic Pyopneumothorax; Subphrenic Abscess. R. Winslow, Baltimore.—p. 338.
*Technic of Hepaticoduodenostomy; Reconstructive Surgery of Biliary Ducts. D. C. Balfour, Rochester, Minn.—p. 343.
Analytical Study of Fifty Cases of Ureteral Stricture and Pyclitis. J. N. Baker, Montgomery, Ala.—p. 348.
*Exstrophy of Urinary Bladder with Carcinoma. W. E. Lower, Cleveland.—p. 354.
Operative Treatment of Gonorrheal Epididymitis. C. S. Vivian, Phoenix, Ariz.—p. 357.
Compression Fracture of First Lumbar Vertebra with Delayed Symptoms (Kuemmel's Disease). R. V. Gorsch, New York.—p. 360.
Roentgenographic Studies of Bronchiectasis and Lung Abscess after Direct Injection of Bismuth Mixture Through Bronchoscope. H. L. Lynah and W. H. Stewart, New York City.—p. 362.
Technic for Removal of Foreign Bodies Under Direct Fluoroscopic Guidance. L. W. Grove, Atlanta, Ga.—p. 372.

Gastric and Duodenal Ulcers.—In an investigation at the Mayo Clinic of the results of operation in a large series of cases of gastric and duodenal ulcers it was found that the average death rate for the four year period after operation in

patients with gastric ulcers was slightly more than three times the normal, while in patients with duodenal ulcers it was, if anything, less than normal. The series consisted of 2,431 patients and all but 108 were traced. Gastric ulcers may give greater discomfort than duodenal ulcers, and because of the danger of malignant degenerations, they should be destroyed at the time of the operation unless the procedure would add unwarranted immediate risk. While blocking the pylorus has been recommended in addition to gastro-enterostomy and practiced, Mayo says the procedure was unnecessary and is now obsolete. In the surgical treatment of ulcer there has been applied a well known principle of agriculture: an acid and continuously wet soil is tile drained and its surface limed. In fact, the surgical treatment of ulcer is the best recognition of the value of medical treatment in permanently overcoming delay or obstruction and lowering the acidity with the patient's own alkalies.

Hepaticoduodenostomy.—The technic described by Balfour provides a large opening in the duodenum and a mucomucous union for two thirds or at least one half the circumference of the hepatic duct stump. These provisions, together with the method of suturing the opening in the duodenum to the liver, allow for contraction and obviate the danger of secondary stricture, so that obstruction does not take place.

Exstrophy of Urinary Bladder and Carcinoma.—In Lower's case it is believed the carcinoma was caused by the wearing of a metal device invented by the patient for catching the urine.

Archives of Neurology and Psychiatry, Chicago

April, 1921, **5**, No. 4

Description of Some Dissections of Internal Capsule, Corona Radiata and Thalamic Radiation to Temporal Lobe. S. W. Ranson, Chicago.—p. 361.
Anatomic Study of Inferior Longitudinal Fasciculus. L. E. Davis, Chicago.—p. 370.
Abnormal Mental States Encountered in a Detention Prison. M. Keschner, New York.—p. 382.
Tropical Neurasthenia, Tropical Hysteria and Some Special Tropical Hysteria-like Neuropsychoses. W. E. Musgrave, San Francisco.—p. 398.
Spinal Forms of Epidemic Encephalitis. H. A. Riley, New York.—p. 408.
Clinical Classification of Intracranial Tumors. P. Bailey, Boston.—p. 418.
Dandy Method of Localizing Brain Tumors by Roentgen Ray. K. A. Menninger, Topeka, Kan.—p. 438.

Arkansas Medical Society Journal, Little Rock

March, 1921, **17**, No. 10

My Idea of Function of County Medical Society and Duties of Officers and Members. T. Cothern, Jonesboro.—p. 191.
Importance of Early Diagnosis and Treatment of Syphilis. O. C. Butler, England.—p. 193.

Boston Medical and Surgical Journal

March 24, 1921, **184**, No. 12

When to Open Knee-Joints. H. W. Marshall, Boston.—p. 291.
Energy Requirements of Girls from 12 to 17 Years of Age. F. G. Benedict and M. F. Hendry, Boston.—p. 297.
Production of Agglutinins in Typhoid Fever. R. A. Kilduffe, Pittsburgh.—p. 306.
*Acute Empyema Complicated by Whooping Cough. W. R. Morrison, Boston.—p. 307.

Empyema Following Whooping Cough.—A little girl, 2 years and 5 months of age, developed empyema following lobar pneumonia, and while she was suffering from pertussis in the acute stage. More than 1 quart of pus and much detritus were evacuated under local anesthesia. The child made a perfect recovery.

California State Journal of Medicine, San Francisco

March, 1921, **19**, No. 3

Success: As Applied to Urology. E. S. De Puy, Oakland.—p. 98.
Stiffness in Extremities Followed by Accident and Injury. A. L. Fisher, San Francisco.—p. 100.
Recent Developments in Radium Therapy. R. Duncan, Los Angeles.—p. 102.
Surgery of Chest. C. D. Lockwood, Pasadena.—p. 105.
Treatment of Suprapubic Prostatectomy Cases. H. A. Rosenkranz, Los Angeles.—p. 107.
Postmaturity of Fetus. N. H. Williams, Los Angeles.—p. 111.
Low Hemoglobin in Surgical Cases. W. H. Gilbert, Los Angeles.—p. 113.
Teeth, Tonsils and Sinuses. R. B. Sweet, Long Beach.—p. 116.
Climacteric Hypertension. R. Cummings, Los Angeles.—p. 116.

Colorado Medicine, Denver

March, 1921, **18**, No. 3

*Pathology and Treatment of Chorea. G. A. Molcen, Denver.—p. 47.
Roentgenographic Studies in Asthmatic Bronchitis J. B. Crouch and F. A. Forney, Woodmen.—p. 50.
Unusual Complications and Sequels in Acute Infections of Childhood Following Influenza. J. W. Amesse, Denver.—p. 56.
Importance to Community of Provision for Feebleminded. C. L. Pershing, Denver.—p. 60.

Chorea.—Moleen points out that it is justifiable to conclude that chorea is the result of the general toxic blood state or of local action of a micro-organism in the cerebral cortex; and that this organism is closely allied to or an evolutionary development of the diplococcus or diplostreptococcus of rheumatic fever. The greatest liability or danger in the disease is in the involvement of the endocardium. Focal infections are to be seriously considered in all cases, but operative measures, especially on tonsils, should be deferred until the acute period of the attack has passed, as manipulation is likely to be followed by violent aggravation of all manifestations, including the implication of the serous membranes. The most effective treatment aside from the symptomatic is that which may be directed against the microbic infection, namely, salicylates, either by mouth or intravenously, increasing the dose until the physiologic effects are reached. Arsenic and hematinics are essential for the reestablishment of the constantly associated lowered blood values rather than as direct antagonists of the cause of the disease.

Georgia Medical Association Journal, Augusta

March, 1921, **9**, No. 10

*Etiologic Relation of Worms to Epilepsy. E. B. Block, Atlanta.—p. 309.
Hypertrophic Stenosis of Pylorus. W. W. Battey, Augusta, Ga.—p. 315.
Pyelitis. A. J. Waring, Savannah, Ga.—p. 320.
Signs and Symptoms of Early Lobar Pneumonia. L. J. Johns, Tallapoosa, Ga.—p. 322.
Hyperthyroidism. M. F. Morris, Jr., Atlanta.—p. 325.
Tubal Pregnancy. W. F. Wells, Atlanta.—p. 330.
Utility of Influenzal Pneumonia Vaccine in Pregnancy and Postoperative Conditions. M. T. Benson, Atlanta.—p. 333.
Importance of Ureteral Stricture in Abdominal Diagnosis. G. Y. Massenburg, Macon.—p. 335.
Obstetrician's Obligation. G. W. Quillian, Atlanta.—p. 337.

Relation of Worms to Epilepsy.—Block feels justified in stating that there is reason to believe that epilepsy when produced by animal parasites may be due to the actual invasion of the brain by the larvae. The theory is, at least, less vague than the other theories, and is supported by the clinical fact that the epilepsy is rarely cured by freeing the intestinal tract of the parasites. The absence of worms or eggs in the stools is not proof of the absence of parasites in other parts of the body. Out of 100 cases of epilepsy in which the stools were examined, 56 were negative, 21 showed ascaris, 17 showed hookworm, 4 showed oxyuris, 1 *Taenia* (hymenolepsis) *nana*, 1 *Taenia saginata*. This shows 44 per cent. of the cases of epilepsy have worms. In 17 of the cases the worms or eggs were present on examination at the time of consultation, while in 27 cases they had been previously found in laboratory examinations or had been seen by the patients and described accurately. Most of the cases of ascaris belonged to this latter group. The work done by the Rockefeller Sanitary Commission showed that out of a total of 35,133 examinations, 11,418 people showed intestinal parasites (32.49 per cent.). As part of these were double infections, a total of 11,985 worms were found. Out of the last 1,000 cases examined in the laboratory of the Georgia State Board of Health, 250 showed worms (25 per cent.). Out of 1,695 stools examined (some of which were reexaminations of the same patient), 680 stools showed worms (40.12 per cent.).

Iowa State Medical Society Journal, Des Moines

March 15, 1921, **11**, No. 3

Brain Injuries. A. M. Pond, Dubuque.—p. 75.
Lung Abscess; Report of Case. E. W. Meis, Sioux City.—p. 81.
Acute Infections of Nasal Sinuses: Treatment. T. R. Gittins, Sioux City.—p. 84.
Differential Diagnosis of Esophageal Stenosis. J. W. Shuman, Sioux City.—p. 89.
American Medicine. A. O. Williams, Ottumwa.—p. 91.
Reciprocal Relation of Wisconsin with Her Neighbors. J. M. Dodd, Ashland, Wis.—p. 93.
Cholelithiasis. F. S. Leonard, Cascade.—p. 97.

Journal of Bacteriology, Baltimore

March, 1921, **6**, No. 2

Progress Report for 1920 Committee on Bacteriologic Technic. H. J. Conn, K. N. Atkins, I. J. Kligler, J. F. Norton and G. E. Harmon. —p. 135.
Variations in Hydrogen-ion Concentration of Broth Mediums. L. F. Foster and S. B. Randall, San Francisco.—p. 143.
Relation of Hydrogen-ion Concentration to Growth, Viability, and Fermentative Activity of Streptococcus Hemolyticus. L. F. Foster, San Francisco.—p. 161.
Biochemistry of Streptococcus Hemolyticus. L. F. Foster, San Francisco.—p. 211.
Flagellation of Nodule Bacteria of Leguminosae. I. V. Shunk.—p. 239.
*Method for Intravenous Injection of Guinea-Pigs. G. B. Roth, Washington, D. C.—p. 249.
*Rose Bengal as a General Bacterial Stain. H. J. Conn.—p. 253.

Method of Intravenous Injection.—The method elaborated by Roth makes use of the comparatively large superficial vein lying on the dorsal and inner aspect of the hind leg of the animal. This vein nearly always runs diagonally across the leg from the dorsal aspect below to the inner aspect above.

Rose Bengal as Bacteria Stain.—Rose bengal belongs to the phthalein series of dyes. It differs from eosin in that the four atoms of bromin in eosin are replaced by four atoms of iodin with the addition of two atoms of chlorin. The formula which has proved satisfactory is: rose bengal, 1 gm.; 5 per cent. phenol, 100 c.c. This solution remains in good condition for sevenal months. The chief value of this stain to the bacteriologist is that it has a great affinity for bacterial protoplasm but not for the slime or débris with which the cells are surrounded. It is therefore especially to be recommended for slime formers.

Journal of General Physiology, Baltimore

March 20, 1921, **3**, No. 4

Theory of Injury and Recovery. W. J. V. Osterhout, Cambridge, Mass. p. 415.
Rate of Ovulation in Domestic Fowl During Pullet Year. S. Brody, Columbia, Mo.—p. 431.
*Phagocytosis of Solid Particles. W. O. Fenn, Boston.
I. Quartz.—p. 439.
II. Carbon.—p. 465.
Cause of Spontaneous Aggregation of Flagellates; and Reactions of Flagellates to Dissolved Oxygen. H. M. Fox, Cairo, Egypt.—pp. 483, 501.
Equilibrium Between Hemolytic Sensitizer and Red Blood Cells in Relation to Hydrogen-ion Cencentration. C. B. Coulter, Brooklyn. —p. 513.
Summation of Dissimilar Stimuli Applied to Leaflets of Sensitive Brier (Schrankia). L. B. Bibb, U. S. Army.—p. 523.
*Comparative Studies on Respiration. Effect of Bile Salts and of Saponin on Respiration. M. M. Brooks, Cambridge, Mass.—p. 527.
Id. Effects of Hypotonic and Hypertonic Solutions on Respiration. O. L. Inman, Cambridge, Mass.—p. 533.
Production of Parthenogenetic Frogs. J. Loeb, New York.—p. 539.
Chemical and Physical Behavior of Casein Solutions. J. Loeb, New York.—p. 547.
Colloidal Behavior of Proteins. J. Loeb, New York.—p. 557.

Phagocytosis of Solid Particles.—Fenn states that the available evidence indicates that the phagocytosis of bacteria does not follow the law for a monomolecular reaction, possibly because of the toxic effect on the leukocytes of bacterial extracts.

Effect of Bile Salts and Saponin on Respiration.—Brooks claims that the addition of sodium taurocholate produces an increase in the rate of respiration at a concentraiton of 0.0000125 M, and a decrease at 0.001 M and in higher concentrations. Sodium chlorid is antagonized by sodium taurocholate, the most favorable proportion being 14,375 parts of sodium chlorid to 1 part of sodium taurocholate (molecular proportions). Solutions of saponin, at concentrations from 0.00005 M to 0.001 M decrease the rate of respiration: lower concentrations produce no effect.

Journal of Laboratory and Clinical Medicine, St. Louis

March, 1921, **6**, No. 6

*Factors Modifying Duration of Ventricular Systole. L. N. Katz, Cleveland.—p. 291.
*Classification of Streptococcus; Sugar Fermentations, Limiting Hydrogen-ion Concentration, and Reactions on Milk Mediums. L. Arnold, Nashville, Tenn.—p. 312.
*Etiology of Acute Inflammations of Nose, Pharynx and Tonsils. S. Mudd, S. B. Grant and A. Goldman, St. Louis.—p. 322.
Relation of Pathologists to Institutional Practice of Medicine. W. C. MacCarty, Rochester, Minn.—p. 331.
Diagnosis of Typhoid and Paratyphoid Infections. H. J. Goeckel, Cranford, N. J.—p. 335.
*Routine Determination of Creatinin and Acetone in Urine. H. J. Goeckel, Cranford, N. J.—p. 338.
Benign Tumors of Gastro-Intestinal Tract. E. E. H. Boyer, Columbus Ohio.—p. 339.

Factors Modifying Duration of Ventricular Systole.—The temporal variations of the cardiac phases in dogs with normal circulations were determined by Katz from optical records of the heart sounds. It was found that under natural conditions diastole is more variable than systole. The duration of diastole depends mainly, but not entirely, on vagus tonus. The variations of systole bear no constant relation to the preceding diastole, being even less affected than diastole by the vagus tonus.

Classification of Streptococcus.—The technic of the simple and rapid method of determining the hydrogen-ion concentration, recommended by Avery and Cullen, has proved satisfactory to Arnold. The hemolytic and nonhemolytic streptococci found in normal and pathogenic throats were of the same varieties, when classified by Holman's sugar fermentation tests, Avery and Cullen's final hydrogen-ion concentration and their action on brom-cresol-purple and methylene blue milks. In many cases of infected wounds, particularly those of the head and upper extremity, the same strains of streptococci were found in the throat and the wound.

Etiology of Acute Nose, Pharynx and Tonsil Inflammations.—The cause of acute inflammation of the pharynx, tonsils and nose recognized by Mudd and his associates are: 1. The filterable virus of Kruse and Foster, inducing apparently a clinical entity, a type of acute coryza. 2. Various bacteria, including the pneumococcus, streptococci, *B. rhinitis, B. diphtheriae,* Friedlander's bacillus, *B. influenzae,* and probably also *M. catarrhalis, B. septus, M. paratetragenus, S. aureus,* and possibly others. 3. Protein sensitization, the basis of vasomotor rhinitis and of true bronchial asthma, the underlying cause also of a relatively infrequent subgroup of acute recurrent "colds." 4. Various systemic diseases, drugs, mechanical and chemical irritants, chronic nasal affections and reflex neuroses. One factor by which resistance to bacterial infection may be lowered is excessive chilling.

Determination of Creatinin and Acetone in Urine.—Goeckel makes use of (1) a saturated aqueous solution of sodium nitroprusside; (2) a sodium hydroxid solution, and (3) glacial acetic acid. To a row of test tubes, approximately 5 c.c. of each urine is added in consecutive order. Ten drops of the nitroprusside solution are then added to each tube followed by sufficient sodium hydroxid solution (a few drops) to produce the maximum intensity of red color. A dense cherry red color indicates a normal or high creatinin content, while a paler shade will indicate a low content. This must be noted at once as the color begins to fade in the course of a few minutes. Glacial acetic acid is then added to each tube to determine acetone. In the absence of acetone, when the creatinin is normal or low, the urine returns to approximately its normal color. Should the creatinin be high, various shades of green will become evident. When the creatinin content is very high a deep blue precipitate will form. The presence of acetone will be indicated by the usual production of various shades of red when the glacial acetic acid is added. This application of the acetone test to indicate creatinin affords a ready means to differentiate between those nephritic cases showing probable creatinin retention and those which are not so far advanced. Goeckel also uses this test as the principal factor for advising against an operation when the creatinin is low.

Journal of Nervous and Mental Diseases, New York

March, 1921, **53**, No. 3

*Study of Nissl's Staebchenzellen in the Cerebral Cortex in Gencral Paresis, Senile Dementia, Epilepsy, Glioma, Tuberculous Meningitis and Delirium Tremens. U. Noda, Kioto, Japan.—p. 161.
Two Cases of Atypical Epidemic (Lethargic) Encephalitis, with Histopathologic Report. G. B. Hassin and F. H. Stangl, Chicago, and P. B. Bailey, Boston.—p. 217.

Nissl's Staebchenzellen.—Twenty-one cases were studied by Noda. A great number of these cells were found in ten cases of general paresis, one case of meningo-encephalitis, two cases of glioma, both in the tumor tissue and in the cortex. In six cases of senile dementia, and one case each of epilepsy

nd delirium tremens only a few of these cells were found nd, apparently, they were of no pathologic significance. They ave a multiple genesis, some from mesodermal cells and thers from glia cells. Some occasionally migrate from the ia of the cortex, as was shown in the case of tuberculous ieningo-encephalitis.

Kansas Medical Society Journal, Topeka

March, 1921, **21**, No. 3

Operative Obstetrics. G. R. Little, Wichita.—p. 77.
Infectious Diseases of Gallbladder and Ducts. L. O. Nordstrom, Salina. —p. 79.
Erysipelas Complicating Suppurative Otitis Media. H. L. Chambers, Lawrence.—p. 81.
Syphilis of Nervous System. K. A. Menninger, Topeka.—p. 82.
Large Ovarian Cyst with Co-existing Pregnancy; Report of Case. J. Rotter, Parsons.—p. 89.
Law for the Doctor; Application of Domestic Remedy for Fee as Practicing Medicine. L. Childs.—p. 90.

Minnesota Medicine, St. Paul

March, 1921, **4**, No. 3

Some Problems of Internal Medicine. J. L. Miller, Chicago.—p. 119.
New Aspects of Problem of Cancer Control. F. L. Hoffman, Newark, N. J.—p. 124.
Present Status of Splenectomy as Therapeutic Measure. H. Z. Giffin, Rochester, Minn.—p. 132.
Hemolytic Icterus. W. J. Mayo, Rochester, Minn.—p. 138.
Epilepsy, Lethargic Encephalitis and Dementia Praecox. C. E. Riggs, St. Paul.—p. 141.
Factitious Toxicity of Previously Simple Goiters. T. L. Chapman, Duluth.—p. 148.
Fractures of Base of Radius. R. C. Webb, Minneapolis.—p. 151.
*Mixed Tumors of Parotid Gland. W. E. Sistrunk, Rochester.—p. 155.
*Polycythemia Vera. E. T. F. Richards and E. T. Herrmann, St. Paul. —p. 161.
Uses and Advantages of Electrically Driven Bone Surgery Equipment in Head Surgery, with Particular Reference to Ear, Nose and Throat Operations. L. W. Morsman, Hibbing.—p. 166.
Acute Lymphatic Leukemia; Report of Cases. G. D. Head, Minneapolis.—p. 169.

Splenectomy as Therapeutic Measure.—A general survey is made by Giffin with respect to operative death and postoperative duration of life, of 245 cases of splenectomy, for various diseases.

Hemolytic Icterus.—Mayo emphasizes that hemolytic icterus is not an infrequent cause of chronic jaundice, progressive anemia and early death. Splenectomy is the cure.

Mixed Tumors of Parotid.—The series of cases analyzed by Sistrunk comprises 103 patients. Recent communications have been received from all except ten. Eighty-five patients are known to be alive, and eight are dead, six from recurrence of the disease. A primary operation was performed for sixty-six of the 103 patients. Data with regard to the result have been obtained in sixty of these. Fifty-six are known to be alive and four are dead. No recurrence has developed in forty-nine from one to five years following operation. Eleven are known to have had recurrences following operation; seven of these are alive with recurrences or have been operated on for recurrences, and four are known to have died; one probably died from the disease other than cancer. Thirty-seven patients were operated on for recurrences which had developed following one or more previous operations; three are known to be dead. All of the recurrences appeared within one year after operation. The results following primary operations are better than results following operations for recurring growths; 93.4 per cent. of the patients with primary operations are alive, 18.3 per cent. have had recurrences and 6.6 per cent. are dead, while 89.2 per cent. of the patients operated on for recurring growths are alive, 37.8 per cent. have had recurrences, and 10.8 per cent. are dead. Sistrunk says that if all the primary operations had been performed for early and small growths the results would have been far better.

Polycythemia Vera.—In the case reported by Richards and Herrmann, venesection gave excellent results. The severe headache, dizziness, subjective sensations of tingling, numbness, etc., which the patient complained of when first seen, disappeared almost entirely after the first removal of 500 c.c. of blood. Altogether nine venepunctures were performed, the last eight chiefly in the hope of influencing the red count since the subjective symptoms had not reappeared. After the first venepuncture, the red cell count dropped by two million while the hemoglobin fell from 115 to 96 per cent.

Oklahoma State Medical Assn. Journal, Muskogee

February, 1921, **14**, No. 2

Some Clinical Aspects of Contracted Pelves. W. A. Fowler, Oklahoma City.—p. 21.
Extra-Uterine Pregnancy. Diagnosis and Treatment. W. W. Wells, Oklahoma City.—p. 24.
Use of Corpus Luteum in Nausea and Vomiting of Pregnancy. A. C. Hirshfield, Oklahoma City.—p. 26.
Roentgen-Ray Diagnosis of Urinary Tract. C. M. Ming, Okmulgee.—p. 28.
Roentgen-Ray and Radium Treatment of Carcinoma of Uterus. M. M. Roland, Oklahoma City.—p. 30.
Importance of Radiography in Infancy and Early Childhood. J. E. Heatley, Oklahoma City.—p. 32.
Ergot in Typhoid. L. Atherton, Tulsa.—p. 33.
Wassermann Reaction: An Appeal for Standardization. W. Langston, Oklahoma City.—p. 33.

Pennsylvania Medical Journal, Harrisburg

March, 1921, **24**, No. 6

Some Problems of Glaucoma. W. H. Wilder, Chicago.—p. 367.
Blood Pressure Guides During Anesthesia and Operation. A. H. Miller, Providence, R. I.—p. 372.
*Third Stage Ether Anesthesia. A Subclassification, with Significance of Position and Movements of Eyeball. A. E. Guedel, Minneapolis. —p. 375.
Anesthesia Problem in Lung Surgery. J. T. Gwathmey, New York.—p. 380.
Nitrous Oxid-Oxygen Analgesia and Anesthesia in Normal Labor and Operative Obstetrics. W. C. Danforth, Evanston, Ill.—p. 383.
Oral and Sinus Surgery in Forward Inclined Sitting Posture, Under Nitrous Oxid-Oxygen Anesthesia. I. O. Denman, Toledo.—p. 388.
Postoperative Complications of Respiratory Tract. H. R. Decker, Pittsburgh.—p. 391.
Problems of Chest Surgery as Met by Physiologic Drainage. L. F. Stewart, Clearfield.—p. 396.
*Hypertrichiasis in Childhood: So-Called "Dog-Faced Boy." F. C. Knowles, Philadelphia.—p. 401.
*Vaccine Treatment of Pertussis. R. K. Rewalt, Williamsport.—p. 404.
*Diabetes (Pancreatic) Caused by Infection of Tonsils. S. H. Blodgett, Boston.—p. 407.
State Tuberculosis Work, What is Being Done, and Future Plans. A. P. Francine, Harrisburg.—p. 411.
Modern Therapeutics. H. C. Wood, Jr., Philadelphia.—p. 413.
Diagnosis and Treatment of Perforated Ulcers of Stomach and Duodenum. H. A. McKnight, Philadelphia.—p. 416.
Inspection of Milk Production. I. P. P. Hollingsworth, Philadelphia. —p. 419.
Angioma of Small Intestines. N. Shillito.—p. 421.
Some Complications of Diabetes Mellitus. L. Litchfield.—p. 422.

Ether Anesthesia.—Guedel encourages lighter and more even ether anesthesia. He has prepared a schematic chart showing the significance of certain reflexes under various stages of ether anesthesia. Guedel states that as long as there is any movement or eccentric position of the eyeball, aside from that which might be normal for the occasional patient, that patient has not had too much anesthetic; but after anesthesia has been well inaugurated, he has had quite enough.

Hypertrichiasis in Childhood.—Knowles' patient, aged 4 years, was one of six children, but the only one showing this abnormality. The child was well developed, splendidly nourished, and of average mentality. There was a heavy growth of soft black hair, in many places an inch or more in length, extending over all portions of the back, the arms, the legs, the abdomen, the chest and the face.

Vaccine Therapy of Pertussis.—In 130 cases of pertussis where vaccine was used by Rewalt, the straight vaccine, i. e., the one consisting of the Bordet bacillus alone, was the one of choice. A mixed vaccine containing the Bordet bacillus, the pneumococcus, the streptococcus and the staphylococcus was used in some cases, chiefly the ones complicated by, or following pneumonia. In six cases the treatment was an absolute failure. In forty-five cases benefit of more or less degree was obtained. The other seventy-nine cases showed marked improvement. In some the results were said to be little short of marvelous. In infants an initial does of from 250 millions to 500 millions was used and this was increased to 1 billion or more as the symptoms demanded. From three to eight doses were given at intervals of from forty-eight to seventy-two hours. More than eight doses were not considered necessary. In older children an initial dose of 500 millions was given and each succeeding dose was doubled as was deemed necessary. In other words, if after the second dose of 1 billion or the third dose of 2 billions there seemed to be improvement the succeeding doses were held at that figure. If no improvement was noted, the larger doses were given. Occasionally, a reaction was noted by a temporary

rise in temperature or increase in paroxysms. No reaction lasted over twenty-four hours. There are no contraindications to the use of vaccines in the treatment of pertussis, Rewalt says.

Diabetes Caused by Infection.—Blodgett claims that at least a considerable number of cases of the acute pancreatic form of diabetes are due to an infection of the pancreas following an infection of the tonsil. He reports four such cases. One was a case of acute pancreatic diabetes coming on suddenly within two weeks after an attack of mumps, and we also have a test showing sugar-free urine on the first day of the tonsil infection, thus indicating that previous to the infection in the tonsils there had been no sugar in the urine. Another was a case of acute pancreatic diabetes appearing about twelve days after a severe infection of the tonsils, and a reappearance of sugar and a lowered carbohydrate tolerance following each attack of sore throat (of which there were three) until finally death occurred. In the third case there was sudden appearance of sugar, polyuria, polydipsia and loss of flesh in a boy previously healthy, within a month after a severe tonsillitis. When placed on a semirigid diet, the amount of sugar in the urine was daily being reduced until an infection of the tonsils took place, and notwithstanding that the patient took only water, the blood sugar increased and the urine sugar also increased, and would not decrease until a much more rigid diet was prescribed than had previously been necessary to cause a constant daily reduction. A very interesting thing was the fact that following the operation for removal of the tonsils, although only liquids, consisting of thin meat soups and water, were taken for forty-eight hours, a slight amount of sugar appeared in the urine for two days; also a trace of acetone.

Philippine Journal of Science, Manila

October, 1920, **17**, No. 4

Action of Some Fungicides on Citrus-canker Organism. A Progress Report. H. A. Lee, Manila.—p. 325.
New Reared Parasitic Hymenoptera from Philippines. A. B. Gahan, Washington, D. C.—p. 343.
Psyllidae of Borneo. D. L. Crawford.—p. 353.
Higher Basidiomycetes from Philippines and Their Hosts, IV. O. A. Reinking.—p. 363.
Myrmeconauclea, New Genus of Rubiaceous Plants from Palawan and Borneo. E. D. Merrill.—p. 375.
Comments on Cook's Theory as to American Origin and Prehistoric Polynesian Distribution of Certain Economic Plants, Especially Hibiscus Tiliaceus Linnaeus. E. D. Merrill.—p. 377.
*Atypical Ameba Causing Dysenteric Lesions. G. C. Chatterjee, Calcutta.—p. 385.
Utilization of Waste Molasses in Philippine Islands; with Special Reference to Haciendas of Necros. H. J. Carsten, Iloilo, P. I.—p. 395.
*Certain Cardiac Reflex Symptoms Due to Disturbances of Remote Organs. A. G. Sison, Manila.—p. 409.
Clinical Observation on Experimental Starvation in Human Beings. A. G. Sison, Manila.—p. 415.

Atypical Ameba Causing Dysenteric Lesions.—An ameba causing fatal dysenteric lesions and differing from the classical pathogenic species in its nuclear and other characters was isolated by Chatterjee from a large elevated inflammatory patch on the peritoneal surface of the wall of a portion of the intestine that was matted together. A smear was made from this inflamed patch on the peritoneal side, and this was examined microscopically. It contained numerous actively motile amebas. Smears of the pus then lumen of the intestine were found to be free from other micro-organisms. The ameba found differs from *Endamoeba histolytica* in the following essential points: (1) The nucleus is massive—not karyosomic; (2) there is marked distinction between ectoplasm and endoplasm. (3) chromidia are absent. The lesions caused by this organism differ from those familiar in dysentery of *Endamoeba histolytica* origin, in that the small intestine is attacked—a phenomenon heretofore absolutely unknown in dysentery of endamebic origin. Furthermore, the peculiar peritoneal involvement is unique. Chatterjee designates this ameba *Endamoeba paradysenteria*, sp. nov.

Cardiac Reflex Symptoms.—The factors that may be responsible for the production of cardiac reflex symptoms due to disturbance of the stomach, intestines, liver and genitalia are grouped by Sison under three heads: (1) Mechanical; (2) chemical, and (3) psychic. The mechanical theory may be explained in two ways; either by encroachment of the distended stomach on the space occupied by the heart, or by the mechanical irritation of the nerve ending on the wall of the stomach, produced by the stretching of the wall. Mere overloading is not always followed by such symptoms; they may be present without dilatation or distention. The chemical causes may be endogenous or exogenous. The endogenous may be toxic substances which originated in a perverted digestion, or may be certain internal glandular secretions or hormones which, when present in the blood in larger amounts than normal, may disturb the heart action without necessarily causing pathological, change in the organ. They may act, however, in manifold ways on the central nervous system, on the intrinsic nervous mechanism of the heart, or on the heart muscle itself. The psychic factors are probably ultimately chemical. No one of these factors is the only one responsible for the production of the cardiac reflex symptoms; but all or one of them may play some rôle in producing the symptoms in individual cases, and in many instances one or all of them may help to cause the cardiac syndrome designated under the name of cardiac reflex symptoms.

Porto Rico Medical Association Bulletin, San Juan

February, 1921, **15**, No. 129

*Differential Diagnosis of Tropical Pyrexias Most Commonly Encountered in Porto Rico. Arturo Torregrosa.—p. 1. Cont'd.
Diet in Sprue. Bailey K. Ashford.—p. 22.
Problem of Venereal Disease. F. del Valle Atiles.—p. 34.

Differential Diagnosis of Pyrexias in Porto Rico.—In the fourth instalment, Torregrosa discusses how to distinguish between continuous and remittent malaria and stomach-liver infections and between the former and typhoid. Even simple intestinal infections assume a puzzling temperature course there, and it often proves that what seemed to be an acute gastric indigestion and then a "gastric fever," suggesting typhoid by its persistence and temperature curve, but finally examination of the blood reveals the malaria parasites, and prompt recovery follows exhibition of quinin. The family and often the physician, believe that malaria has become superposed on typhoid, but earlier examination of the blood would show that malaria was responsible throughout and might have been aborted at the start. If quinin is given, the inolerant stomach may reject it at once, adding to the confusion as the anticipated benefit from the quinin does not follow. He protests against the routine practice of giving quinin, hit or miss in every pyrexia. In this case it is not given systematically or in adequate doses, and merely misleads. Typhoid in Porto Rico usually begins suddenly, with a chill, and the fever runs up high the first or second day. The remissions are more pronounced than is usual in typhoid, and there are few and slight, if any, nervous symptoms—all of which adds to the difficulty of distinguishing between it and continuous, remittent malaria. He reviews all the signs and symptoms that may aid in differentiation, but his own rule is to exclude malaria first in every continuous fever in the tropics before considering any other etiology.

Texas State Journal of Medicine, Fort Worth

February, 1921, **16**, No. 10

Gynecology and Obstetrics. C. Johnson, Fort Worth.—p. 428.
Value of Rectal Examination in Obstetrics. G. V. Morton, Fort Worth —p. 430.
Management of Second Stage of Labor a Gynecologic Factor. C. H Harris, Fort Worth.—p. 432.
Cesarean Section for Unusual Conditions. M. C. O'Brien, San Antonio —p. 435.
Torsion of Splenic Pedicle Complicating Puerperium. J. W. Bourland Dallas.—p. 436.
Diagnosis and Conservative Treatment of Placenta Praevia. C. R Hannah, Dallas.—p. 439.
Ectopic Pregnancy. G. B. Thaxton, Dallas.—p. 440.
Eclampsia. H. Allison, Kingsville.—p. 444.

Virginia Medical Monthly, Richmond

March, 1921, **47**, No. 12

Endocrine Secretions. H. W. Phillips, Norfolk.—p. 583.
Roentgen Ray in Treatment of Hyperthyroidism. F. M. Hodges, Richmond.—p. 586.
Factors in Control of Metabolic Disturbances. W. W. Silvester, Norfolk.—p. 588.
Roentgen Ray as Diagnostic Aid to Internist. A. G. Brown, Richmond.—p. 592.
*Certain Types of Cerebral Manifestations in Cardiorenal Diseases. W. H. Higgins, Richmond.—p. 598.
Use of Electrocardiograph in Diagnosis and Treatment of Heart Disease. J. M. Hutcheson, Richmond.—p. 602.

lmonary Abscess Following Tonsillectomy Under Local Anesthesia. W. B. Porter, Richmond,—p. 606.
e of Pituitrin in Obstetrics. G. B. Barrow, Clarksville.—p. 609.
tra-Abdominal Causes of Acute Abdominal Pain. J. H. Smith, Richmond.—p. 611.
rderline Cases of Insanity. A. Anderson, Raleigh, N. C.—p. 613.
bod Cultures vs. Widal in Typhoid Infections. A. F. Robertson, Jr., Staunton.—p. 615.
ucous Colitis. G. P. Hamner, Lynchburg.—p. 617.
iling Water Injections in Hyperthyroidism. A. B. Grubb, Cripple Creek.—p. 620.

Cerebral Manifestations in Cardiorenal Disease.—Higgins ls attention to the fact that cerebral manifestations fre-ntly are associated with alterations in the circulatory tem and are dependent on either a cerebral anemia or an reased intracranial pressure. Cardiopaths are prone to velop hallucinations, and a postoperative psychosis may en be explained by a failing circulation. The cerebral nifestations of a chronic nephritis with hypertension may ily simulate those of a brain tumor and are due to a neral or localized cerebral edema. The advisability of a compression, as a palliative measure, in those cases in ich medical treatment has failed, is well illustrated in a se reported.

Pulmonary Abscess Following Tonsillectomy.—Two cases definitely diagnosed pulmonary abscess are reported by rter; both occurring in connectin with tonsillectomy done der local anesthesia but could not reasonably be ascribed aspiration. A logical route of infection would be through venous return from the field of operation, emboli becoming lodged in veins thrombotic from trauma and infection. th cases occurred in patients who presented definite evi-nce of existing pulmonary tuberculosis.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single se reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

February, 1921, No. 247

Diagnosis and Differential Diagnosis of Tuberculosis in Bones and Joints. G. Forssell.—p. 257.
History of Electrotherapy. H. A. Colwell.—p. 271.

Edinburgh Medical Journal

March, 1921, **26**, No. 3

Prenatal Death. A. Robinson.—p. 137.
Epididymitis and Orchitis from Muscular Strain Followed by Tuberculosis of Epididymis. C. W. Cathcart.—p. 152.
Case of Painless Labor in a Primipara. G. E. W. Henderson.—p. 186.

Epididymitis and Orchitis from Muscular Strain.—Cathcart aims that acute orchitis and epididymitis may be caused by severe abdominal strain and may show itself by pain, swell-g and discoloration within an hour or two of the onset. his may occur without any gonococcal or other organismal fection of the urethra or of the parts affected. It may occur ithout any apparent abnormality of the testicle. The acute flammation is sometimes, at least, the result of torsion of ie cord induced by the strain, which possibly acts by excit-ig vigorous or irregular action of the cremaster muscle. In me cases the inflammation may be caused by a rupture of ie vas deferens with simultaneous injury to the vessels and erves of the cord. The acute orchitis and epididymitis thus roduced may end (*a*) in an active tuberculous affection of ie epididymitis, either by exciting a latent focus of tuber-ulosis, or by giving rise to the conditions suitable for the evelopment of a new focus; or (*b*) in complete atrophy of ie testicle. As a corollary to the possible presence of torsion f the cord in these sudden attacks of pain in the groin and esticle during muscular strain, it is advisable for the medical ttendant to treat them as torsions of the cord unless he can e satisfied that no torsion exists at the time he sees the case.

Painless Labor.—The patient whose case is cited by Henderson was aged 23, and of somewhat slight build. Throughout her pregnancy, her health was excellent; she did lot of dairy work, including the milking of several cows, ight up to the morning of her confinement. When first seen he patient was lying in bed, and expressed herself as feeling uite comfortable. On examination, the head was found on the perineum, which was tightly stretched and bulging. The membranes were already ruptured, although neither patient nor nurse had noticed any escape of waters. About six hours before, the patient felt a "heaving" in her abdomen, associated with a feeling of "something pressing down." This "heaving" had come on at regular intervals, at first every half hour, but later at more frequent periods. The uterus contraction was severe and prolonged, but there was absolutely no pain. During the contraction the patient did not hold her breath. The patient's nervous system was normal; reflexes present and normal. Sensation to touch, heat and cold normal.

Journal of Laryngology and Otology, Edinburgh

March, 1921, **26**, No. 3

*Partial Thyroidectomy. J. Harper.—p. 114.
Chorditis Fibrinosa. A. B. Kelly.—p. 118.
Conservative Treatment of Chronic Middle Ear Suppuration. A. Campbell.—p. 121.
"Latent" Thrombosis of the Lateral Sinus. D. Gutherie.—p. 127.

Partial Thyroidectomy.—Harper has made it a practice of removing the whole of the lobe of the thyroid along with the isthmus, when the growth has reached the size of a hen's egg, since he has found that in those cases in which the growth has reached this dimension the lobe of the thyroid is also affected. He finds no difficulty in removing the thyroid in this manner with the forefinger, and in no case has he found it necessary to ligature an artery. The gland comes away easily from the capsule, and arterial hemorrhage does not occur. The principal point of the operation consists in removing the thyroid out of its capsule, using only the finger. Shock to the patient at the time of operation is practically nonexistent, while in all the cases recovery has been uneventful. The recurrent laryngeal nerve has in no case been interfered with, and he believes that the risk of injury to this nerve is reduced to a minimum.

Medical Journal of Australia, Sidney

Feb. 12, 1921, **1**, No. 7

Surgical Problems of Stomach and Duodenum. H. B. Devine.—p. 123.
*Case of Voluntary Control of Fusion Faculty. J. Barrett.—p. 131.

Voluntary Control of Fusion Faculty.—Barrett's patient had binocular vision, but he possessed the faculty of being able to dissociate the two eyes and to cause diplopia by moving either eye outward, either separately or together. When he fixed with one eye and diverged the other, the deviation was about 20 degrees. He could turn both eyes out at the same time, each about 20 degrees. He possessed great powers of convergence and could converge to a point approximately 5 cm. from the ocular base line.

Feb. 19, 1921, **1**, No. 8

*Erythredema. A. J. Wood.—p. 145.
Hookworm in Australia. W. A. Sawyer.—p. 148.
Teaching of Preventive Medicine to Medical Students. F. S. Hone.—p. 150.

Erythredema.—This disease, Wood claims, is not an uncommon one. He has notes of forty cases and a colleague has notes on fifty-one cases. The symptoms of erythredema are most characteristic when well developed. The child holds the head bent down; usually it is whining and fretful. Some patients do not seem able to rest, scratching at their feet or pulling at their hair or ears, frequently making them bleed. If placed on the floor or in their perambulators they will bend their heads forward almost down to their feet. They do not smile, and they resent any attempt to amuse them. In some cases the red swollen appearance of the hands is an early symptom, and if present, is absolutely pathognomonic of erythredema. These little patients are worn out for want of sleep and in absolute distress from the intolerable irritation of the skin of body, hands and feet. They sometimes become very vicious, scratching and biting at their mother's faces. The mothers also look worn and distressed from long weeks of sleepless nights. The earliest symptoms in the case of young infants seems to be the continual fretfulness and inability to sleep at night, with disinclination for breast or bottle. A little later, it may only be two or three weeks or as late as four or five months after the onset of the fretfulness, the redness of the hands and feet appears. Wasting is an early symptom and with the wasting the muscles become

soft and weak. The neck muscles do not appear able to support the head properly, and in older children the power of sitting up or walking is lost early in the disease. Stomatitis is a frequent symptom. The irritability of the skin leads to scratching and various movements of the body to gain relief. The redness of the hands and feet accompanied by an icy coldness to touch is the most characteristic symptom of this disease. The redness, as a rule, is limited below the wrist line. It is usually persistent once it appears, but it is not always present in the early stages of the disease. The loss of finger and toe nails is by no means rare. With the redness and coolness there is also sweating and the formation of small vesicles about the fingers and toes. It is the scratching at and breaking of these vesicles that frequently start the ulcerations. The free action of the skin in cases of erythredema is, with the redness of the hands and feet, one of the most marked features of the complaint. When the rash is marked it is common to find the glands in the axillae and groins enlarged. The rectal temperature generally is about 37.8 C. The prognosis is good; the majority of the patients get quite well. The treatment wholly symptomatic.

Practitioner, London

March, 1921, **106**, No. 3

Dyspepsia and Malassimilation in Children. H. C. Cameron.—p. 153.
Disadvantages of Dried Milk in Infant Feeding. J. Burnet.—p. 170.
Roentgen-Ray Localization at Base in France. W. Cotton.—p. 172.
Electrocardiography on Active Service. A. D. Brunwin.—p. 183.
Prevention and Treatment of Cancer. A. L. Smith.—p. 189.
Mechanotherapeutics; Necessity for Their More Extended Application. A. Kellgren-Cyriax.—p. 202.
Swelling of Pinna, an Early Sign of Deficient Antiscorbutic Vitamin. H. Sheasby.—p. 215.
Selection of Blood Donors for Transfusion. H. W. Jones.—p. 217.

Swelling of Pinna Early Sign of Deficient Antiscorbutic Vitamin.—Swellings of one or both ears among the occupants of a group of internment camps in England were diagnosed as infective cellulitis, and one or two of the earlier cases were incised, but no pus was found, and the condition persisted in spite of the usual treatment for cellulitis. As more cases occurred, further inquiry was made, which showed that the sign was due to a mild degree of scurvy. About thirty cases were noted. In twenty-four of the cases one ear only was affected, in the remainder the other ear was also involved, to a greater or less extent. In most of the cases the swelling occupied the upper half of the left pinna. The skin of the affected ear was reddened, and there was very slight pitting on pressure; no blood staining was visible, and only very slight tenderness on manipulation. In a few cases the swelling had extended into the subcutaneous tissues of the scalp and pushed the ear slightly downward and forward. No involvement of the gums or ecchymoses could be detected, and, beyond slight weakness and pallor, no other sign of scurvy could be made out. On steps being taken to have the vegetables and potatoes cooked separately and not stewed with the meat, the symptoms disappeared, and no further cases occurred.

Tropical Medicine and Hygiene, London

March 1, 1921, **24**, No. 5

Paramelitensis Infection in Man and Animals. P. W. Bassett-Smith.—p. 53.
Peculiar Pyrexia Due to a Flagellate. M. Leger.—p. 54.
Bronchial Spirochetosis. R. W. Mendelson.—p. 59.

Tubercle, London

March, 1921, **2**, No. 6

Construction of an Institution for Heliotherapic Treatment of Surgical Tuberculosis. A. Rollier.—p. 241.
*Are Tubercle Bacilli Present in Blood of Tuberculous Patients? A. Distaso.—p. 251.
Diagnosis of Pulmonary Tuberculosis. N. Bardswell.—p. 257.

Tubercle Bacilli in Blood.—The evidence presented by Distaso points to the conclusion that tubercle bacilli may be present in the blood of patients with pulmonary tuberculosis without pyrexia. They were found in no other type of the disease. Out of eighty-four experiments, positive results were only obtained in ten cases, with two other doubtful cases. All twelve concerned a definite group composed of cases of pulmonary tuberculosis with temperature varying daily between 97 and 99.5 F.

Bulletin de l'Académie de Médecine, Paris

Feb. 8, 1921, **85**, No. 6

*Typhoid Fever Since the War. E. Sergent.—p. 182.
Graphic Record in Diagnosis of Arch of Aorta. E. Lenoble.—p. 184.
Stability of Ouabain. M. Tiffeneau.—p. 187.
Photographic Photometry for Roentgen-Ray Work. A. Zimmern.—p. 189.
Dosimetry Based on the Biologic Laws of Radiations. H. Guilleminot.—p. 192.
*Exophthalmic Goiter in Rural District. F. Regnault.—p. 193.

Typhoid Fever Since the War.—Sergent states that in the last few years before the war there were twice as many male cases of typhoid as of female cases, but since the war there have been three times as many in women as in men.

Exophthalmic Goiter in Rural District.—Regnault has been studying the development of simple endemic goiter and its transformation into exophthalmic goiter in a rural district. This may occur after one or more pregnancies or after emotional stress; the war was responsible for a large number of cases. He does not know of any other study of this subject in a remote rural endemic focus.

Bulletins de la Société Médicale des Hôpitaux, Paris

Feb. 18, 1921, **45**, No. 6

Colloidal Metals in Treatment of Malta Fever. C. Souleyre.—p. 176.
*Transient Hemolysis Following Puncture of Hydatid Cyst. A. Bergé, R. Bénard, R. A. Guttmann and J. Roberti.—p. 184.
*Syphilitic Aneurysm of Abdominal Aorta. Y. Manouélian.—p. 192.
*Acute Leukemia. A. Coyon and J. Lavedan.—p. 196. Idem. J. Broussolle.—p. 205. Idem. Idem and N. Fiessinger.—p. 211.
*Bubonic Plague in Children. Guinon and de Pfeffel.—p. 215.
*Otitis Media with Epidemic Hiccup. Loeper and J. Forestier.—p. 221.
Ependymitis Simulating Epidemic Encephalitis. Idem.—p. 223.
Syphilitic Lesion in Caudate Nucleus. Idem.—p. 226.
*Alkali Prophylaxis of Serum Sickness. Sicard and Paraf.—p. 229.
Syncopal Laughing and Yawning as Symptoms of Epidemic Encephalitis. Sicard and Paraf.—p. 232.
Carbon Dioxid for Pneumoperitoneum. Ribadeau-Dumas and Mallet.—p. 235.

Transient Hemoclasis Following Puncture of Hydatid Cyst.—Bergé and his co-workers report that a fulminating *crise hémoclasique* developed at puncture of a hydatid cyst in the liver. There was agitation, with congestion of the face and rise in temperature; these symptoms were not very pronounced but the hemolysis was extreme for a time, the leukocytes dropping from 10,200 to 5,200 in ten minutes. The blood had returned to its former condition before the clinical symptoms had developed. Sicard suggests that it might be well to make a preliminary injection by the vein of 1 or 2 gm. of sodium carbonate, dissolved in 50 or 60 c.c. of distilled water, as this has proved so effectual in warding off anaphylactic shock, under other conditions.

Syphilitic Aneurysm of Abdominal Aorta.—Manouélian reports a fifth case of aneurysm of the aorta in which the spirochete was found in the tumor. The aneurysm was in the abdominal aorta in two of these cases, and in this latest case pain was severe and worse at night. The nerves in the region showed signs of neuritis, and this syphilitic neuritis is the anatomic basis for the pain in such cases. He emphasizes the connection between the degenerative lesions in the solar plexus and the atheromatous lesions in the aorta.

Acute Leukemia.—Coyon and Lavedan report a case in which the leukocyte count ran up to 720,000. The blood showed the embryonal forms prevailing, the corpuscles undifferentiated.

Bubonic Plague in Children.—In one of the two cases described, the child of 3 died but the other a little older had merely redness of the throat and very slight reaction in a few glands; otherwise the bubonic plague was latent. There had been a frank case in the same building. In the other child the plague bacilli caused a suppurating skin process as well as meningitis. In two other cases plague meningitis occurred without enlargement of glands, and the blood seemed to be sterile but the spinal fluid swarmed with the bacilli. Inoculation of animals gave conclusive results.

Epidemic Hiccup Complicated with Otitis.—The hiccup in the woman of 23 kept up, thirty or forty times a minute, for several days. As it disappeared, symptoms of otitis media became manifest, with discharge of pus the tenth day. This case suggests the possible entrance of the virus by the pharynx.

Prophylaxis of Serum Sickness.—Sicard and Paraf reiterate that intravenous injection of sodium carbonate seems to be able to ward off all disturbance from serum sickness. For this they use a 2.5 per cent. solution of crystallized sodium carbonate. Unfortunately, they add, this method of prophylaxis is difficult to apply to children. They inject by the vein 1 gm. of the carbonate in 40 c.c. of distilled water. This is followed by injection of the horse serum or antitoxin in muscle or subcutaneous tissue.

Encéphale, Paris

February, 1921, **16**, No. 2

Progressive Syphilitic Sclerosis with Amyotrophy. H. Claude and H. Schaeffer.—p. 65.
*The Oculocardiac Reflex. J. Roubinovitch, J. Lauzier and M. Laurent.—p. 73.
*Psychanalysis of Greuze Painting. A. Stocker.—p. 78.
Aphasia and Psychology of Thinking. R. Mourgue.—p. 85. Conc'n.
Suboccipital Rachicentesis. Obregia (Bucarest).—p. 92.
Congenital Predisposition in Endocrine Derangement. H. Claude.—p. 93.

The Oculocardiac Reflex in General Paresis and Tabes.—The changes in the manometer cycle of the oculocardiac reflex are given in several cases of general paresis and tabes and some normal controls.

Psychanalysis of Greuze Painting.—Stocker has been applying Freud's psychanalysis to the famous painting, "Girl with Broken Pitcher" by Greuze, 1777. A reproduction of the painting is given. It apparently is a personification of artless innocence, but Stocker interprets it that the intent of the artist was to portray "La Déflorée."

Gynécologie et Obstétrique, Paris

January, 1921, **3**, No. 1

*Spirochetes in the Placenta. Y. Manouélian.—p. 1.
*Radiography of Circulation in Placenta. A. Brindeau and M. Boussin.—p. 7.
*Uterus Didelphys. J. Okinczyc and P. A. Huet.—p. 15.
Fibroma of the Vagina. F.-M. Cadenat.—p. 21.
*Radiotherapy of Fibromas. H. Hartmann.—p. 33.

Spirochetes in the Placenta.—Manouélian's photomicrographs explain, by the evidence of intense local phagocytosis, the rarity of the discovery of spirochetes in the placenta. All here may be incorporated in phagocytes in the blood stream or in the endothelial cells of the capillaries, even when the viscera of the fetus may be swarming with the spirochetes.

Radiography of Circulation in Placenta.—Brindeau and Boussin inject the vessels of the placenta at once with mercurial ointment, liquefied by heat, and then solidify it by plunging the specimen in cold water, and soaking it in a solution of formaldehyd for forty-eight hours. The blood is first massaged out of the vessels and they are rinsed clean. Several colored roentgenographs are given.

Unilateral Hysterectomy.—One half of the uterus didelphys was resected on account of unilateral salpingitis. The deformity, which included vagina bifida, had not been suspected until the adnexitis compelled intervention.

Raising the Pelvis for Radiotherapy of Uterine Fibromas.—Hartmann urges the necessity for sparing the intestines in irradiation of the uterus, and says that nothing aids so effectually in this as raising the pelvis to force the intestines to slide down out of the way.

Journal d'Urologie, Paris

November-December, 1920, **10**, No. 5-6

*Tuberculosis of the Kidney. Caspari.—p. 329.
Syphilitic Disease of the Bladder. A. Boeckel.—p. 401.

Tuberculosis of the Kidney.—Caspari analyzes sixteen operative cases long under supervision. In the majority the initial lesion seemed to have been in the medullary substance, but in two it was found in the cortical substance. In 25 per cent. of the total cases the kidney was movable and sagged more or less, but in one case the kidney was in its normal place while the sound kidney was extremely movable. The tuberculous kidney is not enlarged until pus accumulates in large amounts; in two of his cases the kidney was abnormally small. Tuberculosis of the kidney usually manifests itself at first only by bladder disturbances. The cystitis is too often treated as exclusively a bladder disorder, and the causal kidney disease not sought for. The frequency of micturition is beyond that with any other morbid condition, especially at night. Enuresis in childhood is often found in the history of cases of renal tuberculosis. The pain at micturition may be most severe at the last drops and for a time afterward. Hematuria can almost always be detected with the microscope; a renal origin must not be excluded if the blood shows only terminal. In some of his cases the patients seemed in almost florid health. In three, the kidney could be palpated but it was not at all tender, and in five others the kidney escaped palpation and not the slightest tenderness in the region could be discovered. In one case the ureter could be felt through the abdominal wall as a hard tender tumor. In most of the cases the ureter could be palpated through the vagina and was tender; in one case this caused pain in the kidney above. In one man, palpation of the ureter through the rectum cleared up the diagnosis. Tubercle bacilli were found in the urine under the microscope in 75 per cent. of the cases. Over seventy pages are devoted to the iliustrated descriptions and conclusions therefrom.

Lyon Médical

Feb. 25, 1921, **130**, No. 4

*Roentgen-Ray Treatment of Sciatica. P. Japiot.—p. 145.
The Hospitals of Lyons in the Wars of the Past. A. Croze.—p. 183.

Roentgen-Ray Treatment of Sciatica.—Japiot has been impressed with the advantages of roentgen-ray treatment of sciatica by his experiences in ten cases, many of them rebellious to all other measures. The effects surpassed all anticipations, even in those of from one to ten years' standing. The benefit seems to be limited to the abolition of the pain; other symptoms were not modified. The effect was equally good in a case of Dercum's disease, and in three of pain from sacralization of the fifth lumbar vertebra, relieving the pain promptly. The action is probably due to the decompression of the nerve, possibly from sweeping out the inflammatory cells or the edema. A little morphin can be given to the patient to enable him to be sent to the proper center for the exposures, and the technic is within the reach of any modest installation for roentgen work. The segment of the nerve between its emergence from the spinal cord and the plexus was the portion exposed. It is thus radiotherapy of the roots involved. The rays are applied along the fourth and fifth lumbar and the first four sacral vertebrae, slanting down to the nerve, filtered through from 1 to 3 mm. aluminum. The intervals were from ten to twenty days, and the dose of 3 H seemed to be sufficient for the purpose.

Médecine, Paris

February, 1921, **2**, No. 5

*French Neurology in 1920. Laignel-Lavastine.—p. 341.
Medical Psychology. P. Janet.—p. 352.
Case of Psychosexuality with Motor Instability. E. Dupré.—p. 357.
*Para-Osteo-Arthropathy. Mme. Dejerine and A. Ceillier.—p. 363.
The Soil in Epidemic Encephalitis. J. Lépine.—p. 368.
Benzoin Reaction in Spinal Fluid. G. Guillain and others.—p. 370.
Vocational Training After Wounds of Nervous System. M. Villaret.—p. 375.
Neurosyphilis Without Meningeal Reaction. C. Vincent.—p. 380.
Pathologic Physiology of the Striate Body. J. Lhermitte.—p. 385.
Mental Confusion and Dementia. Juquelier.—p. 387.
*Neuralgia of the Sympathetic System. J. Tinel.—p. 392.
Drugs in Treatment of Epilepsy. O. Crouzon and Bouttier.—p. 399.
Treatment of Tabes. A. Sézary.—p. 405.
Treatment of Excitement in the Mentally Unstable. Courbon.—p. 410.

Recent Progress in Neurology.—Laignel-Lavastine reviews what has been accomplished in France in this line in 1920. He emphasizes that the knowledge of epidemic encephalitis is throwing light on many nervous affections previously obscure, such as chorea, paralysis agitans and dementia praecox—all these sets of symptoms have been realized by epidemic encephalitis. It has further confirmed the connection between infection and mania; the rapidity of the development of the psychiatric consequences of the causal infection has convinced every one of the direct relation. He regards as further progress the introduction into therapeutics of phenobarbital and of soluble cream of tartar, both of which, he says, have proved very useful in treatment of epilepsy. For severe trigeminal neuralgia now, only the sensory root of the nerve is resected. T. de Martel operates for a tumor in the cerebellopontine angle, under local anesthesia, by the Cush-

ing method, the patient seated. Another achievement is what is called colloidal psychiatry, seeking to utilize the anaphylactic shock, based on Widal's study on colloidal shock, the *crise hémoclasique,* in treatment of states of pathologic anxiety. Marie has reported improvement in a grave case of bulbospinal myasthenia under suprarenal treatment, and Vernet has cured vertigo with it in many cases in which vasomotor disturbance was evidently a factor.

Para-Osteo-Arthropathy. — The further experience of Dejerine and Ceillier has confirmed the frequency of intramuscular ossification. It was evident in about half of eleven cases of paraplegia from injury of the spinal cord .

Neuralgia of the Sympathetic System.—Tinel applies this term to spontaneous causalgia, reporting seven cases affecting the hands, legs, face or neck, or the pelvis. Like the traumatic causalgia in the war wounded, there is always some irritation or compression of the sympathetic centers involved, inducing in the latter a special erethism. This in turn causes the local neuralgia with a sensation of tension, numbness, and burning pain, with vasomotor disturbances. Experience has shown that these neuralgias tend to subside under physical and mental rest. No drugs or surgical interventions give relief as a rule. The patient can be encouraged that rest, hygiene and psychotherapy will put an end to the disturbances sooner or later.

Paris Médical

March 5, 1921, **11,** No. 10

*Progress in Dermatology and Venereology in 1920. Milian, Brodier and Mouquin.—p. 177.
Infantile Syphiloid Vacciniform Ecthyma. Petges and Rocaz.—p. 190.
*The Posterior Urethra in Acute Gonorrhea. M. Carle.—p. 196.
Discovery of Syphilis Spirochetes in Semen. M. Pinard.—p. 198.
Pathogenesis of Psoriasis. L. Bory.—p. 200.
*Test Hemoclasis in Recent Syphilis. Galliot and Gerbay.—p. 205.

Progress in Dermatology and Venereology.—This comprehensive review states that the extent of the rôle of anaphylaxis in the production of skin diseases is being realized more and more every day as the works of Widal and his pupils on the hemoclasic crisis and its significance have thrown light on the pathogenesis. Danysz has traced a large number of skin diseases to anaphylaxis from absorption through the bowel walls, curable by antianaphylaxis on this basis, as described in these columns, Sept. 11, 1920, p. 771. He has cured by this means cases of psoriasis, urticaria and eczema with no recurrence during the more than four years since. [Most of the works reviewed have already been summarized in The Journal during the year.] The only vaccines that have proved useful in dermatology are Danysz' entero-antigens and antistaphylococcus vaccine. Radiotherapy as an adjuvant to the ordinary measures in treatment of lupus has shortened by one half the duration of the course, according to Cottenot. The present prevalence of syphilis in the rural districts is commented on, and also Belgodère's suggestion of the possibility of flies transmitting the disease after contact with syphilitic ulcerations or linen soiled by them. The question as to the unity of the syphilis agent is still being debated, as mentioned editorially, March 26, 1921, p. 864. There new cases of syphilis reacquired three and five years after a cure under arsphenamin have been published at Paris during the year. There have also been reported cases of syphilitic nephritis, jaundice or periosteitis all developing during the period between the chancre and the roseola. The evidence to date seems to demonstrate that the colloidal gold reaction in the cerebrospinal fluid is the most sensitive, persisting after all the other reactions have long given normal findings. Influenza seems to annul the Wassermann reaction but leaves the gold reaction unmodified. Many consider the latter peculiarly important for the diagnosis. Mercury has regained its place in treatment of syphilis, Sabouraud and others having protested against exclusive reliance on the arsenicals. The review concludes with recent measures for prophylaxis for the individual and the offspring, citing Pinard and Hoch's discovery of spirochetes among the spermatozoa in the semen from three of eleven syphilitics with apparently sound testicles.

The Posterior Urethra in Acute Gonorrhea.—Carle protests against the assumption that the posterior urethra is necessarily involved in acute gonorrhea. Experience has converted him to the conviction that posterior urethritis when not complicated with prostatitis, is merely a transient congestion. The chronic course and relapses in 90 per cent. of the cases are due to glandulitis or infiltrations of the anterior urethra. He warns to wait until the canal is dry and the second glass absolutely clear before beginning the injections. They should be kept up for three weeks at least, regardless of absence of symptoms. Teach the patient how to make the injections, and impress on him that three or four mild injections are better than the classic morning and evening method with stronger solutions. The amount can be reduced or the intervals lengthened at the least sign of reaction on the part of the canal. He comments on the importance of a suitable syringe for the purpose, air-tight and holding 10 c.c., adding that he does not believe there are any such in France, "or even in the United States, judging from the syringes left in the American army camps, which look as if they had been made for babies. . . ." "Glass syringes defy all the laws of aspiration of fluids." He warns further that with the first sign of difficulty in urination, the therapeutic frenzy must be bridled, trusting to repose, dieting and local and general hot baths, with hexamethylenamin and balsamics. "Refrain from immoderate drinking of fluids; they congest the bladder uselessly. Refrain also from walks, sports, and the vicinity of women, even of platonic friends." Under these simple measures the urine grows clear again, and the terminal topical medication can then be resumed.

Digestion Hemoclasis in Recent Syphilis.—Galliot and Gerbay obtained the response characteristic of digestion hemoclasis in four of seventeen syphilitics taking arsphenamin treatment. It revealed insufficiency on the part of the liver, and this seemed to be the result of toxic action from the drug on the liver. In another group of cases the syphilis itself seemed to be responsible for the impairment of function causing the positive response to the test ingestion of 200 gm. of milk, fasting.

Presse Médicale, Paris

Feb. 26, 1921, **29,** No. 17

Mechanism of Hiccup. H. Roger and E. Schulmann.—p. 161.
*Intrabronchial Injections for Pulmonary Gangrene. J. Guisez.—p. 162.
*Pneumography of Pleural Adhesions. R. d'Heucqueville.—p. 164.
*Mechanism of Mountain Sickness. J. P. Langlois and L. Binet.—p. 166.

Intrabronchial Injections in Treatment of Pulmonary Gangrene.—Guisez has applied the technic which he illustrates in twelve cases of severe gangrene of the lung. The temperature returned to normal after a few injections, and the general condition rapidly improved. The expectoration promptly diminished but the fetidity was slower in disappearing. He found that the amount of the disinfectant injected must be 20 c.c.; smaller amounts do not reach the lung. There must be no coughing during the injection, hence anesthesia of the trachea is indispensable. The trunk is bent to one side so that the fluid, dropping from the cannula in the trachea, drops directly into the bronchus on the diseased side. He declares that this method is rational, absolutely harmless, and no inconvenience has resulted from its use to date. Besredka has recently published research on dogs showing that the tracheobronchial apparatus is remarkably tolerant of antiserums in a syrup vehicle. Guisez has used for the injections a 1 per cent. solution of menthol or 5 per cent. solution of guaiacol or other disinfectant in an oil solution. A few of his patients have died since of intercurrent disease and the pulmonary lesions were found completely healed. From ten to twenty injections were made in the different cases, daily or on alternate days, with a day of rest once or twice a week. The patient must recline on the diseased side for half an hour after each injection.

Pleural Adhesions.—The advantage of deep respiration in helping to break up pleural adhesions is demonstrated by the pneumographic tracings reproduced.

Mechanism of Mountain Sickness.—Heger assumes that the rarefaction of the air may induce hyperemia in the lungs and that this congestion in the lungs hampers the work of the heart. This would explain the dyspnea of mountain sickness, and might possibly explain the increased number of blood corpuscles found at high altitudes.

March 5, 1921, **29**, No. 19

Protein Therapy. F. Widal, P. Abramí and E. Brissaud.—p. 181.
Vaccine Therapy. L. Cheinisse.—p. 188.

Protein Therapy.—This is a complete oversight of the literature and the writers' experiences in this line to date. It is evident that protein therapy has two main fields, completely different. When the composition of the blood is defective, as in hemophilia and paroxysmal hemoglobinuria, the protein therapy stabilizes conditions in the blood, reestablishes the normal balance. On the other hand, in infectious diseases the aim is suddenly and violently to upset the abnormal condition, inducing a shock, the effects of which may be salutary. Peptone answers the purpose for the first indications, that is, all conditions which are traceable to what they call colloidoclasis. Administration of peptone by the mouth is a very simple and harmless method of warding off attacks of urticaria, migraine or asthma, annulling the action of the unknown substances responsible for their development. Complete desensitization may be realized by prolonged use of the peptone. If this fails, other proteins might be tried by subcutaneous injection, or even certain crystalloid substances with which they have been successful. Protein therapy by shock is not yet ready for general application, notwithstanding the brilliant success which has been realized in some cases. It cannot be applied systematically to all the cases of the same disease. The still inexplicable variability of its effects and the impossibility of estimating them beforehand, compel this method to be reserved for exceptional cases in which all else has failed. They quote freely from articles in THE JOURNAL and do not hesitate to declare that protein therapy marks an important milestone in the evolution of therapeutics.

Vaccine Therapy.—Cheinisse devotes this review to the special articles in THE JOURNAL on pneumococcus and vaccine therapy in general. He explains that they were prepared under the auspices of the Council on Pharmacy and Chemistry, and he describes with much detail and laudatory phrases the aims and scope of this council.

Schweizerische medizinische Wochenschrift, Basel

Feb. 17, 1921, **51**, No. 7

Roentgenography of Anterior Segment of Eyeball. A. Vogt.—p. 145.
*Coagulation of the Blood. A. Fonio.—p. 146.
Action of Carbonated Baths on the Circulation. S. Hediger.—p. 151.
Experimental Research on Compensatory Hypertrophy. P. Nigst.—p. 155.
Mixed Tumor in Esophagus. M. Kinoshita.—p. 156.

Coagulation of the Blood.—Fonio explains that we have five elements at our disposal for study of coagulation, the coagulation time, coagulation valency, and the properties of the clot, its elasticity, its solidity and its retractility, as well as the bleeding time and blood platelet count. He gives illustrations of the simple devices he has invented for study of the above properties of the clot.

Pediatria, Naples

Feb. 15 1921, **29**, No. 4

*Internal Leishmaniasis. P. Foti and N. Javarone.—p. 145.
Composition of Fat in Child Body. A. Bardisian.—p. 156.
*Cerebral Hemorrhage in Infant. L. Conti.—p. 168.

Internal Leishmaniasis.—Foti and Javarone comment on the drop in mortality from 90 or 100 per cent. to only 10 or 20 since tartar emetic has been introduced into the treatment of this disease in children. They give the details of 73 cases treated at Naples by intravenous injection of from 2 to 5 or 7 c.c. of a 1 per cent. solution of the tartrate of antimony and potassium. In young children the external jugular is the most convenient route as a rule. As this drug irritates the kidneys, they must be carefully supervised during the course. There were 17 deaths among the children from intercurrent disease, but in 8 the leishmaniasis had evidently been cured and all the others showed great improvement.

Cerebral Hemorrhage in Infant.—In the case described by Conti the child, 1 year old, presented a puzzling clinical picture explained by hemorrhage in the right hemisphere of the brain. There was no sign of leukemia but chronic nephritis had evidently injured the vessels in the brain as rupture had occurred. Recent research by Riva-Rocci has demonstrated the great fragility of the walls of the blood vessels in children.

Policlinico, Rome

Feb. 28, 1921, **28**, No. 9

*The Urine-Hemolysis Coefficient. A. Amati.—p. 287.
Traumatic Parenchymatous Keratitis. A. Rosica.—p. 289.
Foreign Bodies in Esophagus and Air Passages. E. Cavazza.—p. 293.
Catheterization with Enlarged Prostate. G. B. Sigurtà.—p. 297.

The Urine-Hemolysis Coefficient.—Amati tested the hemolytic power of the urine when graduated amounts of distilled water were added to it. Normal urine has so little hemolytic power that the conclusion seems evident that it must contain some substance which prevents hemolysis, as otherwise its behavior would conflict with the laws of osmosis. In all his research he found only six cases showing hemolysis by the urine, and these were patients with chronic nephritis or cancer. Even in these, the findings were not constant. By adding distilled water to the urine it is possible to obtain a coefficient of the urohemolytic power, and this is constant in cases of cancer and chronic nephritis. In healthy urine, hemolysis does not occur until the urine has been diluted about fivefold, but in cancer cases the ratio is reversed, hemolysis occurring with only one-fifth part distilled water. He thinks that the urohemolytic coefficient thus obtained with a set of eight test tubes, containing urine and progressive amounts of distilled water, may aid in the diagnosis of cancer and of nephritis in dubious cases.

Feb. 1, 1921, **28**, Medical Section, No. **2**

*Heat Sense and Trophic Lesions. P. Albertoni.—p. 49.
*Tumor of the Auditory Nerve. G. Fumarola.—p. 60.
*The Fibers in Peripheral Nerve Trunks. G. C. Riquier.—p. **71.**
*Respiration After Laryngostomy. G. Ferreri.—p. 81.

Cutaneous Sensations Compared with Trophic Lesions in Morbid Processes.—Albertoni gives illustrations of the spots sensitive to heat and cold in three cases of Raynaud's disease, calling attention to the diagnostic importance of changes in the thermic sense.

Tumor of the Auditory Nerve.—The patients in two cases reported were men of 26 and 34, and the necropsy findings confirmed the clinical diagnosis of a tumor in the cerebellopontine angle. In one the first symptoms had developed three weeks after a war wound of the head.

The Fibers in Peripheral Nerve Trunks.—Riquier has been studying the arrangement of the groups of fibers in peripheral trunk nerves, emphasizing the importance of the exact distribution of these fibers in operations on nerves. The article is illustrated.

Respiration After Laryngostomy.—Ferreri describes the findings in regard to the respiration, circulation and phonation after intubation or laryngostomy.

Riforma Medica, Naples

Feb. 12, 1921, **37**, No. 7

The Teaching of Surgical Pathology. G. Muscatello.—p. 145.
*Test for Coagulating Time of the Blood. M. Gelera.—p. 149.
*Serologic Diagnosis of Hydatid Cyst. E. Pesci.—p. 151.
*Pigmented Skin Lesions. C. Lombardo.—p. 154.
*Syphilis and Raynaud's Disease. A. Ghelfi.—p. 156.
*Friedmann's Remedy for Tuberculosis. L. Urizio.—p. 157.
Radiography in Stomatology. B. De Vecchis.—p. 159.
*Surgery of the Pituitary Body. E. Aievoli.—p. 162.

Determination of Coagulating Time of the Blood.—Gelera uses a set of 17 small tubes containing, each, 6 drops of a 1 per cent. solution of sodium citrate. Into each tube except the first is dropped physiologic saline solution, increasing the amount by 2 drops. Thus in the second tube there will be 2 drops of the saline, in the third 4 drops and in the seventeenth, 32 drops. The control tube contains merely 6 drops of saline. Six drops from each of the tubes in turn are transferred to slabs partitioned off into cells (*tavolette munite de cellette*). Then 1 c.c. of blood is drawn from the arm and 1 drop is added to each of the cells, and the whole is kept at 37 C. Gelera has found this test simple, reliable and practical. The test reflects both the dilution and the time, which gives it double value. In normal conditions the blood coagulates in 15 minutes at 37 C. in the tube with physiologic solution alone, and by the end of an hour in all the other dilutions after the fifth tube. The coagulating time is retarded in the tuberculous as a rule, although the leukocytes and the alexin

potency may be good. He attributes this to the scarcity of calcium, the demineralization of the organism making its effects felt even in the coagulability of the blood.

Serodiagnosis of Echinococcus Disease.—Pesci reports experiments and clinical experiences which have confirmed the harmlessness of the fluid in hydatid cysts. No symptoms were observed even when this fluid was injected into the heart of a guinea-pig, but active anaphylaxis was constantly observed when an emulsion of the inner wall of the cyst was injected.

Pigmented Cutaneous Lesions.—Lombardo presents evidence that the coloration in pityriasis versicolor and similar dermatoses is the work of the fungi themselves.

Raynaud's Disease and Syphilis.—Ghelfi reports three cases in which, although there was nothing to suggest syphilis at first, the failure of all ordinary measures in treatment of severe Raynaud's disease led to the assumption of a syphilitic origin. This was confirmed by the prompt and complete recovery under specific treatment. In one of the cases several phalanges of the feet had dropped off.

Surgery of the Pituitary Body.—This synthetic review of recent literature shows the progress in this line. In 160 operations on the pituitary that have been recently compiled, the mortality was about 50 per cent. but is gradually decreasing. In the fatal cases meningitis was responsible for the deaths in 70 per cent. The operation serves mostly merely to relieve compression, but the results obtained to date justify intervention for such inevitably fatal lesions.

Anales de la Facultad de Medicina de Lima

November-December, 1920, **3**, No. 18

*Primitive Science and Art in Peru. E. Escomel.—p. 187.
*Galactagog Action of Carbohydrates. R. Eyzaguirre.—p. 205.
Yellow Fever in Peru. C. E. Zapata.—p. 208.
*Blastomycosis. S. Lozada Benavente.—p. 232. Conc'n.
Contribution to the Study of Peruvian Materia Medica. A. Maldonado.—p. 250.

Science and Art in Primitive Peru.—Escomel's twelve reproductions of pottery and of trephined skulls from the days of the Incas show a remarkable knowledge of medicine and surgery. Pitchers and vases depict the face lesions of leishmaniasis, blastomycosis and harelip with accuracy, as he shows by comparing with illustrations of recent cases of the same diseases. The trephining was evidently done for a humanitarian purpose, and the skill shown in these operations presupposes surgical skill in other lines. The physiologic repair after the craniotomy proves that it was done on the living subject, with long survival. There is reason to assume also that the operations were done under general or local anesthesia induced with the plant from which cocain is derived. The trephining seems to have been a decompressive operation.

Carbohydrates Promote Flow of Milk.—Eyzaguirre has been impressed with the increase in the flow of breast milk when carbohydrates are eaten freely. A dish called *chufla* is particularly useful in this line. It is merely boiled rice, sweetened, and flavored with chocolate, a household galactagog that has been adopted by local physicians as they noted its efficacy. The diet should be mainly farinaceous although, he adds, galega seems to be the most effectual galactagog aside from the sucking of the child.

Blastomycosis.—In concluding this illustrated review of blastomycosis in Peru, Lozada emphasizes the importance of keeping up the tartar emetic treatment for a year or more after the lesions have healed under it. The drug has to be given in large doses by the vein up to the limit of tolerance, beginning with small doses. The drug has a cumulative action, but aside from slight phlebitis there are no inconveniences from a well managed course of treatment.

Brazil Medico, Rio de Janeiro

Feb. 5, 1911, **35**, No. 5

*Radium Treatment of Cancers. A. F. da Costa Junior.—p. 73.
The Mosquitoes of Rio de Janeiro. Belisario Penna.—p. 76.

Radium Treatment of Cancers.—Da Costa reviews the experience with 300 cases of cancer given treatment at the Radiology Institute at Rio, the outcome justifying his assertion that for basal-cell tumors the cure is perfect. The cancer retrogresses without leaving a scar, as a rule. No other method of treatment of this type gives such perfect results, he declares, while no other treatment is so convenient, and it is absolutely painless. Four typical examples of epithelioma of the face are illustrated before and after. This class of tumor is usually strictly localized without involvement of glands. These tumors formed 38.66 per cent. of his total 300 cases.

Feb. 19, 1921, **35**, No. 8

*Action of Certain Oils on Bacteria. A. Fontes.—p. 95.
*Radium Treatment of Cancers. A. F. da Costa Junior.—p. 98.
Schistosomiasis. R. da Silveira.—p. 101.

Action of Certain Oils on Bacteria.—Fontes is chief of a service in the Instituto Oswaldo Cruz, and he here reports that addition of 1 per cent. cod liver oil or chaulmoogra oil or beef gall to the ordinary bouillon culture medium prevents the development of cultures of tubercle bacilli. This impeding action is prevented by adding 2 per cent. gelose to the culture medium, which solidifies it. The oil in the fluid culture medium did not lose this inhibiting property even when filtered through porcelain, but admixture of kaolin annulled it. He theorizes that the bacillus absorbs the fat particles and that the latter form an isolating envelop, insulating the bacillus from the nutritive medium and from the oxygen in the latter, thus practically choking it to death.

Radium Treatment of Cancer.—Da Costa relates that 44.66 per cent. of his 300 cancer cases were of the prickle-cell epithelioma type. This group is very malignant, with metastases and gland involvement. Application of radium after excision of the tumor gives most encouraging results. He cites some typical instances of this type with no signs of recurrence during the many months to date. Cancer of the uterine cervix is often amenable to this treatment, but sometimes it proved refractory. Large and frequent doses of the radium rays seem indispensable. The cancer developed in a nevus in 6.33 per cent. of the total 300 cases, and the results of curie therapy were brilliant as he shows by some illustrated cases; the extensive cavity with high edges on the chin of one woman of 46 healed with scarcely a trace of a scar. Sarcomas formed 10.33 per cent.; great improvement was realized in some, but in others no benefit was apparent. The most striking case illustrated was that of a man of 58 with a fibrosarcoma in the parotid region. It protruded so that it doubled the diameter of the neck. No effect was realized under two months of cross-fire radium treatment, but then the radium was embedded in the tumor, and in five applications—a total of seventy-seven hours—the tumor subsided almost completely, leaving merely the scarcely noticeable fibrous base. This patient was a syphilitic, with positive Wassermann reaction.

Gaceta Médica de Caracas, Venezuela

Jan. 15, 1921, **28**, No. 1

Abdominal Versus Vaginal Obstetric Palpation. D. Lobo.—p. 1.
Inaugural Lecture of Bacteriology Course. J. M. Romero Sierra.—p. 4.
Inaugural Lecture of Histology Course.. Inocente Carvallo.—p. 9.
Inaugural Lecture of Surgery Course. J. M. Espino.—p. 10.

Revista Médica de Chile, Santiago

January, 1921, **49**, No. 1

*Torsion of the Uterus. J. Alvarado.—p. 1.
*Bone Implant in Pott's Disease. J. Alvarado Wall.—p. 3.
Bacteriotherapy. Mamerto Cadiz.—p. 8.
*Thrombophlebitis of Cavernous Sinus. C. Charlin C.—p. 27.
*Suture of Blood Vessels. A. Ibañez Benavente.—p. 35.
Radiology of Digestive Tract. A. Kaplan.—p. 40.
Artificial Anus. G. E. Münnich.—p. 45.
Echinococcus Disease in Santiago. J. Noe.—p. 62.

Torsion of the Uterus.—Alvarado reports a case which shows the difficulty that may be encountered in diagnosing an ovarian tumor when the uterus is twisted on its axis. In this case the left adnexa had been dragged into the right side of the abdomen.

Bone Implant in Pott's Disease.—Alvarado applied the Albee technic in a boy of 13 to introduce this method in Chile.

Thrombophlebitis of Cavernous Sinus.—Charlin remarks that ophthalmocavernous thrombophlebitis is not so rare as generally supposed, the patient often dying without correct

diagnosis. He here reports two new cases supplementary to his previous communication on the subject. The main symptoms are the high fever, the exophthalmos, edema in the lids and other orbital symptoms, and the symptoms indicating irritation of the meninges and brain, headache, somnolency, torpor, and coma. These five cases teach that with these symptoms the cavernous sinus should be opened at once. In four of the cases there had been symptoms for a week, but the physician had not realized the danger, and surgical measures were not applied until too late, and all died. When the orbital symptoms have developed, there is no chance of success by acting merely on the peripheral localization. The base of the skull must be reached. He advises immediate bacteriological examination of the blood as this will guide to causal therapy. The thrombophlebitis once diagnosed, the best intervention is to open and drain the cavernous sinus through the orbit by the Krönlein technic. He cites the technic as given by Keen.

Suture of Blood Vessels.—Ibañez describes a method of suturing a blood vessel in two planes. He turns back each stump of the vessel like a cuff, and sutures the folded over edges together all around. Then he turns back the cuffs and sutures their outer edges together, thus reenforcing the inner suture with a second row. At first the cuffs are held up in place with three stitches until the first plane of suture is completed. Then those three stitches are cut, the cuffs turned back and the other edges are sutured together to reenforce the inner plane. By this method the lumen of the vessel is not narrowed in the least, as with the Carrel technic, and it always proved a success in his eighteen experimental operations of the kind, even with an implanted segment of a vessel.

Semana Médica, Buenos Aires

Oct. 28, 1920, **27**, No. 44

*Asthma and Its Treatment. E. Mariño and M. J. Barilari.—p. 567.
*Fulguration for Tumors of Nasopharynx. L. Samengo.—p. 570.
Diphtheria Antitoxin in Treatment of Epidemic Encephalitis. B. Castilla Sastre and F. A. Bourdet.—p. 575.
The Neuropathic Diathesis. Efraín Martínez Zuviría.—p. 577.
Ferrán's Vaccine Therapy of Tuberculosis. A. Milano.—p. 583.
Internal Secretions and Tuberculizable Soil. J. A. López.—p. 586.
Hypnotism Combined with Psychanalysis. A. Forel.—p. 588.

Asthma and Its Treatment.—Mariño and Barilari regard the thymicolymphatic constitution as the soil on which asthma may develop from various causes. They accept this status as equivalent to vagotonia. It implies an inherited morbid taint, and this is generally alcoholism or syphilis. The soil should be treated with all the physical and natural methods at our disposal, especially with climate, heliotherapy, hydrotherapy, respiratory exercises, strengthening the body and hardening it to cold, with proper diet and organotherapy, arsenic, iodin, etc. They declare that the asthma is never of tuberculous, pneumococcus or specific origin; these infections merely settle in a favorable soil. In nearly all cases of vagotonia there is enlargement of the glands in the tracheobronchial region. Whatever the cause of this adenitis, it induces inflammation around and direct irritation of the vagus nerve, and this in turn brings on the attack of asthma.

Fulguration for Tumors of the Nasopharynx.—Samengo confirmed the remarkable hemostatic power of fulguration in a case in which recurring hemorrhage had kept up for forty-eight hours after removal of a tumor in the nasopharynx. The special advantages of this method are the rapid, solid healing, and the absolutely localized effects. The technic is illustrated as applied in four cases of which the details are given.

Deutsche medizinische Wochenschrift, Berlin

Dec. 9, 1920, **46**, No. 50

Studies on Tuberculosis. W. Kolle and H. Schlossberger.—p. 1381.
Mercurial Treatment of Syphilitic Eye Disease. J. Hirschberg.—p. 1382.
Gangrene of Lung and Fusospirillar Symbiosis. H. C. Plaut.—p. 1384.
Brain Culture Medium for Gonococci. A. Pettersson.—p. 1385.
Own Urine Reaction in Pulmonary Tuberculosis. Bressel.—p. 1385.
The War in Relation to Scrofulous Eye Disease. Dohme.—p. 1387.
*Disturbance of Sleep Following Encephalitis. A. Janecke.—p. 1388.
Case of Invagination plus Internal Strangulation. K. Wohlgemuth.—p. 1389.
*Prevention of Pain Following Amputations. A. Solomon.—p. 1390.
Metal Foils in Practical Surgery. Gretsel.—p. 1391.
*Effect of Hardness of Water in Health and Disease. K. Opitz.—p. 1391.
Calcium Therapy and Skin Protective Function. Veilchenblau.—p. 1393.
Senile Cataract and Cataract Operations. K. Steindorff.—p. 1394.

Postencephalitic Insomnia.—Reviewed editorially, p. 934.

Prevention of Sensory Disturbances After Amputations.—Salomon has tried in eleven reamputation cases and two of amputation neuralgia the freezing method recommended by Trendelenburg and Läwen. The surrounding soft parts were first well protected with sodium chlorid compresses. The nerve is drawn out to a considerable distance and a metal casing placed over it for protection; he used for this a pencil case. Ethyl chlorid is then sprayed directly on the nerve at the upper edge of the casing, about 4 or 5 cm. above the transverse incision. The nerve becomes frozen in from one to two minutes, is kept frozen for four minutes, and is then allowed to thaw out, which requires several minutes. Then the freezing process is repeated. Afterward the nerve is divided about 2 cm. below the point of refrigeration. If several large nerve trunks are involved, all must, of course, be frozen. The postoperative pains were much less than usual; in fact, with the exception of one case, were scarcely noticeable, but in this one patient they were more severe than in former operations, for the first four days, but then they ceased entirely. Patients who had been reamputated before could note a marked improvement over former operations. The only objection to the method, he found, was the extra time required. However, as a quicker means of accomplishing the same end, Salomon has tried alcohol injections in three cases, with good results. He injected from 1 to 2 c.c. of alcohol 3 or 4 cm. above the cut surface. The sensations in the lost foot disappeared immediately after the injection and had not returned at last accounts (eight months later). If these experiences with alcohol injections should be confirmed by further trials, Salomon thinks his modified method may prove to be preferable to the somewhat complicated freezing process.

Effect of Lime in Drinking Water.—Opitz presents a table showing the results of his extensive investigations on the effect of the hardness of drinking water on the population using it. In Group 1 he considers communities with drinking water having a hardness of less than 10 degrees; in Group 2, those in which the drinking water possesses from 10 to 31 degrees of hardness, and in Group 3 those that used drinking water with more than 30 degrees of hardness. He found that communities with very hard drinking water were much better off than those using soft water as regards the frequency of dental trouble in schoolchildren, in registrants for military service and disability claimants; also as regards the frequency of rachitic teeth in schoolchildren, the body weight and degree of robustness in registrants for military service, the vitality of the new-born, and the frequency of signs of nervous hyperexcitability in infants, in schoolchildren and in those insured against invalidity. There was also a slight advantage as regards the size of the new-born and of schoolchildren and also with reference to mortality from tuberculosis. Communities with soft water had the advantage as regards the frequency of calcification of arteries in recipients of invalidity allowances. The degree of hardness of the water had no perceptible influence on the size of the registrants for military service, on the number of stillbirths, the birth and death rate, and the frequency of tuberculosis in those insured against invalidity.

Deutsche Zeitschrift für Chirurgie, Leipzig

December, 1920, **160**, No. 5-6

*Constitutional Pathology of Surgical Diseases. K. H. Bauer.—p. 289.
*Blood Picture During Heliotherapy. K. Köster.—p. 352.
*Operative Treatment of Aneurysms. E. O. Schmidt.—p. 380.
*Abdominal Wounds. A. Steiger.—p. 413.

The Constitutional Pathology of Surgical Diseases.—Bauer has had the opportunity of clinical and histologic study of osteogenesis imperfecta in a 7 months' fetus and of idiopathic osteopsathyrosis in a boy of 11. His research has not only confirmed that the two are merely different stages of an identical process, but has further demonstrated that this process is an inheritable, constitutional anomaly of all the tissues derived from the mesenchyma, not merely of the bones alone. He cites families in which different members had one or the other simultaneously, and this repeated through generations. The connective tissue, the blood vessels and the lymphatics

all show the imprint of the primary defect in the formation of the mesenchyma. The result is a characteristic habitus and temperament as well as the abnormal structure of part of the body. He illustrates his cases and compares them with the literature on constitutional pathology. This conception of defective development of one of the germinal layers or of certain tissues derived from it provides a new principle for classification and linking up of diatheses and constitutional anomalies.

The Blood Picture During Heliotherapy.—Köster tabulates the repeated differential blood count in fifty cases of bone or joint tuberculosis taking regular sunbath, outdoor treatment in the Swiss mountains. The erythrocytes increased in number in the majority, but only once reached the altitude figure given in the literature, and the numbers declined in many cases, even in some that were progressing favorably. The hemoglobin percentage increased materially in nearly all.

Operations for Traumatic Aneurysms.—Schmidt summarizes thirty-six operative aneurysm cases, and discusses the indications with aneurysms at different points. Suture was attempted in only four of the cases, but the ligature was sometimes applied high up on the vessel, for example, on the common femoral artery, just below the mouth of the deep femoral, for an aneurysm in the popliteal artery. The blood stream can sometimes be diverted, as with an end-to-side anastomosis of the external carotid with the internal carotid, below an aneurysm in the latter. The immediate results were good in all but four of the cases, and in two of these the operation could not be incriminated for the fatal outcome.

Wounds of Liver and Intestines.—The four instructive cases described show the importance of the local pain. Even when signs pointed to another region of the abdomen, Steiger found it safer to operate at the point where the patient said it "hurt the most." In one of the cases the lower surface of the right lobe of the liver was bleeding from a 10 cm. long and deep wound, large enough for four fingers. But after this cleft was packed tight, the abdomen was sutured; the gauze was removed the ninth day, and healing was complete the sixth week except for a small fistula.

Mitt. a. d. Grenzgeb. d. Med. u. Chir., Jena

1920, **32**, No. 5

*Duodenal Disturbance from Adhesions. A. Foerster.—p. 587.
Shape of the Stomach. J. Volkmann.—p. 607.
*Influence on Coagulation of Thromboplastic Substances. A. Szenes.—p. 627.
Sensibility of Flap in Remote Plastic Operations. W. Lehmann and E. Jungermann.—p. 653.
*The Narrow Portions of the Stomach. K. Westphal.—p. 659.
*Congenital Hemolytic Jaundice. H. Sauer.—p. 696.

Duodenal Disturbances from Adhesions.—Foerster reports nine cases in which the diagnosis of duodenal ulcer seemed beyond question, including all the roentgen-ray and clinical findings and the history of the cases. The operation revealed, however merely adhesions between the duodenum and the gallbladder or the colon. No changes indicating previous ulceration could be detected in six of the cases. One patient had had hemorrhages several years before and in another, signs of a healed ulcer were found at necropsy. Otherwise the changes were entirely outside of the duodenum, and only in one instance was there anything found suggesting abnormal conditions in the gallbladder at any time. The irregular alternation of periods with and without pain shows that these chronic changes alone are not enough to account for the disturbances or they would be continuous. Some unknown factor must be superposed. Little can be accomplished by therapeutic measures. Even surgical intervention breaking up the adhesions does not ensure a permanent cure. The tendency to formation of adhesions persists, and in four of his cases new adhesions developed and the old symptoms returned. The patients were three women between 23 and 39 and six men between 23 and 41. The only case with signs of an old healed ulcer terminated fatally as peritonitis developed after the laparotomy. Four of the patients have been free from all disturbance during the months to date.

To Promote Coagulation of Blood.—Szenes' experimental research with various thromboplastic substances has demonstrated that calcium by the vein is the most effectual substance known to date for inducing coagulation of the blood. Next comes an extract of blood platelets given by the vein in hypertonic saline; next to this he ranks transfusion of blood, and, lastly, a simultaneous injection of a 10 per cent solution of sodium chlorid by the vein with an organ extract subcutaneously and locally. The hypertonic saline draws the thromboplastic substances into the blood, and we increase the supply of these substances by injecting the organ extract subcutaneously at the same time. He used for the purpose the extract expressed from human goiters, lungs and testicles. To prepare a bleeder for an operation, he gives calcium preparations by the mouth for several days beforehand. If he has only hours at his disposal, he gives by the vein, two hours before the operation, 40 c.c. of a 10 per cent. solution of sodium chlorid. Or else he gives a subcutaneous injection of an organ extract, an hour or two before the operation, with a calcium preparation by the vein at the same time, or intramuscularly when it can be given an hour so before. The work issues from Eiselsberg's clinic at Vienna, and analyzes experiences with a number of patients. They confirm the lack of thrombogen in the blood plasma in hemophiliacs and its abundance in the normal. When more of it is injected into the normal, the surplus is liable to induce severe toxic symptoms, while the anemic and hemophiliac bear it without the slightest tendency to toxic action.

The Narrow Portions of the Stomach.—Westphal seeks to explain the predilection of ulcers for certain sites in the stomach and their chronic course by the mechanical arrangement of the narrower segments, constriction from clothing and spasmodic contraction. Treatment of ulcer might therefore include atropin and the extensive application of cataplasms as hot as can be borne, two or three times, for three hours a day after meals, possibly hot enough to cause a burn of the first degree and browning of the skin, to overcome the spasm. The modification induced by this external heat has been known to put an end completely to six-hour retention. To reduce the mechanical irritation, the food for three months at least should be finely divided, with very little cellulose. For at least four weeks a careful course of reclining should be enforced, so that the soft and nonirritating food would pass along the posterior wall and spare the lesser curvature and reach the pylorus in small amounts at a time. This would give the danger points a chance to rest and recuperate.

Congenital Hemolytic Jaundice.—Sauer has removed the spleen in five cases of this kind in the last few years; in two boys of 11 and 16, a girl of 9, and a woman and a man, both 38. In four of the cases, the disease was inherited. The intensity of the jaundice fluctuated, at times subsiding completely. The spleen was much enlarged in all, it was larger the older the patients, but there was no ascites, and no diarrhea, and nothing to indicate syphilis in the family. The patients have all been examined regularly during the years since the splenectomy. In three the blood shows no further pathologic tendency, and the patients all said they felt as if newly born after the operation. In three of the cases the cure was complete and has been permanent for three up to seven years to date. The spleen cannot be incriminated for the whole process, however, as the abnormally low resistance of the erythrocytes to hypotonic salt solution still persists. The anomaly is to be sought in the blood corpuscles themselves, Sauer thinks. The main seat of the destruction of the peculiarly fragile erythrocytes lies in the spleen. He cites as important some recent research by Holland, Lommel and Beckmann who found the blood corpuscles apparently normally resistant in some cases of true hemolytic jaundice.

Münchener medizinische Wochenschrift, Munich

Dec. 10, 1920, **67**, No. 50

Nature and Origin of Diastasic Ferments. W. Biedermann.—p. 1429.
*Indications for Intravesicular Intervention. P. Janssen.—p. 1431.
*Renal Glycosuria in the Early Diagnosis of Pregnancy. E. Frank and M. Nothmann.—p. 1433.
Modification of Radical Operation for Inguinal Hernia. Ahrens.—p. 1434.
Oligodynamic Effects of Metals on Growth of Bacteria. Seiffert.—p. 1437.
*Sodium Chlorid Solution for Ulcus Cruris. F. Kraus.—p. 1439.
Course of Exudative Erythema Multiforme. H. Katzenstein.—p. 1439.
*Causes of Rectal Fistula. Thoss.—p. 1440.
Apparatus for Treatment of Larynx with Ultraviolet Rays. F. Noll.—p. 1441.
Quartz Laryngeal Mirror for Use with Ultraviolet Rays. H. Ladebeck.—p. 1442.

Significance of the Varying Positive Serum Reaction in the Arsphenamin Treatment of Seronegative Primary Syphilis. Gennerich.—p. 1442.
Swiss Welfare Work for German Children. E. Abderhalden.—p. 1444.

The Indications for Intravesicular Intervention.—Janssen commends the method of electrocoagulation as introduced by Beer (New York). He praises the simplicity of the apparatus, the mode of application and the speed with which perfect results can be secured. The current is derived from an ordinary thermopenetration apparatus. In a series of cases of bladder tumors the destruction of the growths was accomplished without the slightest postoperative hemorrhage. Janssen has no hesitation in giving ambulant treatment owing to the harmless nature of the intervention. In the rare cases in which the tumor is located at the outlet or at the vertex of the bladder, electrocoagulation is contraindicated, as the apparatus is inadequate. In large benign papillomas which occupy a large portion of the bladder, electrocoagulation is also contraindicated, as the sittings would have to be unduly prolonged. Also in malignant tumors and in certain tumors of doubtful malignancy, electrocoagulation is not the method of choice as it does not guarantee thorough destruction of the base of the tumor and therefore does not protect the patient against recurrence. In such cases extensive resection of the bladder wall can scarcely be avoided.

Renal Glycosuria as an Aid in the Early Diagnosis of Pregnancy.—Frank and Nothmann report as the result of their investigations that in thirty pregnant women alimentary glycosuria was produced in every case during the first three months of pregnancy. Renal glycosuria thus can be used as a means of early diagnosis of pregnancy after the first suspension of the menses, when other gynecologic tests can furnish no definite diagnosis. The test is made with 100 gm. of chemically pure grape sugar ingested in 350 or 500 c.c. of tea, after the catheter has been introduced into the bladder, and the urine is examined every fifteen minutes for sugar. The blood was examined for sugar before and during the test. The glycosuria developed in about forty-five minutes and was always moderate, never above 0.9 per cent.; usually it was between 0.2 and 0.5 per cent. The blood sugar kept within normal range. They think that we can count on this test in from two to three weeks after conception occurs. In a case of tubal pregnancy, the response was positive, while it was constantly negative in the cases in which pregnancy was disproved later. An alimentary glycosuria after test ingestion of starch was also noted in 60 per cent. of the pregnant women.

Treatment of Ulcus Cruris with Strong Solutions of Sodium Chlorid.—Kraus states that a 10 per cent. solution of sodium chlorid proved efficacious in the treatment of inflammation of cellular tissues of all kinds. Of late he has tried the sodium chlorid solution in connection with the treatment of ulcer of the leg and with pronounced success. After careful cleansing of the ulcer with a 10 per cent. sodium chlorid solution, a bandage dipped in the same solution was applied every morning. In the evening, after removing the bandage, the dressings were again moistened with the solution. The ulcer became rapidly smaller. The developing granulations were touched every two or three days with silver nitrate. Even large ulcers healed in ten days. To the site of the ulcer 4 per cent. ointment of boric acid was applied, for about ten days longer, and covered with a protective bandage.

Rôle of Tuberculosis in Rectal Fistula.—Thoss states on the basis of an extended inquiry that from the microscopic standpoint, tuberculosis as the cause of rectal fistula can be recognized in only 5.5 per cent. of the cases. Viewed from the standpoint of the general condition of the patient, the indications are that tuberculosis was the cause in 11.9 per cent. of all cases.

Wiener klinische Wochenschrift, Vienna

Nov. 18, 1921, **33**, No. 47

Stasis Hyperemia to Enhance Action of Tuberculin Treatment. O. Paneth.—p. 1021.
Morphin Allergy of Human Skin. A. F. Hecht.—p. 1023.
Nitrogen Content of Urine in Chronic Undernutrition. Klara Kohn.—p. 1027.
Clinical Aspects of Disease of Median Lobe of Cerebellum. F. Fremel and P. Schilder.—p. 1030.

Zeitschrift für Tuberkulose, Leipzig

December, 1920, **33**, No. 3

*Tuberculosis Acquired in Nursing Service. H. Braeuning.—p. 129.
*The Kidneys in the Tuberculous. O. Kieffer.—p. 137. Conc'n.
*The Other Lung with Artificial Pneumothorax. E. Schill.—p. 149.
Vaccination of Cattle with Attenuated Tubercle Bacilli. H. Haupt.—p. 157.
*Tuberculosis and Nostrums. K. Klare.—p. 161.

Tuberculosis Contracted in Nursing Service.—Braeuning investigated conditions at Stettin among nurses in the hospitals. He found thirty-six known to be tuberculous and ninety-six supposedly healthy nurses, and concludes that tuberculosis does not seem to be more prevalent among nurses than among other self-supporting women. But in from 15 to 30 per cent. of the cases no cause outside of the nursing employment could be incriminated. In prevention, he urges better training of nurses, and reliance on boiling rather than on disinfectants for cuspidors, etc. Occasionally, he remarks, there seems to be a pathogenic influence in the care of far advanced cases, particularly of laryngeal tuberculosis, which breeds infection even with scrupulous hygiene. Aside from this, he says, the tuberculosis morbidity among nurses should be far less than that among self-supporting women in general.

The Kidneys with Pulmonary Tuberculosis. — Kieffer emphasizes the importance of detecting pathologic conditions in the kidneys with mild pulmonary tuberculosis, as proper treatment then may ward off serious damage. Focal nephritis is generally rebellious to all treatment. With much hematuria, salt should be restricted, but he warns not to upset the precarious balance of the appetite by this restriction of salt. He warns further against trying to flush the kidneys by copious drinking or a milk diet, as this throws too much extra work on the heart and exaggerates the catarrhal conditions in the lungs. It may prove useful however to occasionally interpose a day of restriction of fluids by the Karell method, possibly every five or six days. In treatment of nephrotic edema, restricted intake of fluid and salt is important but difficult to enforce in the tuberculous. Nowhere is it more important to differentiate the type of the kidney disease than in the tuberculous, as different treatment is required to refrain from doing harm, as he explains in detail. The heart must be supervised with special care. Large doses of urea sometimes prove the most effectual diuretic with edema, but the patients soon begin to object to it. Diffuse glomerular nephritis with cardiovascular symptoms he advises to treat by Volhard's method of alternating days of starvation and thirst with a day of copious intake of fluid, as for the water test.

Influence of Artificial Pneumothorax on the Other Lung.—Schill urges that two or three months of repeated examination of both lungs should precede the artificial pneumothorax. This is the only means to determine with precision whether the compression of one lung has an injurious influence on the other. There is no convincing evidence of this on record to date, he says. The processes observed in the noncompressed lung would probably have taken about the same course in any event.

Tuberculosis and Nostrums.—Klare gives his fourth annual review of this subject. He says that since the war the organized profession and the state authorities are working harder than ever before to check the activities of quacks, but very little has been accomplished. The news of the fines and penalties imposed does not get to the public, and the profits of quackery are such that fines can be easily paid and the work go on. He gives a list of the most advertised nostrums for tuberculosis.

Zentralblatt für Chirurgie, Leipzig

Nov. 20, 1920, **47**, No. 47

*Extirpation of Suprarenals in Epilepsy. O. Bumke and H. Küttner.—p. 1410.
*Filling Body Cavities with Oxygen. C. Rosenberger.—p. 1411.
Nasoplasty from the Upper Lip. J. F. S. Esser.—p. 1412.
Fronto-Occipital Head Bandage. F. Härtel.—p. 1414.
Simple Method of Fastening a Catheter. J. J. Stutzin.—p. 1416.
"Remarks on Renal Calculus Operations." M. Zondek.—p. 1417.

Extirpation of Suprarenals in Epilepsy.—Bumke and Küttner recommend a different operative technic from Brüning. They say that with laparotomy there is considerable difficulty in locating the suprarenals, whereas from the lumbar region

the organs are found without any trouble. They operate on the left side as does Brüning. They describe their technic in detail.

Filling Body Cavities with Oxygen for Roentgen-Ray Examination.—Rosenberger describes his simple method of filling the abdominal cavity or the joints with oxygen for roentgen-ray examination.

Zentralblatt für Gynäkologie, Leipzig

Nov. 27, 1920, **44**, No. 48

*Pneumoperitoneum in Gynecologic Practice. A. Mayer.—p. 1370.
*The Failure of the Sigwart Sign. R. Salomon.—p. 1375.
*Fistula Cervicis Uteri Laqueatica. V. Hiess.—p. 1378.
*Formation of Artificial Vagina. F. Neugebauer.—p. 1382.

Diagnostic and Therapeutic Value of Pneumoperitoneum in Gynecologic Practice.—Mayer states that gynecologists would do well to follow the example of surgeons and internists and make wider use of pneumoperitoneum. He describes his technic, and sums up what pneumoperitoneum can be expected to accomplish. Small, obscure abdominal hernias can be demonstrated. Adhesions of the omentum and the intestine are revealed clearly and distinctly, which is of great diagnostic value when spastic occlusion and various forms of hysteroneurasthenia have to be considered. Under certain circumstances the otherwise obscure starting point of neoplasms may be discovered. A tumor of the abdominal wall can be easily distinguished from a tumor back of the rectus (myoma), and pseudogenital tumors may be traced to their real starting point. The character and the extent of peritoneal adhesions and indications of pelviperitonitis can be easily established. The involvement of the intestine in malignant ovarian growths may be directly elucidated. The difficult features of an operation can be better estimated beforehand, and many an exploratory laparotomy be rendered unnecessary. Aside from the diagnosis, the method has also a certain therapeutic value as was shown by the fact that two women with adhesions were relieved of their symptoms, without operation, in from eight to fourteen days. Other writers have reported favorable therapeutic effects by the mechanical breaking up of adhesions. The gas may possibly exert a bactericidal action and promote resorption by the hyperemia it induces.

The Sigwart Sign of Pathogenicity of Streptococci.—Salomon reports the results of his experiments and states that the Sigwart sign does not suffice to distinguish between pathogenic and nonpathogenic streptococci.

The Pathogenesis of Posterior Cervicovaginal Fistulas.—Hiess reports two case histories in support of Wiczynski's view that constitutional factors play an important part in development of these fistulas.

Plastic Construction of Vagina in Congenital Absence.—Neugebauer says that, as regards the formation of an artificial vagina, there are now only two methods contending for supremacy; namely, the Baldwin-Haeberlin method (formation from the small intestine) and the Schubert method (formation from the large intestine). All the other methods that were formerly used have had to strike sail before these superior methods. Neugebauer reports five cases in which the small intestine was used. He admits that occasionally necrosis occurs on the outer edge of the portion of the intestine that is drawn through, but this does not affect the final result. There is also a tendency to shrink, which requires after-treatment for several weeks. At first, coition causes some discomfort, and there is often considerable secretion, but these inconveniences soon pass away. The late results (nine and ten years after operation) are entirely satisfactory.

Zentralblatt für innere Medizin, Leipzig

Nov. 13, 1920, **41**, No. 46

Experiences with the "Serologic Diagnosis of Carcinoma." R. Wigand.—p. 786.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 29, 1921, **1**, No. 5

Psychic Rhythm in Relation to the Heart Beat and Respiration Rate. J. C. Goudriaan.—p. 478.
Pathologic Anatomy of Friedreich's Disease. Rombach.—p. 504.
Pedunculated Cancer of the Larynx. H. Burger.—p. 511.
*Danger from Pituitary Treatment. B. J. W. van Eerten.—p. 513.
Premature Separation of the Placenta. A. Verschoor.—p. 515.

Danger of Pituitary Treatment.—In one of the two cases the child could not be revived after delivery, twenty minutes after injection of pituitary extract. In the second case, severe collapse followed the injection of the pituitary extract after the child had been safely delivered. The uterus contracted violently with severe pains, and nausea at each contraction. After half an hour of this there was complete collapse with imperceptible pulse. It improved under saline infusion, but then the severe labor contractions began anew with vomiting, the pulse growing worse at each contraction. Under camphorated oil and 5 mg. of morphin the condition improved and the case proceeded normally thereafter. The first patient was a primipara. The second had had ten spontaneous and easy deliveries before, but the labor contractions had always been exceptionally severe. This latter fact should have warned against the use of pituitary extract.

Acta Medica Scandinavica, Stockholm

Feb. 4, 1921, **54**, No. 4

*The Glycosuria Threshold. K. Faber and A. Norgaard.—p. 289.
*Idem in Diabetics. K. Faber and A. Norgaard.—p. 313.
*The Function of the Pineal Gland. S. Zandrén.—p. 323.
*Mode of Action of the Universal Light Bath. C. Sonne.—p. 336.

The Glycosuria Threshold.—Faber and Norgaard report the case of a woman of 29 who for three years has been known to be subject to renal glycosuria, the urine containing from 60 to 80 gm. of sugar on the ordinary diet. She seems in excellent health notwithstanding the 5 or 6 per cent. glucose in the urine. In another case about 1 per cent. of sugar has been found in the urine of the man, now 29, for twenty-two years; an older brother has a similar renal glycosuria. In both cases the sugar content of the blood was normal and the glycosuria persisted through the twenty-four hours. A low threshold for sugar in the kidneys seems the most plausible explanation. In a third case the urine contained only the normal amount of sugar in the morning but after meals it ran up to 0.118 or 0.152 per cent. although the blood sugar kept within normal range. It was thus a case of cyclic glycosuria of the renal type.

Glycosuria Threshold in Diabetes.—Faber and Norgaard tabulate the blood sugar findings in 32 diabetics at the moment when the urine had been about freed from sugar by fasting treatment. The sugar content of the blood at this moment ranged from 0.19 to 0.09 per cent. In sixteen of the patients this examination was repeated several times as glycosuria developed again, and again yielded to appropriate treatment. The intervals ranged from one to twenty months, but the individual blood sugar threshold was found identical each time.

The Pineal Gland.—Zandrén describes the clinical course and necropsy findings in a case of infantilism in a boy of nearly 17 with total absence of the pineal body. The boy had developed normally to the age of 10, but none of the phenomena of puberty followed. The thyroid and hypophysis seemed normal, but the structure of the testicles corresponded to that of the age of 2. In the seventy cases on record of tumor of the pineal gland, most were in adults, but ten were in boys below the age of puberty, and these all presented precocious and pronounced development of the primary and secondary sexual characteristics, and some a certain degree of mental precocity. Zandrén's case and the literature cited seem to suggest that the main function of the pineal gland is to initiate the puberty process, probably by its hormone stimulating the sexual glands to exert their specific function.

Mode of Action of the Universal Light Bath.—Sonne reports exhaustive research on this subject from various standpoints. His final conclusion is that the curative effect of phototherapy is due to the heating of a large part of the total blood volume to a temperature possibly exceeding the highest temperature reached in fever, without heating the rest of the body to any appreciable degree. This is the work of the luminous rays, and the effect on oxidations and on production of antibodies is like that of fever without the injurious effects of fever. The work issues from the Finsen Light Institute at Copenhagen. It is Sonne's sixth publication on the subject. All the articles in this number of the *Acta* are in English.

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THE ETIOLOGY OF HEART FAILURE*

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There has been much discussion since 1917 about the prevention of heart disease, and the statement has been frequently made that the chief danger to which persons with heart disease are subject is a reinfection of the damaged heart.[1] In every clinician's experience there is a small group of heart patients which exemplifies this statement. The members of this group either die or are seriously incapacitated from a recurring endocarditis. There is, however, a large group of heart patients who suffer from attacks of what used to be called "decompensation" and are now called "heart failure" or "cardiac insufficiency," in which the cause of the breakdown is not considered to be an infection. It is thought to be, rather, a physical or mental strain, or the very nature of the mechanical defect in the valves is supposed to lead ultimately to a "decompensation." The very general restriction of the physical activity of patients with heart disease can be traced to this belief, for thereby it was thought that a breakdown could most certainly be avoided.

In 1917 I [2] made the statement that the particular danger to which "children with cardiac disease are exposed is more damage to the heart. This rarely results from exercise, but from infection." Thomas Lewis [3] has recently expressed the same view. If this idea is true, it is of the utmost importance from the standpoint of prevention. In order to give a basis of fact to this conception, it seemed necessary to examine a series of cases of cardiac failure to see whether any evidence of infection, either in the history or in course of the disease, could be detected.

The term "cardiac failure" indicates that condition in which the heart fails to carry on the circulation adequately. The failure may be sudden, as in pulmonary edema following coronary disease and myocarditis, or gradual, as in the disease I am discussing. The early symptoms are dyspnea, fatigue, precordial pain and palpitation during amounts of physical exercise which formerly did not cause these symptoms. The later signs of this condition are the evidences of venous congestion: cyanosis, engorged cervical veins, enlarged liver, and edema of the subcutaneous tissue, of the lungs, and of the serous cavities. The early symptoms are precisely the same symptoms which any patient with heart disease experiences when he carries out physical exercise beyond the capacity of his heart. They are the same symptoms that any person with a normal heart experiences when he performs work beyond his heart's capacity. They are, in other words, symptoms of overtaxing the heart. In the normal person and in the person with heart disease they disappear a few moments after completion of the work. Likewise, they disappear after perhaps a longer period in the patient with the beginning heart failure. There is, however, this important and significant difference in the latter patient: Each day, smaller and smaller amounts of work call forth these symptoms of cardiac overtaxing until finally he is confined to bed and the signs of venous congestion appear or increase. To express the sequence of events in different words, his cardiac reserve power, as shown by the exercise tolerance, has steadily decreased until the heart is unable to carry on the circulatory demands, even with the body at rest.

The symptoms of overtaxing the heart are frequently called symptoms of cardiac failure. Strictly speaking, this is incorrect. It is true that they are always present in heart failure, even in the absence of exertion; but they are not peculiar to heart failure for, as has just been said, they are present in normal persons and in persons with heart disease in whom there is no suspicion of heart failure. It is their progressive increase during smaller and smaller amounts of physical exercise which is characteristic of heart failure. Therefore, the term "cardiac failure" should be used only to indicate that condition showing either a sudden failure of the heart, as in pulmonary edema following coronary sclerosis, or a gradual failure, evidenced by a progressive decrease in the heart's reserve power (i. e., declining exercise tolerance) and the signs of venous congestion.

In accordance with the plan stated above, a table was compiled from the records of the Second Medical Division of the New York Hospital and from those of the House of Relief, which included all cases of heart failure complicating chronic cardiac valvular disease and chronic myocarditis, with these exceptions: No patient who remained in the hospital less than three days, no patient who had any complication that might cause fever, no patient who gave a history of syphilis or showed a positive Wassermann test, and no patient in whom a diagnosis of acute endocarditis was made, was included in these tables.

In the histories of these patients, particular attention was directed to the existence of any physical or mental strain, or any infection immediately preceding the onset of symptoms. A patient with a rectal temperature

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* From the Second Medical Division, New York Hospital.

* Owing to lack of space, this article is abbreviated here by the omission of many tabulated case reports. The complete article appears in the author's reprints.

1. Barringer, T. B., Jr.: New York State J. M. **17**: 403 (Sept.) 1917.
2. Letter to Dr. Haven Emerson, Health Commissioner of New York, Nov. 17, 1917, apropos of Physical Training Syllabus for New York State, 1917.
3. Lewis, Thomas: The Soldier's Heart and the Effort Syndrome. New York, Paul B. Hoeber, 1920, p. 37.

above 99.6 which continued for *more than two days* was considered to have fever. Also, the early symptoms of heart failure were noted.

There were 117 patients with valvular disease and thirty-seven patients with myocardial disease, making 154 patients with chronic heart disease. Five patients gave a history of physical strain immediately preceding the early symptoms, and two of mental strain. In eighteen patients the early symptoms followed directly some infection, like bronchitis or influenza. Of the early symptoms, precordial pain was present thirty-five times.

One hundred and seventeen patients showed fever of varying degrees, running a course of from three days to many weeks.

tosis are evidences rather of an infectious process in the heart itself which has caused the heart to fail.

A few patients observed from the beginning of the attack showed fever very early before there were any marked evidences of venous congestion. Some patients ran their course with minimum evidences of congestion and yet showed fever for days. In many patients improvement was coincident with disappearance of the fever. The fever and leukocytosis were not due in our series to any complication, for all patients with complications were carefully excluded. In the eighteen patients whose symptoms followed some general infection they (i. e., fever and leukocytosis) might conceivably have been due in a few cases to the original infection. In any hospital service all grades of heart

PATIENTS WITH CARDIAC FAILURE COMPLICATING CHRONIC VALVULAR DISEASE

History Number	Etiology and Earliest Symptoms	Fever: Presence or Absence	Fever: Duration, Days	Fever: Height F.	Differential Count: Leukocytes	Differential Count: Polymorphonuclears	Comment*
246	Dyspnea	+	2	100.0	Normal	Normal	
248	"Lump in stomach"	+	8	102.0	13,500	10,100	
250	Dyspnea	+	3	101.8	Normal	Normal	
272	Dyspnea	+	10	102.0	Normal	Normal	
142	Dyspnea; fever; precordial pain	+	7	101.8	11,200	8,000	
143	Dyspnea; cough; fever	+	11	102.4	15,600	12,100	
	Patients With Cardiac Failure Complicating Chronic Myocarditis						
6	Orthopnea; edema	+	18	101.2	Normal		
7	Orthopnea; edema	+	2	100.0	Normal		
11	Dyspnea; epigastric pain; edema	+	6	103.0	Normal		
14	Orthopnea; precordial pain; edema	+	5	101.6	Normal	.....	Pulmonary edema
17	Dyspnea; edema	+	1	99.8	16,000	13,000	
21	Edema; dyspnea; precordial pain	+	2	99.8	Normal		
	Patients With Either Valvular Disease or Myocarditis Alleging Physical or Mental Strain as Cause of Heart's Failure						
251	After working 2 days in telephone operators' school became dyspneic (mental strain ?); valvular disease	+	3	101.8	Normal	Normal	
160	Ten weeks previous wakened from sleep by an accident; much nervous strain and excitement; fainted; became dyspneic; later hemoptysis; dyspneic since valvular disease	+	5	102.6	13,000	9,700	Died
268	Six weeks previous, after lifting heavy scales, an attack of angina, repeated a number of times following physical or mental strain (aortic regurgitation; large heart; syphilis); dyspnea	+	2	100.2	12,000	8,400	
113	August, 1916, after 2 hours of sea bathing, felt weak and had palpitation; a few days later dyspnea and precordial pain; double mitral	+	13	100.6	21,000	12,600	
3289	While doing heavy work as captain of a scow, became short of breath; a few days later admitted; dyspneic and cyanosed; heart beat rapid, fibrillating; mitral stenosis	0	..	.....	?		
3734	Less than 4 weeks after heavy work moving boxes became dyspneic, weak, and had oppression in chest; pulmonary edema when admitted; myocarditis	+	4	101.0	?		
1126	One week before admission ran one block; at once became dyspneic and had palpitation; dyspneic and weak for several days; this continued until admission; mitral lesion; auricular fibrillation	+	18	101.6	Normal	.....	Negative b.c.
	Patients With Either Valvular Disease or Myocarditis Whose Symptoms Are a Sequel of Some Infection						
4	Caught cold 2 weeks before; since then dyspnea and edema; myocarditis	+	10	100.6	Normal		
7	Attack of influenza 4 weeks previous, followed by dyspnea and exhaustion; myocarditis	+	6	101.0	?		
12	Caught cold one week previous; precordial pain	+	30	101.0	11,000	8,500	Negative b.c.
66	Four weeks previous convalescent from attack of rheumatic fever; dyspnea and precordial pain	+	5	101.0	12,000	9,200	
86	Caught cold 2 weeks previous, followed by cough and dyspnea	+	11	101.0	18,200	12,100	
102	Cold and cough 3 weeks previous; edema	+	21	102.0	15,300	9,000	

* In the table, b.c. indicates blood culture.

Sixty-nine patients showed an increase above normal of the polymorphonuclear leukocytes (blood counts were made in 134 cases).

Fever and leukocytosis in patients with heart failure have generally been considered to be due to the pulmonary congestion or the general venous congestion. This idea is a natural sequel to the conception that the cause of cardiac failure is predominantly a mechanical one inherent in the very nature of the valvular lesion and determined generally by a physical or mental strain. I think this idea is erroneous. Not only is the aforesaid conception of the cause of heart failure at variance with the teaching of the newer circulatory physiology and with clinical experience, but in addition there are reasons derived from a study of our series which make us incline strongly to the belief that fever and leukocytosis are evidences rather of an infectious process in the heart itself which has caused the heart to fail.

A few patients observed from the beginning of the attack showed fever very early before there were any marked evidences of venous congestion. Some patients ran their course with minimum evidences of congestion and yet showed fever for days. In many patients improvement was coincident with disappearance of the fever. The fever and leukocytosis were not due in our series to any complication, for all patients with complications were carefully excluded. In the eighteen patients whose symptoms followed some general infection they (i. e., fever and leukocytosis) might conceivably have been due in a few cases to the original infection. In any hospital service all grades of heart failure may be seen, from the patient sick for a week with slight congestion and a few days' fever to the patient with acute recurrent endocarditis, much congestion, and weeks of fever. One disease we call cardiac failure and the other acute recurrent endocarditis, and yet the similarity between them, clinically speaking, is close and striking. Fever and leukocytosis we therefore believe should be logically attributed directly to the organ chiefly involved in cardiac failure, the heart, and not to any secondary process arising from the cardiac failure. Fever and leukocytosis mean, in general, infection, and no good reason exists for attributing any other significance to them in this condition. That 75 per cent. of our patients showed fever and 51 per cent. of those in whom blood counts were made showed a leukocytosis is important confirmatory evidence in

support of the view that cardiac failure in the majority of instances is a disease of infectious nature in which the site of infection is the heart itself.

The unimportant part which physical or mental strain plays in causing heart failure is shown by the few instances we report, seven [4] out of 154 patients. It seems improbable that the condition produced by these unusual causes is any different from that existing generally in cardiac failure, for six of these patients showed fever and three a leukocytosis.

Although the evidence advanced that heart failure is caused by an infectious process in the heart itself is not conclusive, it is sufficient to emphasize the importance of eradicating any focus of infection which may be present elsewhere in the body. It may well be that the removal of such foci will prove to be the most efficacious measure we possess for preventing recurrent attacks of heart failure in patients with chronic heart disease.

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SIGNIFICANCE OF UNEQUAL PUPILS

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The chief significance of unequal pupils lies in their being an important symptom of a widespread and deeply seated disease. It therefore seemed appropriate to review some of the clinical conditions with which this symptom is associated. But before doing so, a brief discussion of the innervation of the iris may be of assistance.

INNERVATION OF THE IRIS

The muscular tissue of the iris is divided into the sphincter pupillae, a well marked circular band of involuntary muscle fibers surrounding the pupillary margin, and certain radially arranged, much less clearly marked fibers situated near the posterior surface called the dilatator pupillae. These two muscles are called the pupillary muscles, and each has a separate and independent motor nerve supply which constitutes the myotic and mydriatic nerves.

The oculomotor, or third, nerve innervates the sphincter pupillae and contains the pupil constricting fibers which arise from its nucleus in the pons. From this point the fibers proceed in the main trunk of the nerve through the cavernous sinus to the orbit and pass into the branch which supplies the inferior oblique, which they leave by way of the twig which constitutes the short root of the ciliary ganglion, and finally arrive at the sphincter by the short ciliary nerves which penetrate the sclerotic around the optic nerve and pass forward in the choroid and ciliary body to their destination in the iris. This line of communication between the nucleus of the third nerve and the sphincter is called the myotic or efferent path, also known as the efferent pathway of the pupil reflex. Stimulation of it contracts the pupil; section of it dilates the pupil.

The cervical sympathetic innervates the dilatator pupillae. The dilatator tract proceeds from possibly a cortical center to the center in the medulla and thence into the lateral columns of the spinal cord as far as the ventral roots of the eighth cervical and first and second dorsal nerves. Thence through the rami communicantes they pass to the superior cervical ganglions, and then upward through the internal carotid plexus and gasserian ganglion, through the nasal branch of the ophthalmic nerve, from which are given off the two long ciliary nerves. These penetrate the sclera about the optic nerve and are distributed to the ciliary muscle and the iris. This is called the mydriatic tract, and stimulation of it causes dilatation of the pupil; section of it, contraction of the pupil.

In addition to the sphincter and dilatator muscles of the iris, there are the involuntary muscles of the orbits which are innervated by the cervical sympathetic. Thus, behind the eyeball, smooth muscle fibers occur in the periosteum and form a strong layer closing the orbital fissure. This is the musculus orbitalis, which prevents the contents of the orbit from sinking backward.

In the tendons of the levator palpebrae superioris, there are also smooth muscle fibers; and closely related to these are the tarsal muscles: small masses of involuntary muscles which lie at the base of the upper and lower lids and insert into the tarsi. All these through their tonic activity tend to keep the palpebral fissure wide open.

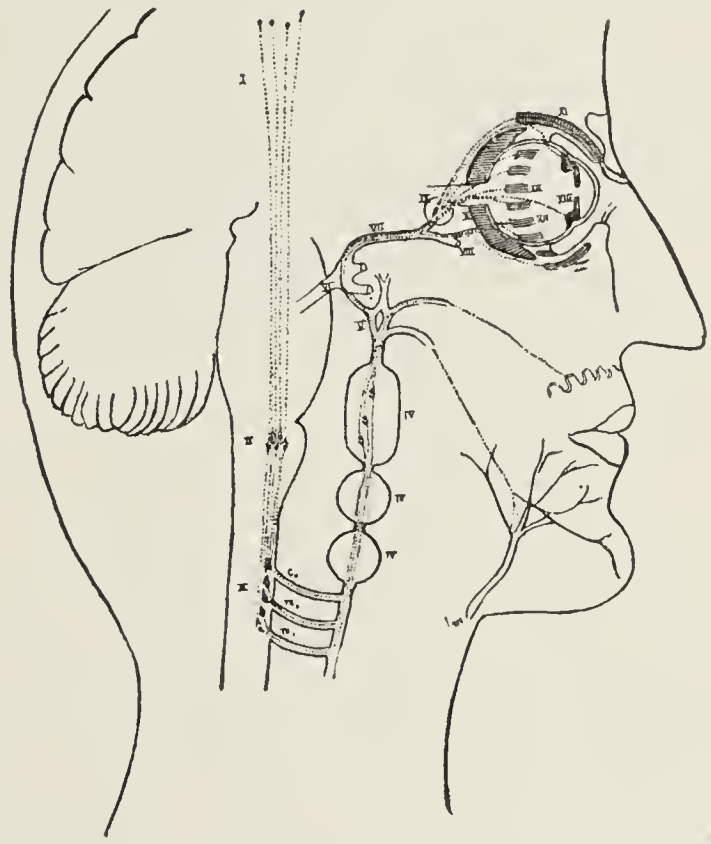


Fig. 1.—Innervation of dilatator pupillae fibers of iris or mydriatic pathway (permission of Soarlett and Cobb, Tr. Am. Acad. Ophth. & Oto-Laryngol., 1919, p. 90): 1, cortical path; 2, bulbar center; 3, ciliospinal center in lower cervical and upper thoracic cord: C. 8, Th. 1 and Th. 2, represent rami communicantes to cervical sympathetic chain; 4, cervical sympathetic ganglions, inferior, middle and superior; 5, internal carotid plexus, giving off branches to (*a*) sweat glands of face, and (*b*) blood vessels of face; 6, trigeminal nerve; 7, ophthalmic nerve; 8, nasociliary nerve; 9, ciliary ganglion; 10, orbital muscle (of Muller); 11, levator palpebrae superioris with sympathetic branch to the smooth muscle fibers; 12, tarsal muscles; 13, dilator muscles of the pupil.

The course of the afferent pathway is not certainly known, but it is thought that, beginning in the retina, arising from all parts of it, fibers proceed in the optic nerve and in all probability are differentiated from those which are concerned with vision. In the chiasm these pupillary fibers undergo a partial decussation and enter the optic tracts, which they leave just in advance of the external geniculate body and reach the third nerve nucleus.

ANISOCORIA

Disorders of motility of the iris may manifest themselves in diminished reaction of the latter, but chiefly in alteration of the diameter of the pupil. This alteration of diameter may affect both pupils, so that they are

4. Case 268, it was learned after our tables had been made, was of syphilitic origin, and the physical strain caused an attack of angina. It should not have been included.

equal, which condition is called, technically, isocoria. Or the alteration of the diameter may affect one pupil only so that unequal pupils result. This condition is called anisocoria.

If the inequality of the pupils is slight and neither pupil shows great variation from the average width we may be in doubt as to which of the pupils should be regarded as the abnormal one. The distinction is made by testing the reaction of each pupil by carefully alternately shading and illuminating the two eyes at once; the pupil which shows the less marked reaction of the two is the diseased one.

Such writers as Hansell and Sweet,[1] de Schweinitz [2] and Fuchs [3] say that anisocoria is always pathologic, though they qualify their statement to the effect that slight differences in size of the pupils are not uncommon in individuals in perfect health. Barrie [4] examined a large number of men, and found inequality of the pupils in 11 per cent. in whom there were no sign of

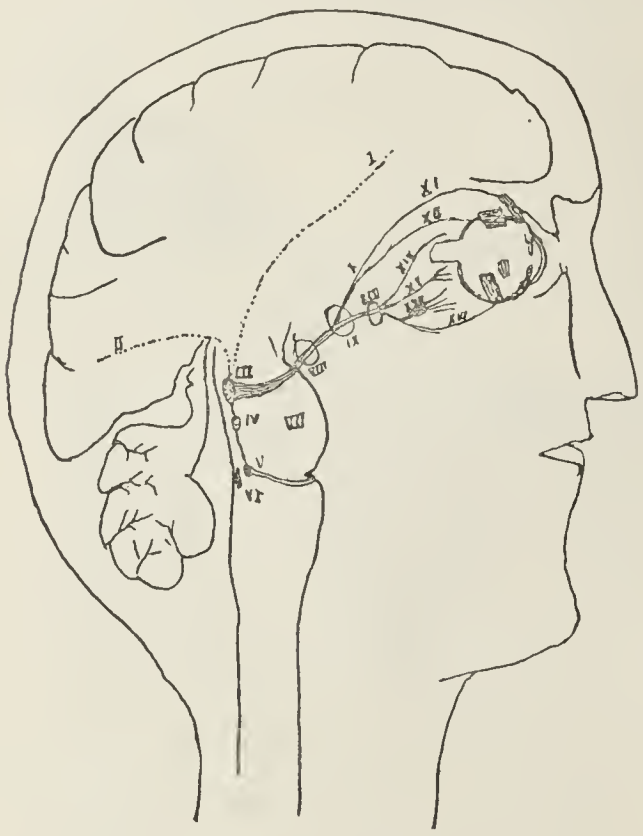


Fig. 2.—Innervation of sphincter pupillae fibers of iris or myotic pathway: 1, axons from neurons within posterior part of inferior frontal convolution; 2, visual fibers from the occipital cortex; 3, oculomotor nucleus; 4, trochlear nucleus, connected with 3 and 5 by fibers of posterior longitudinal bundle; 5, abducens nucleus; 6, facial nucleus; 7, pons; 8, course of oculomotor nerve through cavernous sinus; 9, oculomotor nerve passing through sphenoidal fissure; 10, superior ramus, oculomotor nerve; 11, levator palpebrae superioris; 12, superior rectus; 13, inferior ramus, oculomotor nerve passing into orbit between two heads of external rectus; 14, filaments of interior ramus to internal rectus; 15, filaments of inferior ramus to inferior rectus; 16, filaments of inferior ramus to inferior oblique; 17, ciliary ganglion with motor root.

ocular disease or manifestation of disease of the central nervous system. He concludes that: (1) Inequality of the pupils is frequent; (2) it is associated with all refractive conditions with a tendency to be more frequent in myopia; (3) the visual acuity is not affected adversely by the fact that one pupil is slightly larger than the other; (4) the left pupil is more frequently larger than the right; (5) inequality of the pupils occurs as a physiologic condition.

On the other hand, C. and H. Fromaget [5] discuss functional anisocoria and define it as a clinical syndrome without organic lesion, due to instability of the supranuclear center which coordinates the pupillary movement. They state that it is a functional inequality of the pupils developed in eyes in which the intrinsic motor apparatus is intact and the iridic function normal. They do not believe that difference of refractive power of the two eyes can of itself produce unequal pupils unless there is some profound anomaly of the center of coordination either of the internal or external motor apparatus of the globe.

1. Hansell and Sweet: Diseases of the Eye, 1903, p. 452.
2. De Schweinitz: Diseases of the Eye, Ed. 6, 1910, p. 76.
3. Fuchs, E.: Text-Book of Ophthalmology, Ed. 4, 1913, p. 374.
4. Barrie, T. S.: Inequality of Pupils, Brit. M. J. **2**: 514 (Nov. 9) 1918.
5. Fromaget, C., and Fromaget, H.: Functional Anisocoria, Arch. d'ophth. **36**: 277; Am. J. Ophth. **2**: 356; Am. J. Ophth., 1919.

MYDRIASIS AND MYOSIS

As intimated above, the chief alterations of the diameter of the pupils are dilation, or mydriasis, and contraction, or myosis. Mydriasis has been divided into irritation mydriasis caused by irritation or stimulation of the cervical sympathetic, and paralytic mydriasis, iridoplegia, caused by paralysis of the third nerve in some portion of its course. Likewise, myosis has been divided into irritation myosis caused by irritation of the pupil-contracting fibers of the third nerve, and paralytic myosis caused by paralysis of pupil dilating fibers, that is, the cervical sympathetic.

In the mydriasis due to irritation of the cervical sympathetic, the pupil may be moderately or widely dilated. If dilation is not extreme, it reacts to light accommodation and convergence. Atropin dilates to the maximum. Cocain usually does not further dilate the pupil nor is it readily contracted by pilocarpin.

Irritation mydriasis—irritation of the cervical sympathetic—occurs in:

1. Hyperemia or irritation of the cervical cord from:
   (*a*) Contusion or other trauma.
   (*b*) Pressure from:
      Pleural adhesions at the apex of the lung in tuberculosis.
      Syphilis.
      Aortic insufficiency.
      Aneurysm.
      Cervical glands.
2. Tumor of the cervical cord.
3. Spinal meningitis.
4. Acute mania.
5. Early stage of tabes and paretic dementia (though myosis is more often present in early tabes if there is any pupillary anomaly).
6. Wide and fixed in uremic, eclamptic and epileptic convulsions.
7. Ptomain poisoning.

The mydriasis due to paralysis of the oculomotor nerve is more frequent than the former. The pupil is dilated not necessarily to the maximum. It does not react to light accommodation and convergence, unless only paresis is present, when a sluggish reaction may be obtained; atropin and cocain still further dilate the pupil. Physostigmin (eserin) diminishes if the seat of the lesion is not higher than the ciliary ganglion.

Paralytic mydriasis—iridoplegia, paresis or paralysis of the sphincter, sphincter nucleus, or efferent tract—occurs in:

1. Basilar disease affecting the foregoing structures.
2. Pressure on the centrum, great in degree.
3. Edema of cortex.
4. Late stages of meningitis.
5. Hemorrhage of the centrum ovale or cerebral peduncles.
6. After diphtheria.
7. Trauma.
8. Glaucoma.
9. Mydriatic drugs: atropin, euphthalmin.

In the form of myosis caused by irritation or stimulation of the pupil-contracting fibers of the third nerve, the same factors which cause myosis may cause

ıydriasis, depending on the degree and duration of the ɛsion. The pupil does not dilate in the dark, and is ınaffected by light. Atropin dilates as normally; ocain and physostigmin are without effect.

Irritation myosis—irritation of the pupil—contracting fibers of the third nerve—occurs in:

1. All inflammation at the base of the brain and the meninges: simple; epidemic; tuberculous; syphilitic; traumatic (myosis passing over into mydriasis in any of the foregoing of grave import).
2. Brain abscess.
3. Beginning sinus disease.
4. Apoplexy.
5. Early tabes.
6. Early stage of tumor involving the third nerve.
7. Onset of hysterical or epileptic explosion.
8. Tobacco amblyopia.
9. Drugs: pilocarpin; opium; physostigmin; chloral.
10. Iritis.

In the form of myosis caused by paralysis of the pupil-dilating fibers of the cervical sympathetic, the pupil is contracted; but mobility is preserved in that it reacts to light and convergence. In the dark it dilates, but less perfectedly than the normal pupil. Atropin dilates a little; cocain an equal amount if the lesion is not beyond the superior cervical ganglion. Physostimin contracts to the maximum.

Paralytic myosis—paralysis of the pupil-dilating fibers from the cervical sympathetic—occurs in:

1. Lesions of the cervical cord.
2. Some forms of bulbar palsy.
3. Some forms of multiple neuritis.
4. Pseudo-dementia paralytica of syphilitic origin.
5. Pressure from: (*a*) goiter; (*b*) cervical glands; (*c*) aneurysm.
6. Trauma—syndrome of Claude Bernard-Horner.
   Myosis.
   Ptosis.
   Enophthalmos.

Recently, considerable work has been done on pupil changes following head injuries and injuries to the eyeball. Magitot [6] described a symptom triad consisting of myosis, myopia and decreased tension, which he observed in ocular injuries with integrity of the reflexes retained. The myosis is variable owing to spasm of the sphincter. The myopia rarely exceeds 3 diopters and is often accompanied by transitory astigmatism. Tension was usually from 6 to 10 mm. Schiötz. There may be an hypesthesia of the cornea lasting not more than from three to five hours and gradually disappearing. The condition is due to the intra-ocular sympathetic and disappears under atropin.

Magitot also speaks of the traumatic Argyll Robertson pupil. These cases are of interest on account of the location of the lesion. He states that, without doubt, it is within the orbit, but not in the retina because of the consensual reflexes still existing; not in the ciliary ganglion, because of the mydriasis present, and not in the sympathetic center, which is too deep to be affected by a purely ocular nonorbital traumatism. He locates the diseased organ within the globe in the "choroidal ganglion." Landolt,[7] in a study of inequality of the pupils after wounds of the skull and trephining, concludes that the trouble is neither spasmodic nor paralytic according to our classification given above. All the symptoms are accounted for, he maintains, by vasomotor disturbances of the iris.

6. Magitot, A.: Variations in Pupil After Ocular Injuries and Argyll Robertson Signs in Injury, Ann. d'ocul. **155**: 228, 1918.
7. Landolt, M.: Uneven Pupils After Trephining, Ann. de méd. 5: 566, 1919.

Hoessly [8] discusses the condition of the pupil in cases of traumatic brain pressure. As a result of his research, he finds that bilateral pupil dilatation following general increased brain pressure depends on: (1) central conditional stimulation of the sympathetic; (2) a simultaneous diminishing of the sensitiveness of the oculomotor. The pupil phenomena occur immediately when the brain pressure exceeds the blood pressure.

Inequality of the pupils occurs as the result of local pressure. He believes that the dilation of the pupil in unilateral mydriasis always corresponds to the side of the increased pressure, and is explained by a conduction disturbance of the peripheral oculomotor.

SUMMARY

1. With the exclusion of eye disease and refractive errors, unequal pupils are always pathologic.
2. The width of the pupil and its reaction at any given time are the result of the constant antagonism between the contracting fiber of the third nerve, and dilating fibers of the cervical sympathetic.
3. The determination of whether or not we have to deal with an irritative or paralytic lesion will help materially in the recognition and proper interpretation of unequal pupils in any given case.
4. In contusion of the eyeball, besides the concussion, small lacerations and extravasation of blood into the iris muscles account for some of the pupil changes.
5. In head injuries, the dilated pupil corresponds to the side of increased pressure.

SPONTANEOUS PNEUMOTHORAX

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Spontaneous pneumothorax is a not uncommon complication of pulmonary tuberculosis. Though usually considered as a concomitant of advanced tuberculosis of the lungs, it may occur in but slightly or moderately advanced cases.

It is a misconception to think that this condition is produced only by ulceration through a cavity wall into the pleural sinus; it may quite as likely be the result of a tear into the lung tissue at the site of a pleuritic adhesion. This may be brought about by sudden exertion, as coughing or sudden or undue physical effort; a tear results and, with air escaping from the lung, a pneumothorax is produced. The conventional description of pneumothorax includes, usually, sharp pain, shock or collapse, rapid pulse and dyspnea. This is a correct picture when the trauma is large. I have seen enough cases, however, in which the accident has been unnoticed by the patient, and the first indication of trouble was shortness of breath; in one case, two days, at least, had elapsed from the time of rupture to the time of complaint by the patient. A complete left pneumothorax was discovered, with the heart to the right of the sternum, without symptoms of any kind, save for a sense of discomfort in the chest and a slight acceleration of respiration. Manometric puncture revealed a strongly positive pressure in the chest. Another patient made no complaint of distress, and the situation was made evident only by the usual routine examination of the chest.

8. Hoessly, H.: Contraction of Pupil After Cerebral Injury, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **30**: 1, 1919.

Spontaneous pneumothorax occurs occasionally in cases in which an artificial pneumothorax has already been produced; here, ulceration through the thin cavity wall into the pleural cavity makes the case an open one; the accident is usually painless.

Rupture of an adhesion placed under tension by artificial pneumothorax is not at all uncommon; in such instances the tension is produced by the overcollapse. Then, when the adhesion has not become sufficiently organized it may give way; but, should it hold, and the adjacent pulmonary tissue not have been sufficiently reinforced by inflammatory exudate, a tear into it might easily be produced.

SYMPTOMS

As already stated, the occurrence of spontaneous rupture of the lung may not be accompanied by any markedly acute symptoms, physical examination, delayed, perhaps, establishing the condition before symptoms point the way. Usually, or, at least, often enough, the occurrence is accompanied by pain, dyspnea and rapid pulse. Cyanosis soon appears, in a degree corresponding to the reduction in the amount of functioning lung tissue. When the uninjured lung offers an ample amount of respiratory area, the dyspnea may soon disappear or not be noted at all; when both lungs are extensively involved in the tuberculous process, cyanosis appears early. Soon after the rupture, infection of the pleural cavity is likely to occur, together with the temperature and pulse of empyema. Nevertheless, many patients do not present this picture, but recover with absorption of air and fluid, which latter is, under the circumstances, clean.

SIGNS

Chief among the signs to be noted will be absence of breath sounds; dislocation of heart toward the uninjured side; marked tympany will be found all over the affected side except in the case of a partial pneumothorax with broad adhesions; here will be heard breath sounds, râles, perhaps, and other signs of a previously existing pathologic condition. Marked limitation of motion will be observed on the affected side. Should the pneumothorax be old, it may present a serothorax or pyothorax which will be easily demonstrated by percussion (the percussion note changing with posture), and the roentgen ray.

A word should be added here in regard to succussion: The splash which is produced by vigorously shaking the patient will be easily heard some distance from the patient's chest; the stethoscope is, as a rule, unnecessary.

Under certain conditions characterized by dyspnea, it might be necessary to differentiate between a large pulmonary cavity and a spontaneous pneumothorax; here, one salient point is to be borne in mind—in the case of pneumothorax, the heart is dislocated to the opposite side; in the presence of cavity the heart migrates, under the influence of adhesions, toward the affected side. More, in place of the silence which usually characterizes the pneumothorax, one finds, in the larger cavities, râles, clicks or amphoric phenomena, or all of these, together with a more or less constant Wintrich sign.

Another variety of pneumothorax is that which occurs in the upper chest. This is with difficulty differentiated from a cavity of the upper lobe. This localized pneumothorax is characterized by adhesions which prevent a general collapse of the lung. Such a case was reported by Dunham[1] in 1919. Dunham stated that he had failed to diagnose the condition correctly by the roentgenogram. Instead of the pneumothorax diagnosed from the plate, a thin walled cavity was found at necropsy.

Dunham[2] says:

> The cavities were unusually large and thin walled, occupying almost an entire lobe. The pneumothorax from which such cavities must be differentiated are localized pneumothoraces limited to the apex. It would not convey the truth if the profession were allowed to believe that it is difficult to differentiate ordinary cavities from ordinary pneumothoraces. You may say that, in addition to the case reported at Atlantic City, I have had a similar case at the Cincinnati General Hospital.

The correct diagnosis of spontaneous pneumothorax will be, of course, facilitated by the knowledge derived from the history of the case, that a diseased condition has existed for a time prior to the examination. In pneumothorax, fluid is frequently discovered by the patient himself, who reports that he hears the splash, or that he feels something moving in his chest.

TREATMENT

Having established the diagnosis, the treatment should be directed by conditions. Before proceeding very far, one will, or should, have made a careful survey of the "good" (unimpaired) lung. Much depends on its integrity, for, if it is in good functioning condition, one may safely await developments. If the "good" lung is found to be seriously damaged, it may be found necessary to proceed to the aspiration of the pneumothorax. This is best done with a small (18 gage) needle, inserted between the ribs in any convenient space. A preliminary nick in the skin will facilitate the passage of the needle and materially reduce the pain of the puncture. When the pneumothorax has existed for only a short time, there is no danger in aspirating a large amount of air; except in cases of dire emergency the air thus taken out should be measured in a water displacement bottle.

Aspiration of air or fluid in old cases in which intrathoracic positive pressure has been maintained for a long time is fraught with danger, unless cautiously approached. Symptoms of distress may occur during the aspiration; these are nausea, weakness, sudden coughing, and a sense of pressure under the sternum. The last symptom mentioned—a sense of substernal pressure—should always be a signal for the interruption of the aspiration; if it is ignored, collapse of the patient and acute bronchorrhea are not unlikely to occur. Sudden bronchial catarrh I observed in one patient after aspiration of 700 c.c. of fluid in a large, old seropneumothorax. Constant cough preceded the profuse mucoid expectoration, which was accompanied by great dyspnea. Numerous râles were heard over the good lung. All symptoms disappeared after the injection, hypodermically, of atropin and the replacement of the aspirated fluid with 500 c.c. of nitrogen. Should the patient not require immediate aspiration, one may adopt the expectant policy, for the patient's condition frequently improves, with or without the appearance of fluid or pus. Recently, several cases have been reported that were treated by aspirating the air and replacing with physiologic sodium chlorid solution. The operators, whose names I unfortunately do not recall, report good results. However satisfactory their

1. Dunham: National Tuberculosis Association, Atlantic City Meeting, June, 1919.
2. Dunham: Personal communication to the author.

esults may have been, it must be remembered that, when the opening is relatively large, the correctness of he procedure comes into question. I treated one such ase by this method in which there was no apparent eason to suspect that the opening into the pleural avity was at all large; as soon, however, as the salt olution was introduced, violent coughing occurred. A ronchopneumonia supervened so promptly that I was onvinced that the treatment was directly responsible or the untoward issue.

It is evident that the course of a pneumothorax is ather lengthy; therefore, frequent observations are ecessary. After a time, the return of respiratory ounds may be noted; from this point, especially, the ine of treatment depends on the previous condition. Should the history show that tuberculosis of the injured ung existed prior to the pneumothorax, a continuation f the latter with its attendant lung collapse is advisa-le; especially is this true when the opposite lung funcions in a satisfactory manner. The spontaneous neumothorax is, therefore, to be regarded and treated s an artificial pneumothorax, the lung collapse being naintained by the introduction of sufficient nitrogen, rom time to time. The correctness of this procedure s based on the therapeutic value of lung collapse. Bandelier and Roepke[3] emphatically condemn aspiraion in the treatment of spontaneous pneumothorax, but can point to cases in which the results justify it. For example, in a case in which the better lung of the two has suffered from the spontaneous injury, aspiration is he only treatment to be advised in the emergency. Later, with the appearance of fluid, the tear in the lung nay become blocked, and the condition bettered. Then, f it seems advisable, one may resect a rib as in empyema, and drain, provided a reasonable certainty exists hat the operation will not make matters worse.

One of our patients presented a large traumal opening; the other lung showed much consolidation and some cavitation; insertion of a trocar relieved dyspnea while aspiration was being carried on. But, when a larger trocar was left free in the chest wall so as to allow the free inflow and outflow of air, the patient became rapidly cyanotic. Aspiration was, therefore, practiced, because the patient, patently, was able to aerate sufficiently only with the torn lung in function. After the appearance of pus, dyspnea ceased and there was no further escape of air into the pleural cavity. Three weeks after the accident, the collapsed lung had expanded so that it could be felt with the aspirating needle as far down as the fifth space.

Emphysema may occur after frequent aspiration; this is not dangerous even if fairly extensive. It happens, sometimes, that the puncture opening through the thickened parietal pleura fails to close, and air escapes along the needle track into the subcutaneous tissues. The emphysema may extend (as observed in one or two cases) as far down as the scrotum and as high up as the forehead.

I believe that many of these cases (of spontaneous pneumothorax) pass unrecognized. Some receive a false diagnosis which is recorded on the death certificate, others recover spontaneously. This opinion is based on cases in which actual diagnostic error was found. It would seem that the mistakes made were due, in large measure, to the fact that sufficient weight was not given to the actual absence of voice sounds, absence of tactile fremitus, etc. Sometimes, what one does not hear during an examination is quite as important as what one does hear.

3. Bandelier and Roepke: Clinical System of Tuberculosis, New York, William Wood & Co., 1913, p. 230.

AFTER-RESULTS

These cases may terminate with a bronchopneumonia of the good lung; the patients may succumb to the excessive intrathoracic pressure—fluid or air; they may recover spontaneously. In the latter event, the ultimate anatomic result will be, most likely, a collapsed lung, displaced viscera, and a contracted chest. Reexpansion of the damaged lung will occur, if at all, after a long time. Patients that have recovered not infrequently develop fair working capacity.

DIAGNOSIS

The diagnosis cannot rest exclusively on any one sign or symptom; rather it rests on the correlated picture:

1. Pain is sudden (when present), followed by shock and (or) dyspnea and (or) cyanosis of varying degree. Instead of dyspnea there may be a gradual increase of respiratory frequency, with or without history of sudden onset; there may be no shock.
2. There may be lessened cough and expectoration.
3. There may be, as the first noticeable factor, the subjective uneasiness in the chest.

SIGNS

Physical signs are much more constant and possible of correct interpretation than symptoms. One should notice, first, the dislocation of the heart. This mobile organ readily migrates to the right or left at the whim of almost any collection of air or fluid in the pleural cavities. Directed to a given side in marked degree, it may indicate a large amount of fluid or air in the opposite side. When a large cavity is present in the lung, the heart migrates to the same side, being drawn by adhesions. The position of the heart having been noted, auscultation of the lungs is begun, with especial attention to the suspected side. Should there actually be a large complete pneumothorax present, the respiratory sounds will be completely absent. There will be no vocal fremitus, or nearly none, no tactile fremitus. The opposed side may show some involvement, in sympathy, as it were, in that the respiratory sounds will be harsh. Percussion over the suspected side will elicit tympany, unchanged by closing the lips—in other words, the Wintrich sign is absent. Later, in the course of a few days or a week, when fluid will have accumulated, perhaps, a definite area of dulness, sharply bounded above by a level line, will be discovered. This level of the dull area shifts with each change of the patient's position; succussion, practiced by shaking the patient sharply by the shoulders, will produce an audible splash. When the patient is now placed in front of the fluorescent screen, the fluid level is easily made out, while waves produced by shaking the patient are easily seen. No difficulty will arise in making the diagnosis with the roentgen ray; at least, none should.

There will be, perhaps, some trouble in determining the diagnosis when the pneumothorax is partial; in such event the lung is partially bound to the parietes by adhesions, so that there may be, for example, an anterior pneumothorax with absence of respiratory sounds, while posteriorly râles and harsh breathing may be heard down to the base. Again, there may be a walled-off cavity of the upper lobe with adhesions in a zone half-way down the chest with a free pleura below. Careful examination cannot fail to clear up the situation. Another important point is the disappearance of

the liver dulness, the air having distended the fornices of the pleural cavity so that the liver is no longer in contact with the chest wall. Here, the plate or fluoroscope may show the diaphragm depressed.

COMMENT

In all cases of pulmonary tuberculosis, sudden pain after exertion, as coughing or other violent muscular exercise, should immediately challenge the attention of the physician. Again, dyspnea should never be regarded as an ordinary concomitant of pulmonary tuberculosis. Its advent should always be considered as an urgent indication for a complete survey of the chest. Spontaneous pneumothorax is far more common than is usually supposed.

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SURGICAL CONSIDERATIONS OF GASTRIC AND DUODENAL ULCERS *

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OMAHA

Gastro-enterostomies performed for scar tissue obstruction of the duodenum and pyloric region are satisfactory procedures in the vast majority of instances. Obstruction by new growth or Nature's deposit of scar tissue was the original indication for the operation, the ulcer per se being of secondary importance. Since the advent of roentgen-ray interpretation, we are detecting ulcers before scar tissue obstruction occurs; but we have failed to recognize that ulcers with and without scar tissue obstruction are two very different conditions, requiring different types of surgical procedures. The small ulcer, without scar tissue obstruction, although itself composed mainly of scar tissue, produces delay through spasm, initiating the vicious circle which causes the distress. A gastro-enterostomy performed for this type of ulcer is the most empiric procedure in surgery, with a definite function and ultimate result unknown, causing no little concern after its application, as no one knows how the altered physiology will conduct itself.

In the successful gastro-enterostomies for ulcer, without scar tissue obstruction, the patient is immediately relieved of the former distress, while we know the ulcer has not had time enough to heal. This plainly tells us that, per se, the ulcer did not cause the distress, which was due to a vicious circle which was broken by the anastomosis, draining faster than formerly the irritating secretions into the jejunum. In other words, this unscientific procedure, producing indirect results for indirect symptoms, merely transferred the load from the stomach to the jejunum; from an acid, tolerable reservoir, to an alkaline, intolerable (to obstruction) rapid transit duct. If these transferred acids, which are secreted in lesser amounts soon after the vicious circle is broken, do not irritate the jejunal mucosa, the results of the gastro-enterostomy are then only indirectly successful.

The operation has been regarded as a specific for chronic ulcer; and surgeons have even concluded that it is never indicated, if a normal stomach and duodenum are present, owing to the disastrous results obtained when performed for extragastric lesions simulating ulcer. What caused the disaster, the absent ulcer or the remote pathologic condition simulating ulcer, has never been proved, and, to my knowledge, not even discussed. The operation is performed with the idea of curing the ulcer, which would leave us with an anatomically normal stomach and duodenum, the procedure soon producing a contraindication to itself, if our conclusions are correct. Chronic ulcers are cured or simply inactivated by this operation, which indicates either that a normal stomach and duodenum are not contraindications to the presence of this anastomosis or that it is performed not with the idea of curing the ulcer, but merely as a comforting procedure by inactivating the ulcer. I have been unable to find a report of a gastro-enterostomy performed in a *perfectly normal, symptom-free patient,* but in such an instance, if the technic was proper and the duodenojejunum not obstructed, I can see no reason why it should cause any more discomfort than in a patient with an ulcer, without scar tissue obstruction.

ANATOMY AND PHYSIOLOGY

The contracted lesser curvature of the stomach has left this proximal reservoir with one surface doubly concentrated from an anatomic and physiologic standpoint. This inequality of the curvatures must be given the most important consideration in all forms of gastric surgery. Perhaps further experience in the laboratory, such as Alvarez's,[1] may demonstrate the segmental activity of each curvature and their relationship, which will solve many problems of motility. We need more study on the motility of the whole gastro-intestinal canal and its segmental relationship, the secretions being of secondary importance.

The motile powers of the stomach, its most important function, represent a proper balance between propulsion and retention. The proper relationship between these two opposing characteristics is essential not only for gastric function, but also for the influence it has in promoting gastro-intestinal secretions for the more important intestinal digestion below. So strong are these propulsive and retentive functions that a gastro-enterostomy, even with its nonsphincteric opening and its drag on the greater curvature, does not completely do away with them.

The duodenum and upper jejunum resemble a duct, the roentgen ray demonstrating a rapid propulsion of their contents, which probably depends not a little on the *vis a tergo* (stomach), a rôle relatively simple as compared with the stomach. Therefore, the duodenojejunum, possessing only a single function of hypermotility, will not withstand the slightest degree of obstruction; while the stomach, possessing a slower motility and also a retentive function, withstands a greater degree. Troublesome gastro-enterostomies demonstrate this clinically.

The stomach lies high and transversely in the upper abdomen while empty, and the roentgen ray reveals it lying more or less vertically when filled, due to a marked descent of the pyloric region (Fig. 1). It is suspended at the esophageal opening and where the duodenum is first attached to the posterior abdominal wall. When the pyloric portion of the stomach descends after food intake, the weight bearing area is principally in the distal portion of the pylorus and the first portion of the duodenum, particularly the latter, resulting in considerable traction on this area. By means of fluoroscopy, it is seen that, while the patient is standing and swallowing barium emulsion, the lowest point of

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1. Alvarez, W. C.: Am. J. M. Sc. **158**: 609 (Nov.) 1919.

lescent of the inferior border of the prepyloric region s generally from 2 to 4 inches below the umbilicus; whereas, during the operation the position of this area of greatest descent is usually immediately under the iver. The distance from this point to the one marked previously indicates its excursion, probably from 4 o 8 inches, which has placed more or less traction on the lesser curvature and first portion of the duodenum. I first called attention to this in 1916,[2] and since then I have confirmed this observation many times, one which must be made on the normal stomach and duodenum, the elasticity of which is greater. Gallbladder operations afford an excellent opportunity for such observation. After an ulcer has developed, there is a marked lessening in the descent of the distal portion of the stomach; the inflammatory condition doing away with the elasticity, a diagnostic probability.

The normal blood supply of the pyloric region, lesser curvature and first portion of the duodenum is comparatively less than that of the rest of the stomach, as demontrated by Reeves,[3] Wilkie[4] and W. J. Mayo.[5] In addition to this comparatively lessened vascularized area, the lesser curvature and duodenum, the mucosa is attached to the layers beneath, without the formation of rugae, no allowance being made for dilatation and traction, thus predisposing this area to traumatic or traction anemia.

These observations on the lesser curvature and duodenum, that is, its naturally smaller blood supply, more adherent mucosa, with few or no rugae, undergoing considerable traction for at least two hours after each meal, which further decreases this blood supply, suggest most strongly that we have here the predisposing causes for embolic infection, thrombosis, necrosis, or tissue digestion, which precedes ulcer; enhanced by the marked chemical and physical activity in this area. We know vascular anemia predisposes to ulceration and infection and also inhibits healing in any portion of the body. We find more ulcers in the laboring class, "non ptotics," who eat large meals, followed by immediate exertion, because their duodenums are more firmly fixed to the posterior abdominal wall, resulting in greater traction when the pylorus descends after filling. In those persons known as ptotics, we rarely find ulcer because there is less traction on the duodenum, it being less firmly attached to the posterior abdominal wall. The excursion, of course, in this type is greater, which must not be misleading. This idea of traction with the more firmly fixed duodenum may account for more ulcers in men, in whom less ptosis is found.

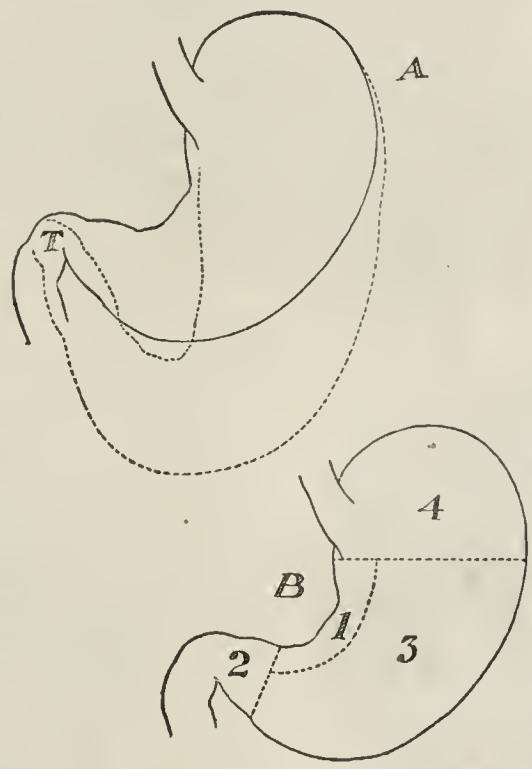


Fig. 1.—*A*, solid line, stomach in a transverse position while empty, the patient lying on the operating table; dotted line, stomach in a vertical position while filled, patient standing. The actual difference is greater than the drawings indicate. Traction at area *T* is quite evident. *B*, stomach divided into segments 1, 2, 3 and 4, indicating both the degree of ulcer symptomatology and relative frequency of occurrence.

PATHOLOGY OF ULCER

We know very little about ulcers involving only the mucosa, as they have no known symptomatology and they present no external signs on the stomach or duodenum to indicate their presence. We have the most discussion about the chronic ulcer. It is the type which has invaded more or less the entire wall of the viscus, as shown by a heavy scar tissue deposit on the external wall, which serves to identify it during operation. It is apparently Nature's cure for an acute ulcer or area of necrosis by her deposit of scar tissue, and the only layer of tissue left, at times, in this scar, is the more or less destroyed muscularis. It should be termed a *scar tissue defect*. To obtain ideal healing, this defect must entirely disappear and all three coats unite perfectly, leaving a superabundant mobile mucosa, with an ample blood supply; a reaction quite difficult to produce by medical means or by a simple gastro-enterostomy. The ulcer persists long after the anastomosis is performed, as shown by one patient upon whom I operated three years later for a chronic cholecystitis; he having obtained perfect relief from the ulcer symptoms. Before removing the gallbladder I opened the duodenum and found just beneath the remaining scar a defect in the mucosa, about one eighth of an inch in diameter. The ulcer (defect) had merely become inactivated. It could never have healed properly in the sense of having all the coats united, until the scar tissue was removed, which I did before closing the duodenum. He has been symptom free for more than two years (to date), with a gastro-enterostomy on a quite normal duodenum and stomach. By removing the gastro-enterostomy without destroying the defect, I dare say his former symptoms would have recurred (reinfected defect).

Many duodenal and gastric ulcers are symptomless, as proved by exploration, because they have caused very little spasm (spastic obstruction) in the duodenum, or no incoordination (niche or segmental spasm) in the stomach, which resulted in a normal emptying. This idea of coordination without marked spastic obstruction, allowing for symptom-free gastric ulcers, may account for "idiopathic carcinoma," the much disputed, without vision, "pre-ulcer carcinoma."

Duodenal ulcer produces less distress and less delay of stomach contents than gastric ulcer, because the gastric symptoms are due to a reflex from the spastic or organic obstruction in the duodenum, causing hypersecretions and hyperacidity above. The activity of the stomach remains coordinated, thus causing a more rapid emptying than normal, when the acids are combined with food; a well known clinical observation before organic obstruction supervenes. The acids, previous to this combination, irritated the duodenal defect sufficiently to cause a spastic obstruction and delay of the gastric secretions (hunger pain).[6]

Gastric ulcer produces more distress and delay of stomach contents, because both the disease and the reflex (of a more vicious character) are in the stomach. When one realizes that the lesser curvature and lower half of the greater curvature possess motile and retentive powers which equal those of the whole small intestine (both regions retaining food for about four to six hours), it is easily understood why a defect in this area

2. Roeder, C. A.: Nebraska M. J. **1**: 76 (Sept.) 1916.
3. Reeves, T. B.: Surg., Gynec. & Obst. **30**: 374 (April) 1920.
4. Wilkie, D. P. D.: Brit. M. J. **2**: 602, 1911.
5. Mayo, W. J.: Surg., Gynec. & Obst. **6**: 600, 1908.

6. The ulcer produces a spastic obstruction, aggravated by the increasing acidity, which produces a true vicious circle.

produces far more abnormal physiology than in the duodenum. The symptoms of gastric ulcer depend considerably upon its location; and the ulcer should be classified in this manner as its regional occurrence has a corresponding pathologic, physiologic significance (Fig. 2).

The elusive ulcer in the cardiac pouch, as compared to one on the lesser curvature, indicates that these variously located ulcers require various types of operations. An ulcer along the lesser curvature causes not only a marked spasm of the entire peristaltic portion of the stomach, as does duodenal ulcer, but, in addition, a compensatory segmental spasm (niche),[7] on the greater curvature. We have thus produced a loss of the segmental relationship between the lesser and the greater curvatures, the peristaltic waves resulting in incoordination between these two areas. This accounts for the greater delay, greater spasm and greater distress in gastric ulcer. A simple gastro-enterostomy cannot be expected to exert so favorable an influence over such a



Fig. 2.—Outline of incision around the scar tissue defect, which is carried down to the mucosa. It is made transversely to the diameter of the duodenum to facilitate approximation of the outer coats. Approximation is much more difficult if the incision is made longitudinally. The duodenum should be mobilized as much as possible.

syndrome, as over the simpler duodenal ulcer. This is also borne out clinically. It leaves the defect, which keeps up its pernicious influence over the greater curvature and the remaining pyloric region; the latter, in addition, descending far below the anastomosis after food intake, dragging on this area and adding to the discomfort following the operation. Spasm probably came first, with hypersecretion following, as this is true with all forms of gastro-intestinal obstructions and, therefore, it would be the last to leave. The smooth recoveries after the Billroth and the Polya operations strongly suggest a more radical type of operation for ulcers of the curvatures and pylorus; not only to remove the pathologic condition, but to balance the physiology and to do away with a persistently spastic and dragging pyloric region.

7. The ulcer or defect on the lesser curvature results in a loss of contractile or conductive power of a certain portion of this concentrated area, which is compensated by a deeper wave (niche) on the opposite curvature. The corresponding segments on both curvatures can be studied in this manner, a study of which I shall report later.

This theory was suggested to me by two patients on whom I operated in 1917 who were well to date (1921); having in mind the comparatively concentrated anatomy and physiology of the lesser curvatures and the troublesome pyloric region before and after operation. In both cases, I resected the pylorus and antrum, followed by a Polya anastomosis, for ulcers in such proximity to the cardiac orifice, on the lesser curvature that a resection or even a Balfour cautery puncture were considered beyond good judgment for me to attempt. The excellent results obtained suggested that the pyloric region may be the most troublesome directly and indirectly before and after operations for gastric ulcer. Probably gastric surgery must become more radical, while duodenal more conservative whenever possible.

Every effort should be made to do away with a Wölfler gastro-enterostomy for ulcer without scar tissue obstruction, although it may be used as the first step in a two-stage operation to inactivate the ulcer, which can be resected with the anastomosis during the latter procedure. Clinical experience has taught me this, and it seems logical to attempt resection of a duodenal ulcer after a medical regimen of from two to three weeks, which produces inactivation oftener than cure. I doubt whether an ulcer in any situation, which is detected by its scar tissue on the peritoneal surface, can ever be perfectly cured by a gastro-enterostomy or any medical regimen.

The most satisfactory method of curing ulcer is by perforation or resection, exemplified by two recent cases of perforating duodenal ulcer, in which I performed secondary operations for postoperative hernia and an obstructed duodenojejunum, respectively. During the latter procedures, I explored the duodenums very carefully and could find no evidence of any disease; an ideal cure had apparently resulted in both. However, I could not determine the amount of residual scar tissue binding down the mucosa—a condition conducive to reulceration.

There are three types of duodenal ulcer requiring different surgical procedures: (1) The large ulcer with an abundance of scar tissue obstruction, relieved perfectly by a gastro-enterostomy. (2) The medium sized ulcer, with too much scar tissue or edema to allow for primary resection. Gastro-enterostomy works well here generally, and if later on troublesome symptoms develop, the defect may have become so inactivated that it can be resected with the anastomosis. (3) The small ulcer without sufficient scar tissue present to interfere with its removal. This is becoming the most common type, owing to earlier diagnosis, and often is successfully treated by a resection, without a gastro-enterostomy.

The operation for duodenal ulcers, described herewith, I have applied in the case of small ulcers which were not surrounded by dense areas of scar tissue or edema. I hope to apply it to inactivated ulcers brought about by a gastro-enterostomy or a medical regimen. A gastro-enterostomy is not added and the only accessory, which is most essential, *is a prolonged stay in bed, three weeks, with the foot of the bed elevated 6 inches,* beginning twenty-four hours after the operation; keeping the stomach high in the upper abdomen to avoid traction anemia, assuring thereby a good blood supply which in turn prevents scar tissue deposit, a predisposing factor for reulceration. The two outer coats are very carefully dissected off the adhered mucosa beneath, requiring a most painstaking technic, using delicate tissue forceps and a small bladed knife, not

too sharp. This dissection is made toward the defect in the mucosa, from various directions. The opening in the mucosa is closed with interrupted 00 chromic gut sutures, on fine curved needles, leaving the knots free in the lumen; and the third row is closely applied on top of the second. The mucosa must be *sutured separately and should never be involved in the sutures passing through the outer coats,* thereby insuring its ample blood supply. In this way we have a superabundance only of mucosa, and there is very little tendency to obstruct the lumen of the bowel, if the technic described is carefully followed. The slight encroachment on the lumen is of no significance, which one would expect from futile attempts to obstruct the duodenum and pylorus by various bands, etc. Portions of the pyloric sphincter muscle can be resected, if interfering with the coaptation of the two outer layers of sutures. Six patients have remained symptom-free for more than two years; they have been requested to avoid exertion immediately after eating, preferably lying down for one-half hour, increasing the time according to the weight of the meal. The reclining posture, so often desired, especially after large meals (drowsiness), is a physiologic plea for recumbency, which might be adopted by man with considerable benefit.

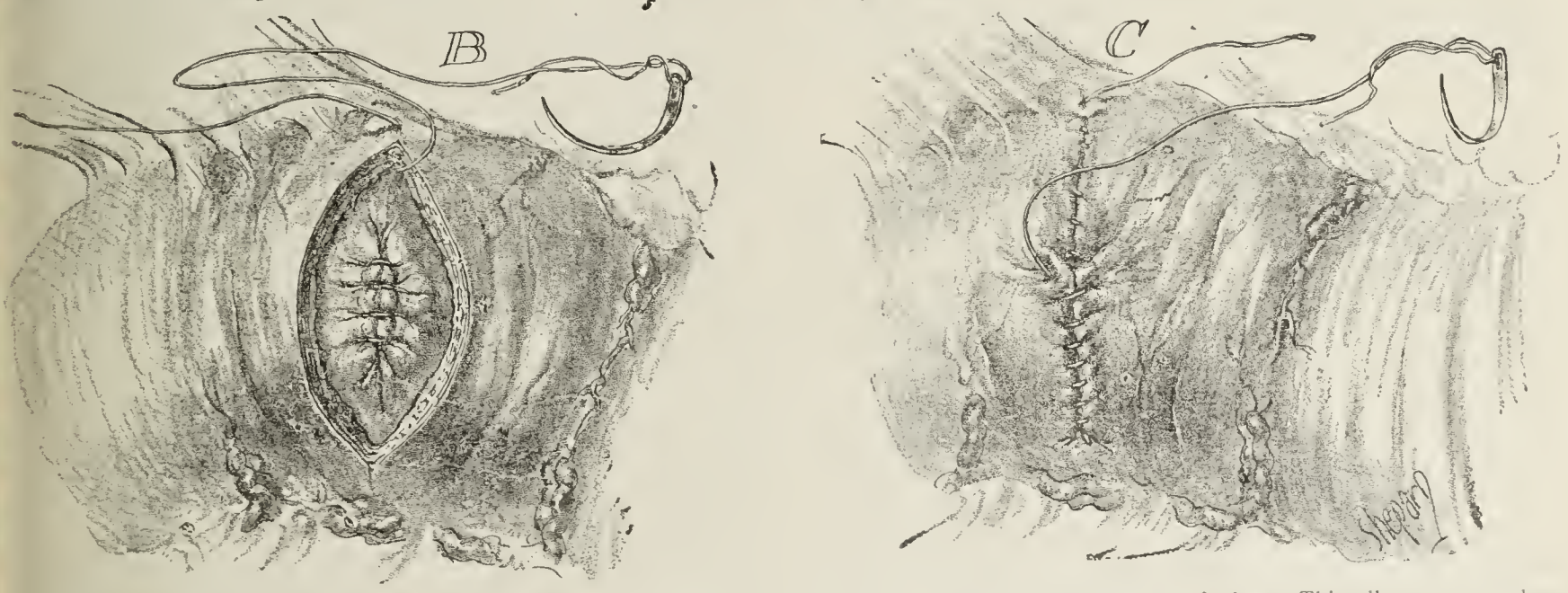


Fig. 3.—*A*, peritoneal and muscular coats dissected off the mucosa. Opening in mucosa represents crater of ulcer. This allows a superabundance of mucosa, not scar bound and with an ample blood supply. *B*, mucosa separately sutured, with knots hanging into lumen. Sutures started through outer coats, which must not include the mucosa. Fine, small, curved needles are preferable. The superabundance of mucosa left and the sutures only at the outer edge are the main points of the operation; a scar bound mucosa (preulcer) is thereby prevented. *C*, suture almost completed, with very little space between the two layers to avoid turning in too much tissue. Only one knot is required. Fine, curved needles are preferable. By avoiding the mucosa in the outer rows, its blood supply remains ample, and the lumen is not constricted.

CONCLUSIONS

1. Coordination and incoordination are physiologic features not to be ignored in surgery of chronic ulcer.

2. Chronic ulcers should be termed "scar tissue defects," as they are not ulcers in the true sense of the word. They should be divided into ulcers or defects: (1) with organic (scar tissue) obstruction; (2) with spastic obstruction; (3) active (edematous or acutely infected), and (4) inactive (symptomless but potentially infected).

3. The classification of gastric ulcers might be revised into ulcers of the lesser and greater curvatures, of the terminal inch of the pylorus, of the anterior and posterior surface and of the cardiac pouch. Such classification bears more pathologic and physiologic significance, indicating better the type of operation necessary.

4. Gastro-enterostomies of the modified Wölfler types for ulcers without scar tissue obstruction are only indirect procedures for indirect symptoms and should be abandoned whenever possible. They are not directly curative nor a preventive type of operation, as proved by ulcers in the region of the anastomosis.

5. Early or small duodenal ulcers, without scar tissue obstruction, are frequently amenable to simple resection, which should allow for an abundance of mucosa to prevent traumatic reulceration. The patient should be kept in bed three weeks, with the foot of the bed elevated 6 inches, and under a medical ulcer regimen. The reclining posture, to avoid traction after operation, allows a better blood supply, which is most conducive to good healing. It should be practiced after meals for at least one year after operation, in order to favor an area which is susceptible to reulceration.

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Investigation of Canned Spinach for Botulism.—For some time the food bureau of the Chicago Health Department has been conducting investigations as to the character and quality of canned spinach sold in the local market. During January there were twenty-five cases of illness with four deaths in Grand Rapids, Mich., supposedly from botulism from this source. It has been discovered that a carload shipment of canned spinach came to this market late in January from the El Monte Canning Company. This carload of spinach was packed in the fall of 1919, arrived in Chicago in February, 1920. It was sold to jobbers throughout the country, who afterward distributed it under their own labels. The health department laboratory has examined some of this spinach and so far has not found *Bacillus botulinus*, but many of the cans were what is known as swells. It is stated also that the canned spinach on hand at the Blodgett Hospital in Grand Rapids, where the cases occurred, was also found to be in this condition.

ANTISYPHILITIC THERAPY

A COMPARATIVE STUDY OF SOME INTENSIVE METHODS *

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More than ten years' experience with modern methods in the treatment of syphilis has not, as yet, brought us to that much hoped for goal—a standard antisyphilitic therapy. This is true despite the fact that in the drugs arsenic and mercury we undoubtedly possess remedies that may be considered well-nigh specific. The difficulty lies in the fact that we still lack definite knowledge in regard to their most effective application, such application as will yield consistent and permanent results. Yet it cannot be denied that in the last ten years palpable advances have been made in this direction. The introduction of the arsenical group of remedies, coupled with the idea of *therapia sterilisans magna,* has given rise to the so-called intensive methods of syphilis therapy. These methods, while they vary in the mode of application, dosage, periodicity of administration and rest periods, comprise, with but few exceptions, the use of the arsenicals and mercurials, in association, since their associated use, it is held, yields results more satisfactory both from the clinical and serologic standpoint than when either is employed alone.

INTENSIVENESS OF TREATMENT

An analysis of the various modes of intensive treatment recorded will disclose that they permit, in the main, of a division into two distinct groups which differ from each other principally in the fact that the remedies employed are introduced into the system with varying intervals and in different sequence. Thus, in the first group, the arsenic and mercury preparations employed are usually administered alternately at intervals of from five days to a week or more, and continued over definite periods to comprise a course. A course of this character is repeated as often as indicated. In this group the treatment is initiated with the mercurial, and it is the method more generally employed by the profession. It is necessary to emphasize the fact that in this plan of treatment the quantity of the arsenic preparation present in the body in a given period is not so large in amount as in the plan next to be outlined, and will therefore here be designated as the "less intensive plan." This method is essentially the chronic intermittent treatment suggested by Neisser, and has for its object the intermittent saturation of the body with the drugs.

The plan of treatment followed by the second group is more intensive in character in respect to the massing of the arsenic preparation. Here it is aimed by the introduction of this drug at much shorter intervals to produce continuous and intensive concentration of the remedy within a period of much shorter duration than in the former method, in order more thoroughly to saturate the system with the medicament in the hope of rapidly and completely eradicating the infection. While the treatment is likewise fortified with a mercurial, it follows the arsenic preparation in the course. Because this method is more intense in character as regards the arsphenamin concentration in the body, it will here be referred to as the "more intensive plan."

The sponsors of the first named group, to cite but a few, include such names as Neisser, Lesser, Hoffman and Fordyce, and the advocates of the second method are no less authoritative, although fewer in number, and count among them Scholtz and in our own country Pollitzer. The latter is identified with the now well known method, which is essentially a modification of Scholtz's and consists in the administration of full doses of arsphenamin or its analogues on three successive days, followed by a course of mercury; and this, in turn, after a suitable rest period, by additional courses as often as indicated and over as long a period as may be required, depending on the type and age of the infection.

While the two plans just outlined form the types there are numerous modifications. The fact that the modifications are so numerous sufficiently indicates that no single one has been generally accepted as the best. The best method will naturally be that which will yield consistent and permanently good results with the least possible harm to the patient. We take it that few have a substantial basis for making this claim for any plan that has been so far suggested to the exclusion of any other. We are accordingly not yet in a position to speak of the best method of treating syphilis.

It is fair to assume that, on purely theoretical grounds, the more intensive plan here referred to should prove the most effective clinically. Thus far, however, there have been no detailed clinical data recorded definitely to substantiate this assumption.

The value of the arsphenamin group of remedies as effective antisyphilitics is now no longer debatable; but, aside from their therapeutic effect, there is one fact in connection with their use that must constantly be borne in mind. Reference is made to the question of the toxicity of the drugs. That the arsphenamin group of remedies is not devoid of the possibility of serious harm is demonstrated by the various types of dermatoses, nephritis, encephalitis, neuritis and nitritoid reactions with their complications which are definitely known as arsphenamin by-effects. And one need hardly mention that there are a considerable number of deaths directly traceable to arsphenamin therapy. It must be admitted that toxic manifestations, whatever their nature, are more likely to result from larger doses frequently administered, as employed in the more intensive plan, as compared to smaller doses at longer intervals which is the method of administration in the less intensive plan. If, however, it can be demonstrated that treatment according to the more intensive plan yields results definitely superior to those obtained by the less intensive plan, it would be justifiable to take such additional risk as may inhere in the former method. So far as I know, an investigation along this line has not been made, and it is with the object of throwing some light on this question that the present study was undertaken.

VALUE OF WASSERMANN REACTION

Whether or not the Wassermann reaction is accepted as a criterion of the cure of syphilis is not pertinent to the discussion, but it is believed that few will take issue with three statements concerning the reaction:

1. It is a characteristic reaction in syphilis, and may be regarded as a symptom of the disease.

2. Appropriate treatment, in early syphilis, invariably causes the reaction to lose in strength or entirely to disappear. This fact has been found to be so con-

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ant that it has weight as a diagnostic criterion of rly syphilis.

3. In early syphilis, the Wassermann reaction is ore resistant to treatment than any other symptom f the disease at this stage, and therefore it is the last disappear.

If these statements are accepted, it is clear that the Vassermann reaction in early syphilis becomes the ost valuable criterion of the efficacy of any plan of eatment. Its value in this respect is enhanced by the ct that in my experience the reaction in early cases f the disease does not materially vary from day to day no treatment is administered, a fact which cannot be id to be true of syphilis in its later stages, treated or ntreated.

It should be mentioned that the early cutaneous anifestations of syphilis are not suitable criteria for etermining the value of any plan of intensive therapy, wing to the fact that such manifestations disappear ith practically equal rapidity under any intensive plan f treatment.

METHOD OF THE STUDY

To conduct this study properly it was necessary to hoose: (*a*) Patients with recent infections, and only uch as presented the early cutaneous manifestations f the disease. (*b*) Cases in which the Wassermann eaction had already become strongly positive (from hree to four plus). This served the double purpose of orroborating the diagnosis, and as the criterion of the fficacy of the various plans of treatment with which ve experimented. No case in which antisyphilitic treatnent had been given before was included, in order that he question of prior treatment should not enter as a actor.

The study included 106 cases, all of which met the onditions just enumerated. The period of the disease n each case fell within the limits of time generally ccepted as that of early syphilis. The majority were nfections of from eight to sixteen weeks' duration, a few of four weeks and only one of twenty-eight weeks' luration. In this connection it should be stated that in he women patients it was not always possible to determine definitely the duration of the disease, but this was done with reasonable assurance of accuracy in the cases cited. In the men this information was, as a matter of fact, quite reliable. All the patients were adults. The ages ranged from 16 to 49; the majority, however, were between 18 and 30 years of age.

Blood for the Wassermann test was drawn in every case at weekly intervals throughout the study, and the experiment was concluded in a given case when two successive Wassermann reactions were returned as either negative or one doubtful and the other negative. It should be remembered that our object was to determine how quickly the Wassermann reaction becomes negative under various plans of treatment, and it was thought that an interval of a week between Wassermann tests would determine this with sufficient accuracy. It was found that when the Wassermann reaction became negative in a given case, it as a rule remained so for a period of several weeks at least, and further tests during this period were always found to be negative. Particular attention should be called to the fact that in this study we are not taking into consideration the ultimate outcome of these cases from either the clinical or the laboratory standpoint. This will form the subject of a subsequent communication.

The tests were performed in the laboratory of Mount Sinai Hospital and of the Department of Health, City of New York. Except in a very few instances, the series of tests in a given case were performed in a single laboratory. While there is a slight difference in the technic followed in the two laboratories, the results checked up in a large number of cases on a prior occasion showed very slight differences, so that discrepancies in Wassermann results could be eliminated.

Various brands of arsphenamin were employed. So far as the effect on the Wassermann reaction is concerned, it was found that it did not matter which preparation was used.

The dosage employed in the less intensive plan varied with the age, weight and sex of the individual. The average dose in the case of female patients was approximately 0.35 gm. of arsphenamin. In some cases a dose as large as 0.5 gm. and as low as 0.2 gm. was administered. In patients of the male sex the average dose was higher, being a little over 0.4 gm., and some receiving as high as 0.6 gm.

In the cases treated according to the more intensive plan, the arsphenamin administered per dose averaged higher in both the male and female patients, and the rules laid down by Dr. Pollitzer in his method of treatment were adhered to as closely as possible.

The mercurial preparations employed were the insoluble mercuric salicylate and mercurial oil (gray oil) in doses up to 2 grains. It did not appear that either preparation showed an advantage over the other with respect to their influence on the Wassermann reaction.

The majority were treated as ambulatory patients, but most of the cases in which the more intensive plan was employed were treated in the wards of the hospital.

PLANS OF TREATMENT

1. The daily arsphenamin treatment (essentially the Pollitzer method) consisted in the administration of a course of three full doses of arsphenamin given on three successive days, and was followed by a course of six mercury injections given a week apart. The arsphenamin course was as a rule fortified by the administration of three additional injections at the end of the mercury course and was given either on three successive days or a week apart. Thirty-seven cases were treated according to this method. This is the type of the more intensive plan referred to in this paper.

2. Three or four arsphenamin injections were administered on alternate days followed by a course of six mercury injections, and this in turn by additional arsphenamin administrations, three, four or five in number, a week apart or on alternate days. Nineteen cases were treated in this manner. This, too, may be considered a type of the more intensive plan, and it is the method that has been in use for a number of years in the department of dermatology of Dr. Herman Goldenberg at the Mount Sinai Hospital.

3. The chronic intermittent method (Neisser) included the use of arsphenamin and mercury, which were given alternately, from six to eight arsphenamin and from ten to twelve mercury injections constituting a course. The arsphenamin injections were administered from five days to a week apart, and mercury was given in the interval. In this group there are fifty cases. This method of treatment constitutes the type of less intensive plan mentioned in this paper.

RESULTS OF TREATMENT

With reference to the inquiry which prompted this study, namely, to ascertain which of the plans of treatment under consideration yielded the most satisfactory

results as judged by the Wassermann reaction, it was observed that this differed according to the period following treatment that was studied. Comparing the figures from the first to the ninth week inclusive, the most satisfactory showing is made with the treatment according to Plan 1, which demonstrated that during the ninth week there were 28 per cent. more negative Wassermann reactions obtained by this plan than by Plan 2, and 17 per cent. more than by Plan 3. As we proceed, however, week by week after the ninth week and up to the sixteenth week the advantage, though by a smaller margin, is in favor of Groups 2 and 3.

RESULTS OF TREATMENT WITH THREE PLANS

Week During Which Cases Became Negative	More Intensive Plans — Plan 1 Number	Plan 1 Per Cent.	Plan 2 Number	Plan 2 Per Cent.	Less Intensive Plan Plan 3 Number	Plan 3 Per Cent.
First	0	0	0	0	0	0
Second	3	8	0	0	3	6
Third	1	3	1	5	2	4
Fourth	10	27	5	26	7	14
Fifth	4	11	1	5	8	16
Sixth	6	16	2	10.5	9	18
Seventh	2	5.5	1	5	6	12
Eighth	4	11	1	5	2	4
Ninth	5	13	2	10.5	2	4
Tenth	0	0	1	5	4	8
Eleventh	0	0	1	10.5	1	2
Twelfth	0	0	1	5	2	4
Thirteenth	0	0	0	0	2	4
Fourteenth	0	0	1	5	0	0
Sixteenth	0	0	1	5	2	4
Twentieth	2	5.5	0	0	0	0
Totals	37		19		50	106

If the rapidity with which the Wassermann reaction becomes negative is the controlling factor, without regard to other considerations in the ultimate cure of this disease, then treatment according to Plan 1, offering, as it does, the largest number of negative Wassermann reactions in the shortest period of time, should become the method of treatment to be preferred. But the question arises, Does the persistence of a positive Wassermann reaction for an additional period of a few weeks prove an impediment to the ultimate cure of the disease? This does not seem to us to be the case, judging from the study of numerous histories which indicate the rapidity with which the Wassermann reaction becomes negative had no bearing on the later recurrence of either clinical manifestations or the reappearance of a strongly positive Wassermann reaction.

Considering the results from the clinical angle, the work indicates that all three methods proved equally effective in causing a rapid disappearance of the clinical manifestations, and it did not appear that any one method showed an advantage over the others on purely clinical grounds. The disappearance of the eruption seems rather to depend on the character of the lesions than on the method of treatment, those of the papular type consuming a longer period in involution, regardless of the method of treatment.

Studied from the standpoint of the quantity of arsphenamin administered, it was found that the patients treated according to Plan 1 received an average of 1.9 gm. of arsphenamin as compared to 2.34 in Plan 2 and 2.2 in Plan 3. The smaller quantity required in Plan 1 is explained entirely by the time element that enters into play. In this plan, after the first three injections are given, which is done on three successive days at the onset of treatment, no further arsphenamin is administered until after the sixth week, whereas in Plans 2 and 3 in the period up to the sixth week, from four to six injections of arsphenamin will have been administered; and even though the quantity of arsphenamin in Plans 2 and 3 is smaller per dose than in Plan 1, the total quantity in the six weeks' period is greater.

In respect to the quantity of mercury employed, it was found that it was practically alike in all three plans, being 0.44, 0.47 and 0.45 gm., respectively.

As has been stated before, it seems fair to assume that the longer the interval between the arsphenamin administrations, within reasonable limits, the greater the safety of the method of treatment; and in view of the probability that the persistence of a positive Wassermann reaction for an additional few weeks plays but a negligible rôle, if any, in the ultimate cure of the disease, it would seem reasonable to conclude that the method of choice in the treatment of syphilis is in favor of the less intensive plan as outlined in this paper, for it is equally efficacious and certainly more safe.

CONCLUSIONS

1. A study of 106 cases demonstrated that 80 per cent. of the early syphilitic patients treated by the modern intensive methods became negative by the tenth week; 98 per cent. by the sixteenth week, and 100 per cent. by the twentieth week.

2. As a general rule, it may be stated that the more recent the infection at the time intensive treatment is begun, the sooner the Wassermann reaction becomes negative. To this there are notable exceptions.

3. Since the clinical and serologic results are practically the same by all methods described in this paper, and since the margin of safety is in favor of the less intensive plan, it would seem justifiable to conclude that the less intensive plan should be favored as the method of choice in the treatment of syphilis.

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APEX, HILUM AND LOWER LOBE LESIONS OF TUBERCULOSIS IN CHILDHOOD

THEIR RELATIVE FREQUENCY *

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The subject of this paper has been purposely worded so as to deal with clinical rather than pathologic findings. I aim to discuss not where the initial lesion is found, but where it can first be detected by clinical methods of examination.

It is generally believed that in adults tuberculosis of the lungs is more often to be found at the apex, or slightly below the apex. This holds true after the age of puberty.

Does a similar situation occur before the age of puberty and in infancy?

THREE SITES OF INFECTION

In discussing this question, I shall more or less arbitrarily consider three sites of infection, namely, the apex, the hilum and the lower lobe. These are not anatomic entities and are used rather loosely. In the term apex is included the upper part of the upper lobe. The term hilum is interpreted to include the parenchyma of the lung near the hilum, comprising a part

* Read before the Michigan Trudeau Society at its annual meeting, Detroit, Mich., Oct. 22, 1920.

each of the lobes, and also the bronchi, blood vessels, mph channels, lymph glands and pleura. The term wer lobe comprises that portion of the lobe not cluded in the hilum.

With regard to these three sites of infection, where o we find the most frequent lesions of tuberculosis in ildren?

Clinical experience demonstrates conclusively that pical lesions do not predominate in childhood as in dults. This is not only my own experience but that f the majority of clinicians, as is indicated by statistics.

Holt [1] states that the region near the root is especially rone to be involved, on account of its close association ith tuberculous bronchial glands. Huebner [2] asserts hat tuberculosis in childhood has its seat in the ronchial glands. MacGowan [3] thinks that in the great najority of cases the bronchial glands are affected arlier than the lungs, and Kerley [4] estimates that these lands are involved in about 97 per cent. of all pulmonary cases.

Necropsy findings lend support to this view. Aschoff [5] holds that the glands are the usual focus of tuberculosis in childhood. Holt [1] found the bronchial gland involved in 81.5 per cent. of cases; Still,[6] in 81 per cent.; Wollstein and Bartlett,[7] in 95 per cent., and Frobelius,[8] in 99.2 per cent.

Even Ghon [9] admits that the lung focus is practically always accompanied by tuberculous changes in the lymphatic glands. His figures give about 98 per cent. of involvement, and his protocols aptly point out that the gland lesion is very much greater than the lung focus. Thus, whether or not we believe that the lung focus is primary, we must accept the apparent fact that the outstanding lesion is at the hilum and assumes the greater prominence clinically.

Having concluded that the hilum is the most frequent site of clinical tuberculosis in the lungs of children, we have remaining the question as to whether the apex or base stands next in order of incidence.

Personally, I am convinced that by clinical methods tuberculosis can be demonstrated at the apex more often than at the base. The literature bears this out.

Holt [1] states that the upper lobe is more frequently affected than the lower, the percentage being about two to one. In Wollstein and Bartlett's [7] series, there were thirty cases of upper lobe involvement as compared to seventeen lesions in the lower lobe; this was in children averaging about 2 years of age. At the Chicago Children's Memorial Hospital, Austin [10] found that in twenty-six primary lung cases fifteen were in the upper lobes and five in the lower. Ghon's [9] figures show fifty-four for the upper, and thirty-eight for the lower lobes.

Clinical statistics, therefore, lead us to conclude that lower lobe tuberculosis is least frequent in childhood, apex involvement is somewhat more common, and the hilum is by far the most frequent site of the infection.

1. Holt, L. E.: Diseases of Infancy and Childhood, Ed. 6, New York, D. Appleton & Co., p. 1023.
2. Huebner: Lehrbuch der Kinderheilkunde **2**: 310, 1906.
3. MacGowan, J. C.: Brit. J. Tuberc. **12**: 145 (Oct.) 1918.
4. Kerley, C. G.: The Practice of Pediatrics, Philadelphia, W. B. Saunders Company, p. 359.
5. Aschoff, A.: Pathologische Anatomie, Ed. 3, **2**: 321, 1913.
6. Still, quoted by Kerley, C. J., Footnote 4.
7. Wollstein and Bartlett, F. H.: Am. J. Dis. Child. **8**: 362 (Sept.) 1914.
8. Frobelius, quoted by MacGowan, J. C., Footnote 3.
9. Ghon, A.: Primary Lung Focus in Children, New York, Paul B. Hoeber, 1916, p. 95.
10. Austin, R. S.: Personal communication.

As to a comparison of the right and left sides, it may be stated parenthetically that the recognized preponderance of right-sided involvement, as seen in adults, holds true in children. This may be due to the more direct path into the right bronchus, as is usually suggested. Another factor, which is usually overlooked, may have an important bearing on this question, namely, the presence of an eparterial bronchial branch on the right side. This eparterial bronchus supplies mainly the right upper lobe and has no counterpart on the opposite side of the chest.[11] Coming off the main bronchus, several centimeters higher than any branch on the left side, it appears not unlikely that it would predispose the right upper lobe to aerogenic infections. It is perhaps also worthy of mention that the lymph channels in the region of the hilum are more prominent on the right side, and that the hilum glands on that side are usually found more enlarged than those on the left.[9]

USCEPTIBILITY OF HILUM TO TUBERCULOUS INFECTION

It remains to be explained, if possible, the cause for the predilection of the hilum to tuberculous infection. Two main causes for this predilection are apparent, the one physiologic, the other anatomic. The physiologic cause is the lack of adequate immunity of the child to tuberculosis and the prominent part that the lymphatics are forced to play in the fight against the infection. The anatomic cause is the structure of the child's chest.

Before discussing these two causes in detail, it may be well to dispose of two other considerations which might appear as causative factors, namely, the type of invading organism and the mode of infection.

There are two types of tubercle bacilli in childhood infection, the human and the bovine. The bovine bacillus is more commonly found in abdominal tuberculosis and in involvement of the glands draining the mouth and throat.[12] It is probable that in pulmonary lesions the invader is almost always the human type, as is the case in adult infection. If this is true, we are dealing with the same organism in children as in adults, as far as the lung lesions are concerned, and we can ascribe no influence for predilection to the type of organism.

The mode of infection might well seem to have some influence on the location of the lesion. At first thought it would seem likely that a tubercle germ, entering a bronchus by way of the trachea, might lodge in a different place than one entering the lung by way of the intestinal tract. Yet on second thought, this is not so evident.

There are two main portals of entry open to the invading organism: One is the respiratory route and the other is the alimentary canal. According to Birch-Hirschfeld,[13] the bacillus enters the air passages and comes to lodge in a bronchiole. This is the basis of the exhaustive studies by Parrot,[14] Kuess,[15] Albrecht,[16] and Ghon,[9] to show that the primary lesion is in the lung and that the lymph glands are secondarily affected. The other method is championed by von Behring,[17] who believes that the bacillus enters by way of the intestine, and sooner or later reaches the thoracic duct and passes

11. Eisendrath, D. N.: Textbook of Clinical Anatomy, 1903, p. 507.
12. Park and Krumweide, quoted by Holt, L. E., Footnote 1, p. 1021.
13. Birch-Hirschfeld: Deutsch. Arch. f. klin. Med. **64**: 58, 1899.
14. Parrot, quoted by Ghon, A., Footnote 9.
15. Kuess, G.: De l'heredité parasitaire de la tuberculose humaine, Paris, 1898.
16. Albrecht, H.: Wien. klin. Wchnschr., 1909.
17. Von Behring: Tuberkulosebekaempfung, Marburg, 1903.

by way of the right side of the heart to the lungs. It is supposed that the bacillus lodges on the endothelium of the blood vessel, but soon becomes extravascular because the capillaries become occluded and obliterated.[18] Thus the lymphatics would become the chief means of extension in this process, as in the aerogenic method of infection. It is, therefore, not clear that the mode of infection would greatly influence the predisposition of any site to infection.

Let us consider, then, the physiologic factor, in the predilection of the hilum in the tuberculosis of childhood. The infant has little or no immunity to tubercle toxin,[19] and offers only slight resistance to the development of the infection. The bacillus can penetrate easily and spread rapidly. The lymphatics carry the infection to the nearest lymph gland and then to other glands in the chain. Thus an early involvement of the hilum is inevitable in most cases. Because of the low immunity and poor resistance the lymph glands are open to invasion and the hilum glands become extensively involved.

The second cause is anatomic, and explains why the child's apex is not so often involved as the adult's. At birth the chest is roughly cylindric, the anteroposterior diameter being approximately equal to the transverse. The sternum lies farther forward and higher toward the neck. The position of the clavicles is high, and the neck looks short. The ribs run more nearly horizontally, and the plane of the upper inlet of the chest is almost horizontal. This topography allows the lung apex greater freedom of excursion and also modifies its shape. The infant's lung has more of a dome shaped apex than the adult's and does not rise appreciably above the clavicle.[20]

The lower portion of the infant's chest also shows some differences. The diaphragm has not yet fully completed its descent and lies relatively high, and it is pushed up by the liver which is disproportionately large in the child. Thus, the longitudinal diameter of the chest is short, and is capable of good aeration through means of diaphragmatic breathing, which is the type found in children.

The development of the chest as the child grows in stature is detrimental to the lung apex. The spine grows faster than the sternum so that the upper inlet into the chest is tilted forward and the sternum comes to lie lower and closer to the spine. The first rib is pulled down at its sternal junction, and the lung is pushed up through the inlet so that it rises above the clavicle.

Schmorl [21] has pointed out that a groove may be formed across the lung from pressure of the first rib, and that when this is present, apical tuberculosis is usually found on that side. Abnormally short first ribs are known to be associated in the same way with apical lesions. And early calcification of the costal cartilage may be a predisposing factor to tuberculous infection (although Pottenger holds that the calcification is not a cause but a result of the tuberculosis). Bacmeister [22] induced apical lesions in animals by constricting the apex with a wire and introducing the bacilli by injection into the peritoneal cavity.

The picture in miliary tuberculosis also throws some light on the predisposition of the apex. Being of hematogenic origin, the tubercles ought to be equally distributed throughout the lungs and are found so on examination. But the development of these tubercles may not be uniform. In the more acute cases, there is usually no differentiation in the different lobes, but when the disease is less quickly fatal, the tubercles are sometimes found to be larger in the upper part of the chest. This has been described in roentgen-ray findings during life [23] and at necropsy.[5]

The rationale, therefore, of the predilection of tuberculosis for the apex is that the apex is so encased in its bony framework that there is no complementary space available for expansion and that the limitation of mobility is relatively close. The limitation of excursion inhibits not only a proper aeration but also the "ebb and flow" of the blood and lymph. This interference with the circulation favors the development of infection.[5] Such a condition is present, to a greater or less extent in the normal adult chest, but is not normally found in infancy.

SUMMARY

From this evidence, then, it appears probable that we have in the young child a physiologic cause which predisposes the hilum of the lungs to tuberculous infection, namely, the low resistance to tubercle toxin and the consequently greater dependence on the lymphatic system to combat the infection. On the other hand, we have an anatomic cause for the comparative immunity to infection of the lung apex, in the greater respiratory excursion and freer circulation in the child as compared with the adult.

In accordance with these phenomena, we find that in the child tuberculosis may be diagnosed most frequently at the hilum, the apex being next in frequency, and the base least often.

Metz Building.

18. Adami, J. G., and Nicholls, M. A.: The Principles of Pathology **2**: 307, 1908.
19. Fishberg, M.: Pulmonary Tuberculosis, 1919, p. 389.
20. McClellan, G.: Regional Anatomy, 1894, p. 265, and Aschoff, A., Footnote 5.
21. Schmorl: München. med. Wchnschr. **48**: 1995, 1902.
22. Bacmeister: Die Entstehung der menschlichen Lungenphthise, Berlin, 1914.

SURGICAL OPERATIONS ON AGED SUBJECTS

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The cases listed in the accompanying table comprise the sixteen oldest patients in my service at the Army and Navy General and other hospitals in Hot Springs, Ark., operated on over a period of one and one-half years. Most of them were veterans of the Spanish-American and Civil wars.

Ether was administered by the drop method in all cases. There was no operative mortality, but in Case 7, pneumonia supervened, causing death twelve days after the second stage of suprapubic prostatectomy.

The average age of these patients suggests that senility may not be a bar to surgical procedure as often as is commonly supposed, and that certain physical defects in old age are remedial without the high mortality rate anticipated by many.

My experience with these old men inclines me to the belief that aged people are often passed by who may be salvaged without more than ordinary surgical risk, and that disaster in such cases is often born out of delay and compromise.

Careful preoperative scrutiny, speed in the operating room, and painstaking after-treatment will reduce risks

23. Holmes, G. W., and Ruggles, H. E.: Roentgen Interpretation, Philadelphia, Lea and Febiger, 1919, p. 137.

which are derived from cardiorenal defects and other concomitants of age. I believe that the anhedonia of senility probably eliminates those surgical risks common in younger patients which grow out of fear and anxiety; indeed, old men appear to face the issues of a surgical operation with extraordinary calmness and

DIAGNOSIS AND OPERATION IN SIXTEEN CASES

Case	Diagnosis	Operation	Age
1.	Cholelithiasis	Cholecystotomy, drainage	76
2.	Hydrocele, huge	Radical cure, excision sac	67
3.	Carcinoma, prostate	Prostatectomy, suprapubic (one stage)	75
4.	Hernia, inguinal	Bassini, radical cure	57
5.	Tuberculosis, elbow joint	Amputation, upper arm, middle third	50
6.	Hernia, inguinal	Bassini, radical cure	77
7.	Hypertrophy, prostate	Prostatectomy, suprapubic (two stage)	78
8.	Carcinoma, pyloric	Gastro-enterostomy, posterior	47
9.	Appendicitis, abscess	Appendectomy, drainage	51
10.	Hypertrophy, prostate	Prostatectomy, suprapubic (two stage)	76
11.	Hernia, inguinal, strangulated	Herniotomy, modified Bassini	81
12.	Hernia, inguinal	Bassini, radical cure	80
13.	Hernia, umbilical	Radical cure, Mayo	75
14.	Hernia, inguinal	Bassini, modified	76
15.	Hernia, inguinal	Bassini, radical cure	59
16.	Carcinoma, pyloric	Gastro-enterostomy, posterior	68
		Average age	67.06

fortitude, and they are docile patients during the postoperative period.

I believe that senility as a contraindication to surgical operation is made applicable too generally, and that there are times when art may triumph over finely drawn scientific dictates.

THE SALEM, OHIO, TYPHOID EPIDEMIC

A CLINICAL REPORT

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So few large epidemics of typhoid fever occur at the present time, that a brief outline of the conditions that existed during the Salem, Ohio, epidemic, and a general description of the clinical features, are matters of interest.

With a total of 882 cases occurring within a period of three months in a city of 10,305 inhabitants, this epidemic should awaken the profession to the fact that typhoid fever is not to be spoken of in the past tense. It should stimulate physicians to take a more active interest in local problems of sanitation, for the health officials declare that Salem is neither better nor worse from a sanitary standpoint than the majority of cities of its size. Evidently, then, water-borne epidemics of typhoid fever can and in all probability will occur again unless measures are taken to guard against contamination of water supplies and improper methods of sewage disposal.

This epidemic also emphasizes the need of closer cooperation between physicians and health departments. Had such cooperation existed in Salem, the health department might have realized the gravity of the situation sooner and taken precautionary measures more promptly; for in Ohio, enteritis is not a reportable disease, and several hundred cases occurred in Salem before the health commissioner was notified. If physicians would report to the health department the occurrence of any unusual number of cases of an epidemic disease, preventive measures could be applied at the most effective time.

HISTORY OF THE EPIDEMIC OF ENTERITIS

Begining about the middle of September and continuing well into October (1920), Salem was in the grip of an epidemic of enteritis which affected at least 65 per cent. of the population. Most of those affected were only temporarily incapacitated by the diarrhea and vomiting, while many suffered only the inconvenience attendant on these symptoms of the ordinary mild attack of enteritis. However, a considerable number had headache, pain in the back, aching muscles and an elevation of temperature ranging from 99 to 101 F. for from twenty-four to forty-eight hours. This group had a convalescent period of from two to three days. Two circumstances illustrate the high degree of pollution of the public water supply:

1. The football team of South High School, Youngstown, played in Salem, October 9, and drank the water. Within thirty-six hours every member of the team had a severe enteritis. One member took to bed, October 23, and had a typical course of typhoid.

2. A resident of Salem took his family for a motor trip, October 10, taking along a bottle filled with tap water. After a few hours his mother-in-law joined the party and drank a cupful of the water. Within thirty-six hours she had a severe and prostrating enteritis, accompanied by vomiting and elevation of temperature.

SOURCE OF THE EPIDEMIC

The epidemiologic investigation revealed the almost universal incidence of enteritis, which could be accounted for only by a pollution of the public water supply. Samples of water taken from a number of points on the distribution system showed gas within a few hours. Samples of water from the wells which furnish the city's supply showed no contamination. Evidently the pollution was taking place at some point in the collecting or distributing systems. Immediate chlorination of the entire water supply was instituted.

The public water supply of Salem is derived from three widely separated groups of drilled wells. Water from these sources flows by gravity to a central system of reservoirs from which it is pumped to all parts of the city. The pipe line from one of the group of wells was laid twenty years ago and is of vitrified tile, while the lines from the two other groups are of the usual cast-iron type. By a process of elimination it was found that contamination was confined to water in the tile line, which was immediately cut off. The number and virulence of the typhoid organisms entering the tile line was probably small at first, as the epidemic of typhoid fever built up gradually and did not reach its peak until November 1.

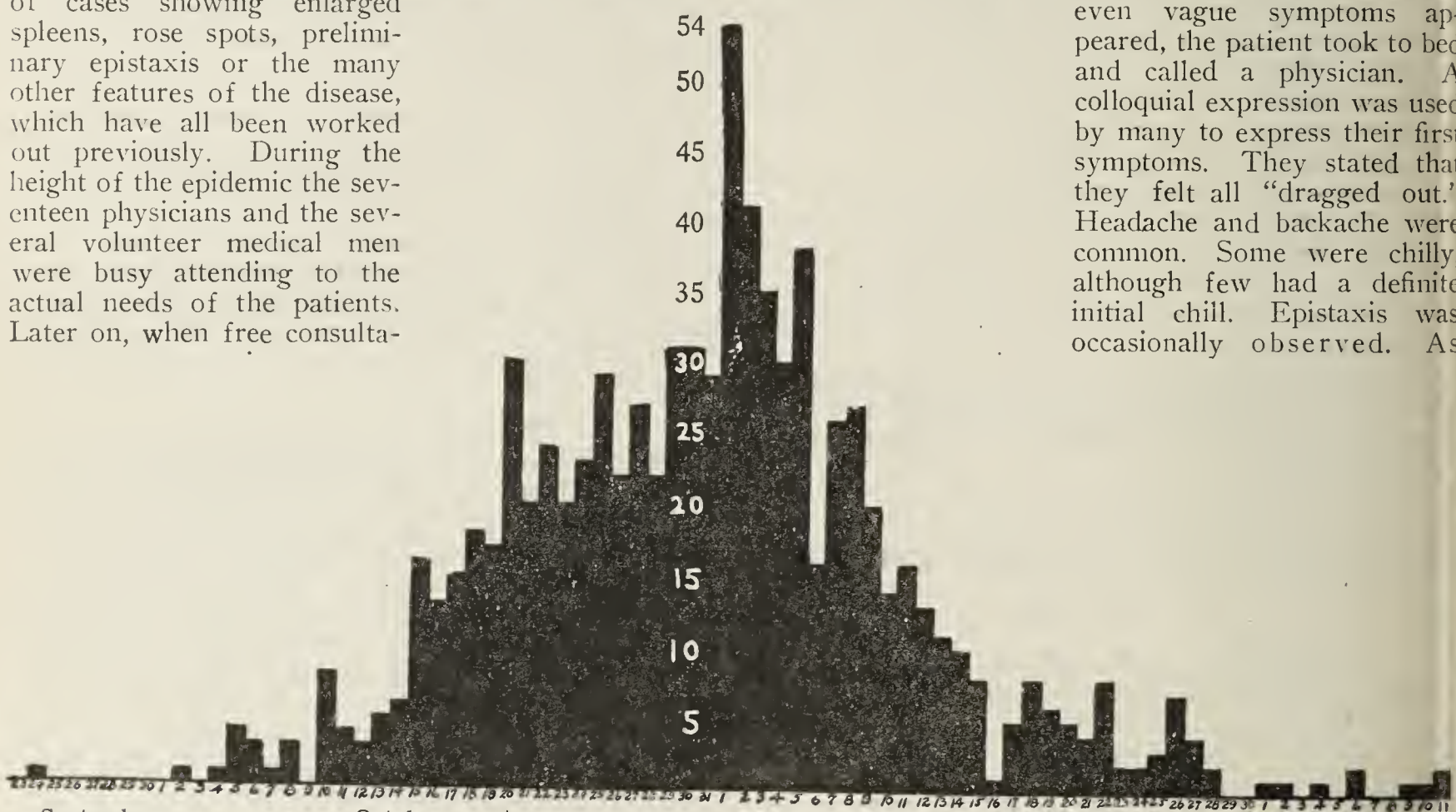
October 20, when the public water supply was chlorinated, only four cases of typhoid fever had been reported. Many people were sick, but the differential diagnosis between the protracted form of enteritis and beginning typhoid was not easy. Within a few days, however, typical cases of typhoid began to appear by the score. The state department of health soon had a large force in the field, and a representative from the United States Public Health Service arrived. These officials took charge of the situation and put into effect every possible measure to prevent the further spread of the disease. As part of their program, the services of consultants were secured, and Dr. Henry A. Christian and the writer spent a considerable time in Salem doing this work.

CHRONOLOGY OF THE EPIDEMIC

The accompanying chart shows the rise and fall of the epidemic. The number of cases increased gradually until November 1, when the peak was reached. The decline followed rapidly, and few secondary or contact cases occurred.

CLINICAL ASPECT OF THE CASES

The opportunity of seeing several hundred cases of typhoid within a few weeks occurs only once in a lifetime. It is obviously impossible to make a clinical report from an exact statistical standpoint, in an emergency of this kind when every one is overworked. It requires excellent hospital and laboratory facilities to do this accurately. No attempt was made to list the proportion of cases showing enlarged spleens, rose spots, preliminary epistaxis or the many other features of the disease, which have all been worked out previously. During the height of the epidemic the seventeen physicians and the several volunteer medical men were busy attending to the actual needs of the patients. Later on, when free consultation was made possible through a state appropriation, definite records were kept. However, only general impressions will be given in this report.



Incidence of typhoid: Each black block represents a case of typhoid fever charted on the basis of the day the patient went to bed. At the point marked by the asterisk, the water was chlorinated.

The incubation period averaged fourteen days. This conclusion is deduced from the fact that the greatest concentration of typhoid organisms in the water occurred, October 18 and 19, the two days previous to the chlorination of the water. From this time until November 1, the day on which the greatest number took to bed, is just two weeks. Further proof is found in the case of the high school football player mentioned, who took to bed just fourteen days after definite exposure.

Clinically, most of the patients presented the typical ear marks of typhoid. A few patients in the earlier stages had quite an irregular temperature curve, and in the absence of an epidemic, the cases might not have been diagnosed. Early bronchitis offered a problem in differential diagnosis; "typhoidophobia" was prevalent, but the most difficult cases to rule out at the beginning were those in which there was a reaction from the first dose of the triple (typhoid and paratyphoid) vaccine. The local reaction, aching muscles and, of course, duration were the criteria which fixed vaccination reaction as the diagnosis. There were many cases of this type; for as soon as it was evident that an epidemic of considerable size was inevitable, all inhabitants were advised to be vaccinated. This was thought justifiable even though the individual might be more susceptible for a few hours or days (the negative phase) after the injection. It is logical to deduce that this wholesale vaccination was responsible in part for the surprisingly small number of contact cases.

In general, the onset was gradual. Before it became generally known that a typhoid epidemic was developing, many of those affected stayed up, thinking that they had only enteritis. As soon as the true cause became known there was a psychologic change. Then, as soon as even vague symptoms appeared, the patient took to bed and called a physician. A colloquial expression was used by many to express their first symptoms. They stated that they felt all "dragged out." Headache and backache were common. Some were chilly, although few had a definite initial chill. Epistaxis was occasionally observed. As might be expected, enteritis was a common first complaint. The temperature curve did not gradually rise to a high level and remain there, but showed a tendency to considerable variation, in many cases reaching from 103 to 104 F. within a few days and then dropping almost to normal within a few hours. The curve would then ascend, reaching a higher point than any previous time, to remain there or take another drop in a day or so. The pulse followed the temperature closely during this period. These drops, expected during defervescence, were often accompanied by diaphoresis. This peculiarity in the temperature records, coupled with the fact that there were many mild cases, suggested that paratyphoid might be the cause of the epidemic. This idea was dispelled by positive blood cultures (pure typhoid being isolated), positive agglutination with *B. typhosus,* and the course of the disease.

Second week symptoms were, on the whole, quite typical. An occasional case presented the unusual symptom of hematuria during this period. Some of this was probably produced by hexamethylenamin, which was used rather generally. However, it occurred in some cases without demonstrable cause.

From the beginning of the third week on it is estiated that about one third of the cases presented a riking departure from the usual textbook picture in iat enormous swings in temperature occurred daily or very two to three days; not the swings which one is ccustomed to see during the later weeks of typhoid, ut differences of from 6 to 8 degrees Fahrenheit etween the morning and evening temperatures. For xample, a patient would have a rather steady temperture averaging between 103 and 104 F., when suddenly here would be a quick drop of several degrees. The atient would have profuse diaphoresis, followed by hilliness or even a shaking chill, and go into a condion of real collapse. The reaction from this state was low; but when the patient came up, he seemed to be no worse for his experience. This phenomenon might ccur only once, although two or three times was the verage. Occasionally a patient would seem to acquire he habit, and these pseudocrises would continue daily or a week. It will be obvious that many anxious hours were spent with this type of case. These grave symoms occurring in a patient during the third week ooked as though there were some abdominal emerency; however, the flat abdomen and the slowing pulse were reassuring, so that later these symptoms were aken as a matter of course.

Another feature worth mentioning was the frequency f a transitory rise in temperature during convalescence. A patient who had had normal temperature for week or more would have a sudden elevation o 102 or 103 F., lasting for a period of two or three lays. These flurries were probably due to the instaility of the heat-regulating apparatus partially parayzed by the toxin of the disease. These patients felt o discomfort, not even being aware that the temperature was above normal. Unquestionably, fecal impacion caused some brief recurrences of fever. In these t was surprising how quickly the temperature came to ormal after an instillation of oil into the lower bowel or the cleaning out of the rectum by means of the gloved finger.

COMPLICATIONS

So true to form did the complications hold that to do much more than list them would be merely a recital of he chapter on typhoid complications taken from some extbook of medicine. Altogether there were twentyone different complications recorded, some of them occurring several times. The more interesting ones will be briefly discussed.

Intestinal hemorrhage was common and repeated, but was not given alone as the cause of death.

Perforation was reported in three cases, with one operation.

Otitis media, parotitis, peripheral neuritis, tender oes, mastitis, erysipelas, furunculosis, bronchopneumonia, lobar pneumonia, and phlebitis were all seen more than once.

On two different occasions one patient (Mrs. L.) in the fourth week of her disease showed, in addition to peripheral neuritis, definite signs of tetany. The infolding of the thumbs and spasticity of the arms persisted for about an hour on each occasion. The patient had a protracted course, but recovered completely.

Several patients were seen who, as a complication during the course of the disease, had a severe involvement of the myocardium. In one case in particular the heart area extended from three fingerbreadths to the right of the sternum to well outside the left nipple line. It is interesting to note that these patients had an uninterrupted convalescence with no signs or symptoms of cardiac involvement at the time of discharge.

I wish to add to the list of the complications of typhoid one which I believe has not heretofore been reported. Charles M., a patient of Dr. Derfus, had been ill for six weeks with a high continuous temperature, palpable spleen and distended abdomen. He had some evidence of meningeal irritation, being very querulous and showing distinct negativism. On the forty-second day of the disease, without any change in the other symptoms, edema of the left eyelid was observed. The upper lid became distinctly puffy and thickened. Further examination showed that there was definite exophthalmos of the left eyeball. It was feared that the pressure would destroy the sight of that eye; but in thirty-six hours the edema disappeared, and the eyeball returned to its normal position, with no impairment of vision. This unilateral proptosis, a rather rare condition under any circumstances, was thought to be due to a thrombus in the postorbital veins. It probably had no more significance than a thrombus found in any other part of the body during the course of typhoid fever.

The effect of typhoid on pregnant women was noted. Three full-term normal babies were born to women ill in bed with the disease. One eight months baby was born on the third day of the mother's sickness. One woman came to full term on the twenty-fifth day of her illness, and gave birth to a normal child. Several women from two to seven months pregnant went through the disease without any unusual symptoms.

TREATMENT

Very few drugs were used. Phenol salicylate (salol) in 5-grain doses three times a day was ordered by nearly every physician, and hexamethylenamin in like dosage was commonly employed. Antipyretics seem to have had little or no place. For marked restlessness, opium was the standby. During active hemorrhage, unless the patient was excited or tossing about, no medication was used.

There was a difference of opinion as to the value of transfusion of fresh blood. It was of evident benefit in some very toxic cases, but of doubtful value during or immediately after active hemorrhage. The question as to whether the blood pressure is raised enough by this measure to cause more bleeding in a patient who is already bleeding was not answered. There is no doubt that this procedure is of help at a later period to those patients who have anemia resulting from the loss of blood through intestinal hemorrhages. Blood transfusion by means of the Kimpton-Brown tubes was performed in eleven cases, the donors in most instances being relatives of the patient.

To insure a clean intestinal tract, daily enemas of either physiologic sodium chlorid solution or soap suds was the method employed. During convalescence, liquid petrolatum by mouth seemed to be effective.

Many methods of hydrotherapy were used to reduce temperature. Since the individual reaction seems to vary greatly, no one method can be said to have been the most effective. The soothing sponge with very hot water appeared to be especially suitable for children and the aged, while the young, vigorous adult got more benefit from the cold sponge bath administered with considerable friction. In many patients the cool, soppy bath with light friction brought the temperature down 2 or 3 degrees.

The feeding of the patients offered one of the most difficult problems of treatment. Most of the patients got enough fluid, none too much; but because of the popular belief that only fluids should be given, it was very difficult to supply the caloric needs of the individual. This condition was largely remedied as soon as the attending physician could convince the family that such foods as soft cooked eggs, soft toast, cereals, scraped steak and baked apple pulp, in fact, any of the ordinary soft foods, could be given with perfect safety if begun early in the disease; these of course to be given as adjuncts to milk and its modifications, which formed the basis of the diet. There was a striking difference between the patient who was receiving 3,000 calories plus, and the emaciated chap in the next bed who was getting barely a thousand. The former, after his temperature had been normal about a week, was able to be around; the latter was slow in regaining his strength. It is my impression that complications were as frequent in the well fed as in the other, but that the well nourished individual took care of his better. Some patients would not take food, no matter how attractively served.

Unfortunately, this type often ran a protracted course and was terribly emaciated when the temperature finally reached normal. The arrangement of the beds in rows in the Red Cross emergency hospitals offered a good opportunity to compare patients. It was nearly always possible to pick out the patients who were drinking enough water and getting plenty of nourishment. They were more alert mentally, did not have the dry tongue and sordes, and were for the most part not emaciated. It was easier to get the ward patient to drink water than it was the private one, for the spirit of competition could be made to enter into the situation in the ward. This was especially true on the male side, in which quantities of water drunk and urine passed could be compared.

The phase of treatment about which one can be enthusiastic was the wonderfully effective nursing care that more than 95 per cent. of the patients received. Salem was very fortunate in getting plenty of nurses early in the epidemic. There were during the most active time nearly 300 nurses on duty, some doing private duty, many in the hospitals, and a sufficient number working as visiting nurses to provide adequate attention at least once daily to every patient in the city who needed aid. If the physician advised special day and night care, it was provided. When the family could not afford this necessity, the ever present Red Cross paid the bill. Four emergency hospitals were established by the Red Cross which all patients were urged to enter. This centralized the work, made sanitation easier, and materially decreased the labor of the local physicians. In these hospitals the regular army cots were placed on boxes which raised them to the height of the ordinary hospital bed. Each nurse had charge of three female or four male patients. Each physician had the privilege of treating his own patients in these institutions. In order that treatment might be made as simple as possible for the nurses, the patients being attended by any one physician were grouped so far as practicable. The records kept by the nurses at the hospitals and in the homes were a distinct aid to the busy physicians. It was also very gratifying to see tidy beds, clean backs, flat abdomens and mouths free from sores which all bespoke proper nursing. It is worth recording that not one sore back due to inadequate attention was observed.

MORTALITY

Of the factors responsible for the remarkably low mortality of 2.8 per cent., excellent nursing care stands preeminent. This is a definite fact which it is possible to grasp; on the other causes responsible we can only speculate. Did the preliminary enteritis due to sewage containing few or no typhoid organisms from which most of the patients suffered confer some degree of resistance? Could it be that the infection was received in small, diluted doses? It is estimated that 6 per cent. came down with the disease after the first dose of vaccine. Did this cut down the mortality in this group?

The most important definite fact which we gather from this epidemic is that connected with the effectiveness of antityphoid inoculation. On the age incidence chart kept by the state epidemiologist, Dr. F. G. Boudreau, a discrepancy was found on the male side between the ages of 20 and 30. In seeking an explanation for this, statistics on the number of ex-service men in the town were collected. It was found that among the 210 ex-service men there were only three cases, or an incidence of one in seventy; while among the entire female population between the ages of 20 and 30 the incidence was one in eight. Records as to the time since vaccination, collected by the American Legion at the request of Mr. R. A. Tarbett of the United States Public Health Service, show that all the ex-service men had been vaccinated for more than two years, and some of them as long as three years. This is definite proof that an individual enjoys a considerable degree of immunity for at least two years after inoculation.

Clinical Notes, Suggestions, and New Instruments

A NEW SPLINT FOR TREATING FRACTURES OF THE LONG BONES

G. Carlyle Cooke, M.D., Winston-Salem, N. C.

This splint has been used with such gratifying results that it is well worth the attention of physicians generally. The advantages which it embodies over other appliances for the treatment of fractures of the long bones are:

1. The patient remains comfortable without in any way lessening the efficiency of the splint.

2. It is easily applied, the patient is easily cared for while it is used, and it can be kept in perfect adjustment by the ordinary hospital or home attendants.

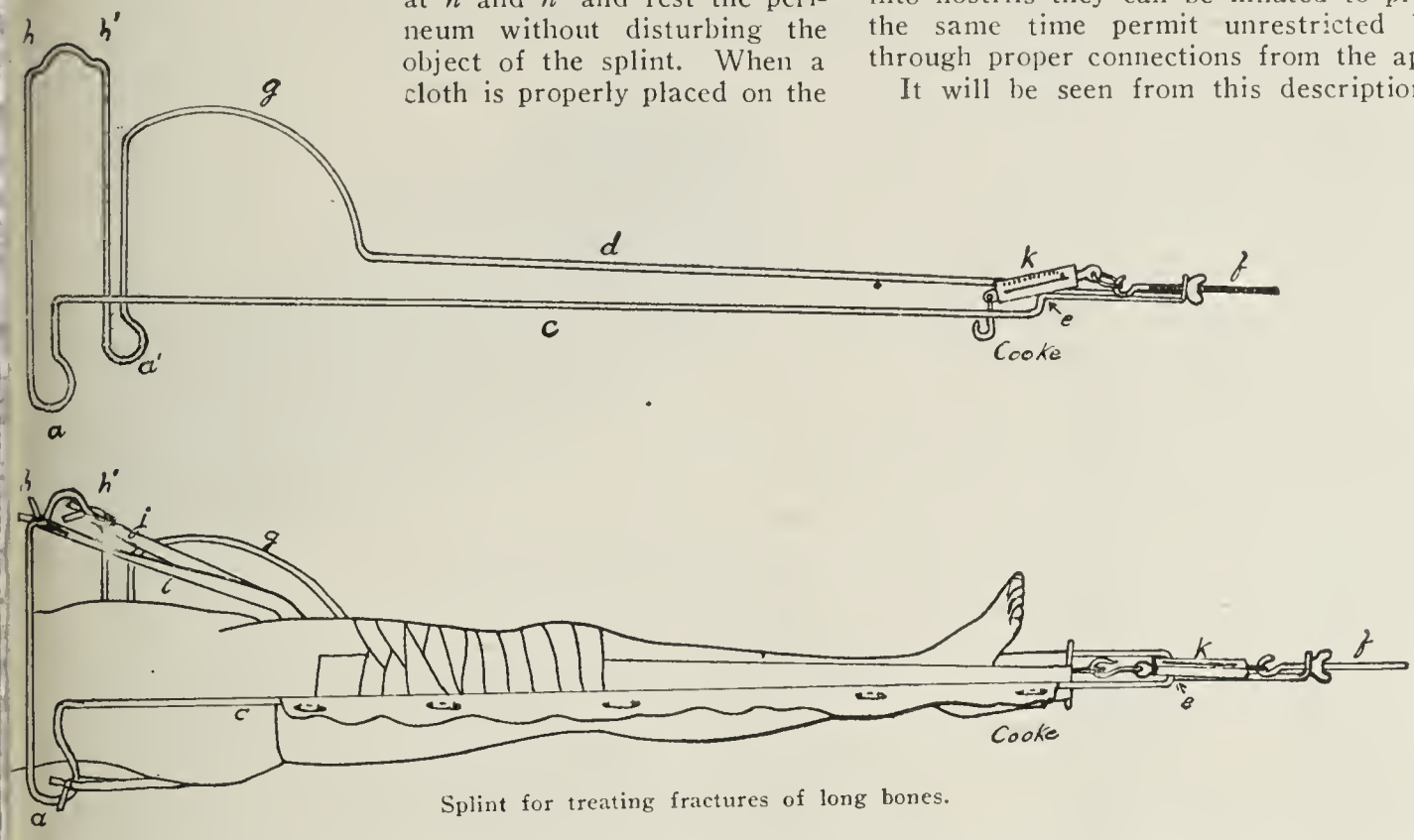
3. It maintains a reliable, resilient traction of known pull and equal countertraction in all positions that the patient may acquire under all conditions, and it is simple in construction.

SPLINT IN DETAIL

The splint proper is made of a seven-sixteenth inch iron rod with a loop at the upper extremity which arches over the body of the patient and rests on the mattress at *a* and *a'* on each side of the patient. These points are continuous with two parallel rods, *c* and *d*, 7 inches apart, 4 feet long, and of 5 inches' higher level than points *a* and *a'*, and are joined at *e*, where also a flat bar 6 inches long is welded on and bent at right angles with a three-eighth inch hole in the upright end. Through this hole is a bolt 5 inches long with a hook on one end and a thumb nut on the other. At *g*, a loop is made in one of the parallel rods according to whether it is for the right or the left leg, to allow space for the unaffected leg. At *h* and *h'* are notches made in the loop for the attachment of two straps, which may be padded with cotton or a pneumatic cushion, which pass over the groins of the patient, between the legs and in the gluteal fold to *a* and

, where they are secured and furnish a rigid but comfort-
ble countertraction.

In one end of the bolt is hooked a spring balance to give resilient pull on the adhesive spreader (that which is used n any form of Buck's extension), at the same time indicat-ig the amount of pull in pounds. With this splint applied, ie patient can sit up in bed and move himself about without isturbing the traction, and when the pressure on the peri-eum becomes distressing he can make pressure on the splint at *h* and *h'* and rest the perineum without disturbing the object of the splint. When a cloth is properly placed on the



Splint for treating fractures of long bones.

splint and secured with safety pins as used on the Thomas splint and shown in the drawing, it has a material advantage over the Balkan frame or other forms of Buck's extension appliances in that the patient can have the advantage of roentgenography at any time it may be desired.

COMBINATION MOUTH AND NOSE PIECE DESIGNED FOR USE WITH METABOLIC APPARATUS *

JOHN WALKER MOORE, B.S., M.D., LOUISVILLE, KY.

My purpose in this communication is to offer a preliminary report on a combination mouth and nose piece designed to take the place of the mouth piece and nose clip now in general use with the closed circuit portable respiratory apparatus of Benedict. The outstanding objections to the Benedict apparatus are due to inherent faults in the appliance by which the patient receives oxygen, namely the mouth piece, which may cause:

1. Irregular type of respiration as a result of mouth breathing and the discomfort of the nose clip.
2. Excessive salivation with resultant swallowing of oxygen.
3. Transmission of infection as a result of failure to sterilize parts of the closed circuit that come in contact with expired air.
4. Leakage.

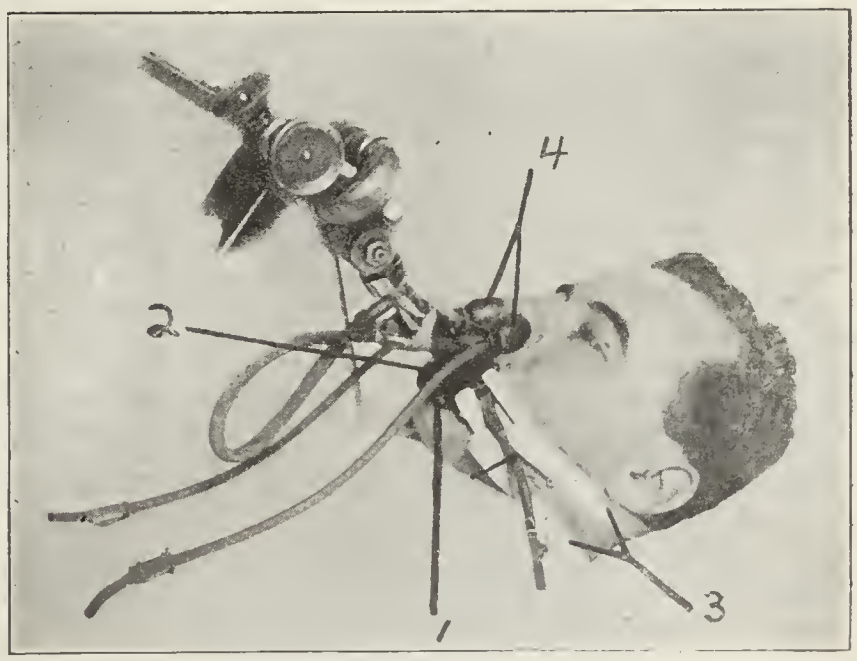
The face mask, at a glance, would seem to be the appliance of choice in that it permits unrestricted breathing from nose and mouth, and would therefore encourage normal breathing. It is easily sterilized and offers nothing which tends to cause increased salivation. Nevertheless, it is a well known fact that its use in all cases is impossible for the reason that leakage, however slight, is prone to occur. It is because of leakage, therefore, that the mask has not been generally accepted in the closed circuit apparatus.

The combination mouth and nose piece illustrated herewith has proved in our hands to obviate the foregoing faults as no other appliance has done. It consists of: (*a*) a rubber mouth piece constructed with an elliptic flange which readily adjusts itself when placed between the lips and the gums; (*b*) a pneumatic ring (1), which is slipped over the tubing of mouth piece and held in place by a hard rubber support (2); the latter is attached to straps (3) leading from the canvas head piece; (*c*) pneumatic nose pieces attached to special metal tubing inserted in the regular metal respiratory tube leading to instrument, (4), designed so that when inserted into nostrils they can be inflated to prevent leakage, and at the same time permit unrestricted breathing of oxygen through proper connections from the apparatus.

It will be seen from this description that this apparatus obviates the defects of the appliance in general use in that:

All the parts of the appliance can be sterilized by immersing them in a pint lightning top jar filled with 65 per cent. alcohol. This prevents any possible chance for transmission of infection by these parts of the apparatus. It should be rinsed thoroughly in water and allowed to dry before being used.

As the flange of the mouth piece is devoid of slugs, and is lifted when put in the mouth so that the tongue at no time comes in contact with foreign substances, salivation is less likely to occur than with the use of similar mouth pieces with slugs held between the teeth; and for this reason ingestion of oxygen is practically prevented.



Combination mouth and nose piece

The pneumatic ring, when inflated, binds the lips firmly to the flange within the mouth, obviating any possible chance for leaks in this region; thus, the responsibility for keeping the mouth piece in place does not rest with the patient. He may breathe from either the mouth or the nose.

This appliance has been in use in the metabolic ward of the Louisville City Hospital on the Sanborn Benedict metabolic apparatus for six months, and our tests cover fifteen minutes, even with the most nervous type of patient, without discomfort.

This appliance is to be manufactured and sold by the Sanborn Company, 1048 Commonwealth Avenue, Boston 47, Massachusetts.

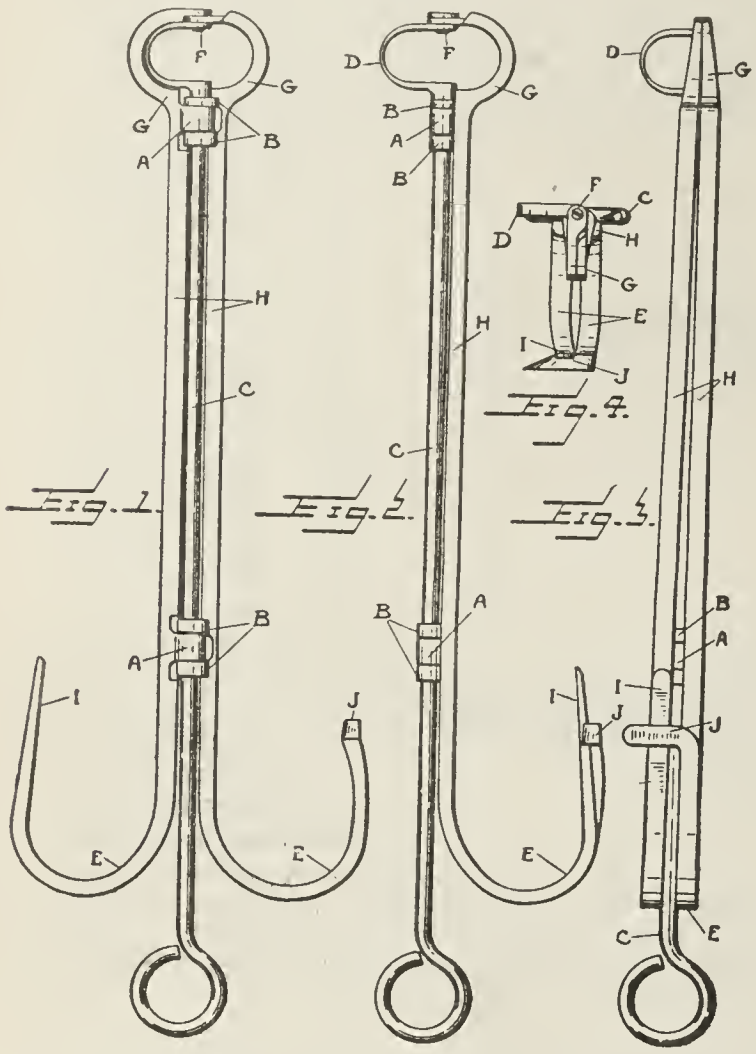
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* From Medical Research Laboratory, University of Louisville Medical Department.

A TONSILLECTOME

W. C. TOLL, M.B., M.R.C.S., L.R.C.P., SIMCOE, ONT.

In this tonsillectome, the hemostat comprises two half rings, *G*, which are formed on or connected to the ends of bars *H*. These bars are provided with hinge knuckles, *A*, *B*, by means of which they are hinged together. The hinge pin is preferably formed by the handle, *C*, of the knife, *D*. This knife is of semiannular form, as shown, and when rotated moves in shear fashion past the inner faces of the half rings, *G*, *G*. The outer ends of the jaws are preferably halved together, as shown, and provided with a pivot, *F*, in alinement with the handle, *C*. The knife also preferably engages this pivot, *F*, and is thus supported at its outer end. The other ends of the bars, *H*, are preferably bent up to form handles, *E*. The end, *I*, of one handle is extended to form a resilient tongue adapted to be snapped into a keeper, *J*, formed on the end of the other handle. The bars, *H*, may thus be locked to retain the half rings, *G*, in the position shown in Figures 2, 3 and 4. It will be noted that when the half rings are opened out, as shown in Figure 1, that a completely unobstructed fenestrum is formed through which the tonsil to be removed may protrude when the device is positioned for use.



Figs. 1, 2, 3 and 4.—Details of tonsillectome.

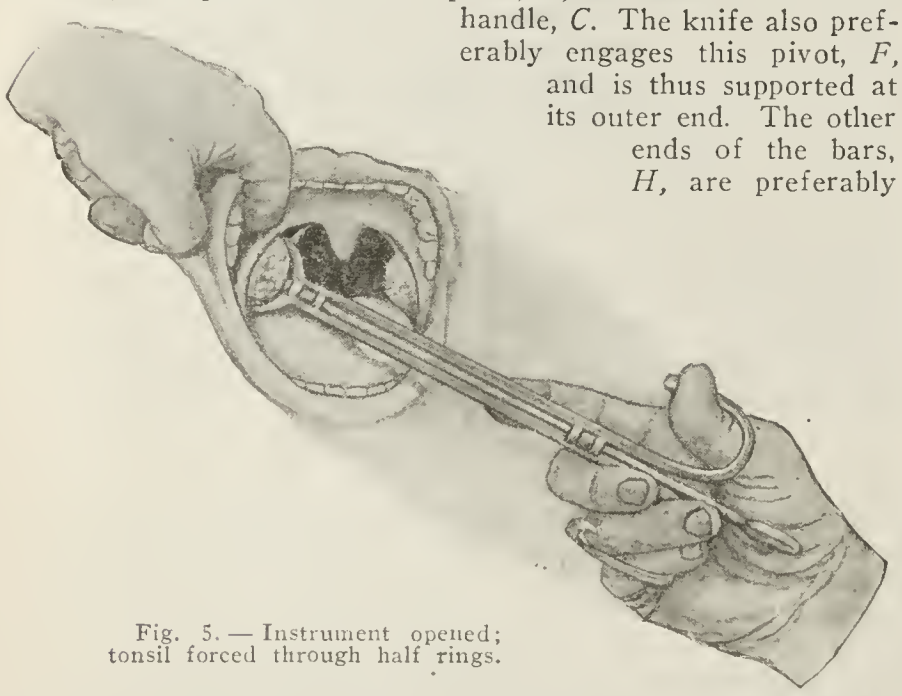


Fig. 5. — Instrument opened; tonsil forced through half rings.

The device is used in the following manner: In the first place the instrument is opened, as shown in Figure 1, and by suitable manipulation (Fig. 5) the tonsil to be removed is forced into or through the half rings, which are then folded together and locked (Fig. 6). This procedure separates the tonsil from both the anterior and posterior faucial pillars and the superior constrictor pharyngeal muscle, and crushes the connecting tissues, thereby securing hemostasis. The knife is then rotated by means of its handle to remove the tonsil from the crushed stump.

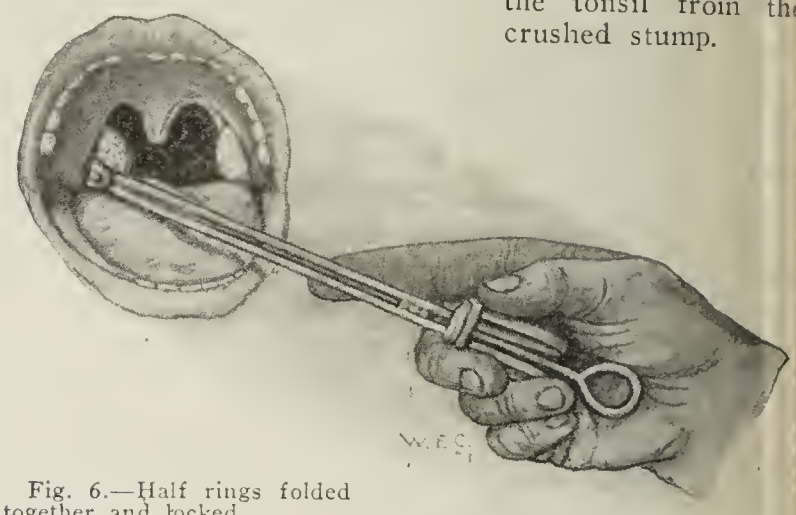


Fig. 6.—Half rings folded together and locked.

This method is the most nearly bloodless of any I have seen and is very rapid, my ordinary time for removal of tonsils and adenoids in a child being less than a minute. So brief an anesthesia is required that there is the minimum of anesthetic used and consequently the least toxic effect. The method is so easy in ordinary cases that any family physician could do the complete enucleation, relieving him or the family of the necessity of employing a specialist.

A CASE OF UNUSUAL SUSCEPTIBILITY TO IODIN

H. E. HAPPEL, M.D., ST. LOUIS

A white married woman, aged 50, admitted to the hospital, Feb. 8, 1921, suffering from metrorrhagia due to a fibroid uterus, was operated on, next day. In the course of a supravaginal hysterectomy, after dividing the uterus at the level of the internal os, I attempted to cauterize the cervical canal with phenol and alcohol; but the quantity at hand was insufficient, and I took a cotton-tipped applicator, dipped it into tincture of iodin, and touched it to the cervical stump. Less than a drop of the tincture was used.

Seventeen hours later, about 4 a. m., the patient began to complain of an intense itching and burning of the skin, with a sensation of swelling of the face and hands. When the light was turned on and she saw wheals on her arms and hands, she exclaimed, "They used iodin on me." The nurse examined the abdomen and found that picric acid solution had been used in preparation of the skin, and so informed her; but she insisted that iodin had been used somewhere, stating that about nine years before she had had a similar experience after painting the back of her neck with iodin to relieve soreness of the muscles.

The rash was a typical urticara involving the face, scalp, upper extremities, trunk, and to a less degree the lower limbs. The intramuscular injection of 10 minims of epinephrin chlorid, 1 : 1,000 solution, gave almost instant relief, the rash disappearing as if by magic; but it reappeared in about four hours. A second hypodermic of epinephrin produced the same effect, though not so promptly. The attack lasted two days, and the eruption was readily controlled by epinephrin. The attack nine years before lasted one month.

Less than one drop of iodin was used, and the patient was almost frantic from the itching and burning of the skin. I hesitate to think what might have happened if her abdomen had been painted with iodin instead of the 5 per cent. alcoholic solution of picric acid.

Wall Building.

Special Article

THE WAR RISK ACT AND THE MEDICAL SERVICES CREATED UNDER IT

L. B. ROGERS, M.D.
Assistant Medical Adviser, Bureau of War Risk Insurance
WASHINGTON, D. C.

The Medical Division of the Bureau of War Risk nsurance has been divided into a General Medical ection, Surgical Section, Neuro-Psychiatric Section, ye, Ear, Nose and Throat Section, Dental Section, uberculosis Section, Amputation and Fracture Sec- on, and a Foreign Relations Section.

The titles describe their functions. Each section consists of a chief, an assistant chief, medical referees and ssistant medical referees, briefers, stenographers, ypists and clerks. Formerly the case jackets were ent to the respective sections for medical action; but s this procedure involved the moving of great numbers f case jackets from the files to the medical sections aily, it was found to be more practicable to organize nedical units in close proximity to the case files. There re at the present time fourteen such units, each complete in itself, having the necessary specialists to make isability ratings in all classes of cases except amputaions and fractures, which are still handled in the sec- ion of this name. For administrative purposes, one hysician in each unit is designated as chief of the unit; ut each specialist in these units works under the direcion of the chief of the section under which his pecialty falls.

The amendatory act approved Dec. 24, 1919, contained the following provision:

> That the Bureau of War Risk Insurance is hereby authorized o furnish transportation, also the medical, surgical and hosital services and the supplies and appliances provided by Subdivision 6 hereof, to discharged members of the military r naval forces of those governments which have been assoiated in war with the United States since April 6, 1917, and ome within the provisions of laws of such governments imilar to the War Risk Insurance Act, at such rates and nder such regulations as the director of the Bureau of War Risk Insurance may prescribe; and the Bureau of War Risk Insurance is hereby authorized to utilize the similar services, supplies and appliances provided for the discharged members f the military and naval forces of those governments which ave been associated in war with the United States since April 6, 1917, by the laws of such governments similar to the War Risk Insurance Act, in furnishing the discharged members of the military and naval forces of the United States who live within the territorial limits of such governments and come within the provisions of Subdivision 6 hereof with the services, supplies and appliances provided for in such subdivision; and any appropriations that have been made or may hereafter be made for the purpose of furnishing the services, supplies and appliances provided for by Subdivision 6 hereof are hereby available for the payment to such governments or their agencies for the services, supplies and appliances so furnished and at such rates and under such regulations as the director of the Bureau of War Risk Insurance may prescribe.

In order to provide for effective compliance with this act, there was immediately established in the Medical Division the Foreign Relations Section, whose function was the proper accomplishment of the purpose of this provision. With the establishment of this section, efforts were instituted to accomplish reciprocal arrangements between the United States government and the governments of allied nations in the matter of physical examination, hospitalization and medical treatment of veterans of allied armies who were living in the United States, and veterans of the United States Army and Navy who are living in foreign countries.

Up to the present time satisfactory arrangements have been completed with Canada. Drafts of a proposed agreement concerning this subject have been submitted through the State Department to the United States ambassador at London for proper transmittal to the governments of England, France, Italy, Belgium, Portugal, Poland, Czechoslovakia, and the Serb, Croat and Slovene State for their approval; but no agreement has been reached with these countries.

In the meantime, at the expense of the United States government, ex-service men of the United States Army and Navy were being treated, largely in private institutions, in the following foreign countries: British American colonies, England, Ireland, Scotland, Wales, Africa, India, British Guiana, West Indies, France, Italy, Belgium, Holland, Denmark, Norway, Sweden, Poland, Roumania, Czechoslovakia, European and Asiatic Turkey, Portugal, Honduras, China, Brazil, Argentina and Mexico.

By the agreement in effect between Canada and the United States, examinations, hospital care and treatment are provided by the Bureau of War Risk Insurance for all beneficiaries of England, Canada, Australia and New Zealand residing in the United States, and the Canadian government performs like services for the United States veterans of the World War living in Canada.

During the fiscal year ending June 30, 1920, the number of actions taken on compensation cases by the Medical Division was 1,088,201. Medical ratings, re-ratings, requests for examinations and hospitalization of cases are all included in this number. The same case may have required attention two or more times. During the last quarter of the fiscal year ending June 30, 1920, for example, in which 397,570 cases were passed upon, the number which came to the attention of the Medical Division for the first time was but 93,898. During the first three quarters of the present fiscal year, June 30, 1920, to April 1, 1921, the number of actions taken on compensation cases by the Medical Division was 1,031,531. During the period from Jan. 1, 1921, to April 1, 1921, 379,750 cases were acted on. The records of the Medical Division show the exact number of claimants' cases referred to the United States Public Health Service district medical examiners during all except the first quarter of the fiscal year ended June 30, 1920. On that basis it is conservatively estimated that approximately 430,000 cases were referred out for examination and report during the year. At the present time, new claims are being received at the rate of approximately 800 per day. Of these claims a smaller proportion are being allowed than were allowed a year ago because of the fact that many of the disabilities for which claims are being made are not found to have been connected with the service. The average amount of monthly compensation paid per claimant in claims allowed to date is $36.

The law provides as follows:

. . . That no compensation shall be payable unless a claim therefor be filed, in case of disability, within five years after discharge or resignation from the service, or, in case of death during the service, within five years after such death is officially recorded in the department under which he may be serving: Provided, however, That where compensation is payable for death or disability occurring after discharge or resignation from the service, claim must be made within five years after such death or the beginning of such disability.

The time herein provided may be extended by the director not to exceed one year for good cause shown . . .

The longer the interval between the date of discharge and the date the claim is filed, the more difficult it becomes to establish service connection; and because of the fact that additional evidence, such as physicians' statements and affidavits from disinterested persons, must first be obtained, more time must be consumed in adjudicating such claims.

It is the duty of the medical referee not only to make an estimate as to the extent of disability indicated by the man's physical condition, but to decide whether or not the disability itself is of service origin. The latter question is becoming more difficult as time goes on.

In June, 1920, the average number of cases acted upon daily per medical officer was 114, while in March, 1921, the average number of cases acted upon daily was 92. The number of claims filed for the month of June, 1919, was 22,030; July, 1920, 15,566; March, 1921, 21,359. The number of disability claims disallowed for the month of June, 1919, was 956; for June, 1920, 3,899, and for March, 1921, 5,973. The total number of death and disability claims filed to April 7, 1921, was 603,903. In addition to the claims for death compensation, the number of disability claims awarded was 259,407; the number of disability claims disallowed was 102,462. The number of pending claims (death and disability) was 95,030, of which approximately 45,000 are awaiting medical action. This indicates that the Medical Division is less than seven days behind in its work. Of the foregoing 50,854 death claims but 46,301 payments are active, and of the foregoing 259,407 disability awards but 153,100 payments are active. There had been awarded to March 31, 1921, 9,770 awards for permanent and total disability; of this number 5,255 are active. The total number of artificial arms provided to March 31, 1921, was 1,401, and the total number of artificial legs was 3,254. There are but few cases in which a permanent rating can be given when the claim is first made. Were it possible to make permanent ratings in all cases, the work of the Medical Division would be considerably simplified; but this cannot be done, owing to constant changes in the claimant's physical condition which necessitate periodic revisions of the disability rating.

When a new claim for compensation is received in the bureau it must be accompanied by a certified copy of the man's honorable discharge from the service. Immediately on receipt of these papers, the district supervisor in whose district the man resides is called on to have a physical examination made of the claimant and to forward a report of this examination to the bureau. At the same time a request is made of the Adjutant General of the Army or the Surgeon General of the Navy, as the case may be, for an abstract of the man's medical record while in the service. When all of these papers have been placed in the file the case jacket is first reviewed by a briefer who tabulates all of the pertinent data in the case and refers them to a Medical Referee of the appropriate section, and ratings are made in each instance by specialists in one or more of these branches of medicine. Claimants having disabilities involving two or more specialties are rated for each disability by a specialist in each of the respective sections, the combined rating being the result of concurrent action by two or more sections. The medical referee reviews all of the facts in the case and makes the disability rating, and also makes a statement as to whether or not from a medical standpoint the disability is due to disease or injury incurred in or aggravated by the service. All cases bearing a temporary rating are referred directly to the Compensation and Claims Division, where the adjudication of the claim is completed and a check is sent to the claimant..

All cases which have been rated as permanently and totally disabled are referred to a medical board of review consisting of five members. The rating made by the Medical Referee is either confirmed or disapproved by this board, and the case is then sent to the board of appeals for approval or confirmation. If the action of the medical board of review is confirmed by the board of appeals, no further action is necessary. In the case of disagreement between the two boards, the case is referred to the assistant director of the Compensation and Claims Division and the medical adviser; and in case of disagreement between them, to the director for final decision.

There has been considerable misunderstanding on the part of the ex-soldiers as well as on the part of the public at large concerning the difference between insurance and compensation.

COMPENSATION

The following abstracts of that portion of the law which deals with compensation for death or disability must be taken into consideration in dealing with the question of disabilities and their proper ratings:

Section 300, War Risk Insurance Act, as amended:

For death or disability resulting from a personal injury suffered or disease contracted in the line of duty, by any commissioned officer or enlisted man or by any member of the Army Nurse Corps (female) or of the Navy Nurse Corps (female) when employed in the active service under the War Department or Navy Department, the United States shall pay compensation as hereinafter provided; but no compensation shall be paid if the injury or disease has been caused by his own wilful misconduct; Provided That for the purposes of this section said officer, enlisted man, or other member shall be held and taken to have been in sound condition when examined, accepted and enrolled for service: Provided further, That this section, as amended, shall be deemed to become effective as of April 6, 1917. . . .

Section 306, War Risk Insurance Act:

No compensation shall be payable for death or disability which does not occur prior to or within one year after discharge or resignation from the service, except that where after a medical examination made pursuant to regulations at the time of discharge or resignation from the service, or within such reasonable time thereafter, not exceeding one year, as may be allowed by regulations, a certificate has been obtained from the director to the effect that the injured person at the time of his discharge or resignation was suffering from injury likely to result in death or disability, whenever occurring, proximately resulting from such injury.

Section 309, War Risk Insurance Act:

No compensation shall be payable unless a claim therefor be filed, in case of disability, within five years after discharge or resignation from the service, or, in case of death during the service, within five years after such death is officially recorded in the department under which he may be serving: Provided, however, that where compensation is payable for death or disability occurring after discharge or resignation from the service, claim must be made within five years after such death or the beginning of such disability. The time hereinafter provided may be extended by the director, not to exceed one year for good cause shown. . . .

A disability is considered to be a mental or physical condition which would cause to the average person an impairment of earning capacity in civil occupation.

Disabilities are classified as:

1. Temporary:
   (*a*) Partial.
   (*b*) Total.
2. Permanent:
   (*a*) Partial.
   (*b*) Total.

The law provides for compensation in the class of permanent disabilities on the basis of $100 per month for a total disability, and in the class of temporary disabilities on the basis of $80 per month for total disabilities. If the claimant has one or more dependents, additional compensation is provided.

If the disabled person is so helpless as to be in constant need of a nurse or attendant, such additional sum shall be paid, but not exceeding $20 per month, as the director may deem reasonable.

A claimant awarded a temporary total rating, or, in other words, one who is temporarily totally incapacitated for any work, or who is in a hospital undergoing treatment but whose ultimate recovery is expected, receives compensation at the rate of $80 per month. If he has a wife and no children living, $90 per month. If he has a wife and one child [1] living, $95 per month; if he has a wife and two or more children, $100 a month.

Temporary partial disabilities are rated according to the foregoing figures. For example: A claimant 50 per cent. disabled, without dependents, would receive $40 per month, or one half of the amount to which he would be entitled were he awarded a temporary total rating.

All claimants who are in fact permanently and partially disabled or temporarily and partially disabled, who are undergoing hospital treatment, are considered to be temporarily totally disabled and are so rated for compensation purposes while in hospital, and disabilities from an injury or disease are rated as total and permanent in conformity with Treasury Department Regulation No. 57 of Nov. 26, 1920, which reads, in part:

For compensation purposes a disability from an injury or disease shall be rated as total and permanent under any of the following conditions:

(*a*) When a statutory total permanent disability entitles a person to such rating, viz., "loss of both feet or both hands or the sight of both eyes, or the loss of one foot and one hand, or one foot and the sight of one eye, or one hand and the sight of one eye, or becoming helpless and permanently bedridden."

(*b*) When from the evidence submitted it is determined that a person has suffered an impairment of mind or body of a degree which would render the average man incapable of following continuously any substantially gainful occupation and it furthermore appears reasonably certain that such degree of disability will continue throughout the life of the disabled person.

(*c*) When a presumption of total permanent disability is established under the following conditions:

1. Where the disabled person is on the date of the issuance of this regulation, or hereafter shall be, either an inmate of a hospital or asylum during a continuous period of six months or more; or on the date of the issuance of this regulation is, or hereafter shall be, rated as totally disabled or totally and temporarily disabled for a continuous period of six months or more, and be unable to follow continuously any substantially gainful occupation during such six months; and in addition at the time of the medical examination hereinafter prescribed shall be found then to be in such physical or mental condition as to require further hospitalization or otherwise unable to follow continuously any substantially gainful occupation.

2. Before the disabled person shall be rated totally and permanently disabled under the preceding paragraph, a medical examination shall be conducted for the purpose of ascertaining his or her true physical and mental condition, and in addition all facts as to his or her ability to engage continuously in a substantially gainful occupation shall be procured.

3. While the disabled person is an inmate of a hospital or asylum, he or she shall be deemed during such period to be temporarily totally disabled and unable to follow continuously any substantially gainful occupation, unless and until his or her disability rating is made permanent and total under the conditions of this regulation.

All persons rated totally and permanently disabled shall be medically examined from time to time, but at least once every six months from the date of such rating for the purpose of determining whether or not the rating of total permanent disability should be continued or be modified unless it is clearly shown that such examinations are wholly unnecessary.

Certain specific disabilities are called statutory, as they are provided by law. For example:

A claimant is considered to be totally and permanently disabled when he has suffered the loss of both feet or both hands, or the sight of both eyes or the loss of one foot and hand, or one foot and the sight of one eye, or one hand and the sight of one eye, or becomes helplessly and permanently bedridden.

The law provides that for double total permanent disabilities the rate of compensation shall be $200 per month. Claimants who have lost both eyes and both arms, both eyes and both legs, or one foot and one hand and both eyes, are considered to be in this class. Only three cases of double total permanent disability are on record in the bureau at this time. Two have lost both arms and both eyes, and one has lost both hands and both eyes. There are no cases on record either in the United States Army or in the British Army of men who have lost both arms and both legs and who have lived to claim a pension.

Disability ratings are based on the claimant's actual physical or mental condition at the time his application is made, as shown by a report of examination made by a physician or physicians designated by the Bureau of War Risk Insurance or the United States Public Health Service to examine the claimant and are made in accordance with a ratings table prepared in this bureau.

The law provides that:

. . . A schedule of ratings of reductions in earning capacity from specific injuries or combinations of injuries of a permanent nature shall be adopted and applied by the bureau. Ratings may be as high as 100 per centum. The

1. Unmarried children under 18 years, or of any age if insane, idiot or otherwise permanently helpless.

ratings shall be based, as far as practicable, upon the average impairments of earning capacity resulting from such injuries in civil occupations and not upon the impairment in earning capacity in each individual case, so that there shall be no reduction in the rate of compensation for individual success in overcoming the handicap of a permanent injury. The bureau in adopting the schedule of ratings of reduction in earning capacity shall consider the impairment in ability to secure employment which results from such injuries. The bureau shall from time to time readjust this schedule of ratings in accordance with actual experience.

In compiling this schedule of ratings for disabilities, the various opinions of the leading specialists in the United States and the schedule of ratings of Belgium, France, Canada and England now in effect have been taken into consideration.

TABLE 1.—TOTAL NUMBER OF CLAIMANTS' CASES ACTED ON BY THE MEDICAL DIVISION DURING MARCH, 1921

Section	Number
Medical units	112,660
Foreign relations	4,148
Fractures and amputations	4,128
Medical board of review	6,856
Section chiefs	10,018
Total	137,810

Service connection or aggravation must be established for the disability before compensation can be awarded.

In making disability ratings it must be constantly borne in mind that the War Risk Act and its amendments were conceived and enacted for the benefit of veterans of the World War who have suffered injury or disease while engaged in warfare to protect the rights and preserve the integrity of our country.

While it was no more than their duty to serve, it is the responsibility and intent of our government, as expressed by the War Risk Act, to care for and assist those who were so unfortunate as to have become disabled in the performance of their duties. The law must be administered by its broadest interpretation, and ratings of disability are made as generous as possible in consistency with the facts. Wherever a question of doubt arises, the benefit of such doubt is given to the claimant.

Whenever the medical evidence is insufficient to determine which of two disability ratings should be given, the higher rating is made and continues until such time as it is definitely and unquestionably shown that this rating was not consistent with the facts. Difficulty is frequently encountered in connecting present disabilities with the military or naval service. When there is any doubt in the minds of those whose duty it is to rate such cases, here again the benefit of the doubt is given to the claimant. Even though it is not definitely and clearly shown that the disability from which he suffers is of service origin, it is so considered, if the possibility that such condition could have originated in or have been aggravated by the service is reasonable when considered in the light of clinical and pathologic experience.

It is believed that the Congress and the public at large would be more willing to condone possible errors in favor of ex-service men than those in favor of the government.

In making disability ratings, all personal matters should be set aside; and it must be remembered that the majority of claimants are sick persons who are seeking benefits to which they are entitled by law. An antagonistic, critical, or even abusive attitude on the part of a claimant should not influence the physician in rating the case. Consideration and courtesy must at all times be shown to ex-service men and women by members of the medical profession and all officers and employees whose duties bring them in contact directly or indirectly with claimants of this bureau.

By the term "service connection" is meant the establishing of the fact that the existing disability is directly or indirectly the result of the claimant's military or naval service.

The service origin of a disability may be determined in the following ways:

1. By consulting the records of the Adjutant General of the Army or the Bureau of Medicine and Surgery of the Navy, as the case may be, and obtaining an abstract of the claimant's medical record while in the service.

2. By obtaining statements of the claimant's physical or mental condition subsequent to discharge from the service by a physician or physicians who have treated him, showing dates of treatment, nature and degree of disability treated. Consideration of the time elapsed since date of discharge and the nature of the disability will have a decided bearing on the question of service connection.

3. By securing affidavits from disinterested parties who knew the claimant prior to service, while in the service, or subsequent to his discharge, and who can testify as to his condition during one or all of these periods.

In the majority of cases, service connection can be established from the records of the Adjutant General's office or the Bureau of Medicine and Surgery of the Navy. These records are requested in every case applying for compensation. In the absence of such evidence, physicians' statements and affidavits from disinterested parties are obtained.

The term "service aggravation" implies that although the disability for which the claim is made for compensation existed at the time of enlistment or induction into the military or naval service, this disability was increased by service.

TABLE 2.—RATINGS (INCLUDING NEW RATINGS AND RERATINGS) GIVEN ON ALL CASES ALLOWED BY THE MEDICAL DIVISION IN FEBRUARY AND MARCH, 1921

Degree of Impairment	Number Rated—In February	Number Rated—In March
Temporary partial	24,666	25,499
Permanent partial	1,495	1,609
Temporary total	6,197	5,524
Permanent total	1,096	2,172
Total allowed	33,454	34,804
Death	116	305

The term "discharged from service" implies that the man was examined, accepted, and enrolled for service in the military or naval forces of the United States previous to his discharge.

The term "discharged from draft" implies that the man was taken into the draft, medically examined at camp, was not accepted or enrolled for service, but was discharged from the draft. The law provides:

That if after induction by the local draft board, but before being accepted and enrolled for active service, the person died or became disabled as a result of disease contracted or injury suffered in the line of duty and not due to his own wilful misconduct, involving moral turpitude, or as a result of the aggravation, in the line of duty and not because of his

own wilful misconduct involving moral turpitude, of an existing disease or injury, he or those entitled thereto shall receive the benefits of compensation payable under Article III: Provided, That any insurance application made by a person after induction by the local draft board but before being accepted and enrolled for active service shall be deemed valid.

A man discharged from draft is not considered as having been in service; and unless disability was definitely caused by or aggravated by conditions occurring during his days of draft service, he is not entitled to compensation.

When an enlisted man has a latent defect which is specifically noted, he is accepted subject to that defect;

TABLE 3.—STATEMENT ON EXPENDITURES FROM APPROPRIATION "MILITARY AND NAVAL COMPENSATION" AND "MEDICAL AND HOSPITAL SERVICES, 1921," ACCUMULATED THROUGH MARCH, 1921, AND THE MONTH OF MARCH, 1921

Compensation Awards	March, 1921	Accumulated
Death	$1,415,018.96	$ 29,540,517.05
Disability	8,040,965.48	166,538,674.60
Total	$9,455,984.44	$196,079,191.65
All other items *	$2,181,024.36	$ 42,000,323.64

* Expenditures for all other items includes "accrued awards, transportation, traveling expenses, burial awards, hospital services, physical examination, medical and surgical, supplies, subrogation," and allotments to United States Public Health Service, United States Army, United States Navy, and National Soldiers' Homes.

Total cases acted on to date	2,192.591
Total cases rated in March, 1921	137,810

and if the defect later becomes aggravated, he is compensable in the measure of the increase of his disease or disability while in line of duty, and not as the result of his wilful misconduct, but only for the extent of aggravation.

Whenever an enlisted man has a patent defect—missing fingers, toes, ears, feet, etc.—if he is accepted for service he is, of necessity, accepted subject to his obvious physical shortcomings. When these shortcomings are not aggravated by service, he is not compensable at all.

No compensation is payable for a reduction in earning capacity rated at less than 10 per cent.

Claims may be disallowed for the following reasons:

1. When disability is under 10 per cent.
2. When it is not shown that the disability is connected with service.
3. When the claimant has been dishonorably discharged from the service.
4. When the claimant is receiving retirement pay.
5. When the claimant refuses to submit to examination.
6. When the disability has occurred more than one year after discharge from the service, the claimant not having previously obtained a certificate of disability from this bureau.
7. When the claimant has already received a pension from the Pension Bureau.
8. When he is receiving vocational training.
9. When it is not shown that he has served in the United States Army, Navy or Marine Corps, but may have served in the Army or Navy of an allied country.

When the claimant has been receiving compensation because of a disability rated at 10 per cent. or more, and when this disability is later determined to be less than 10 per cent., compensation previously awarded will be discontinued.

When the claimant has been receiving compensation for a disability of 10 per cent. or more and fails to report for reexamination on request, his compensation shall be discontinued after receipt of warning and elapse of a determined period.

Whenever a report of physical examination is incomplete or does not contain sufficient evidence on which to rate the case, the district supervisor may be requested to have a new examination made, his attention at the same time being called to the incompleteness of the previous examination and report. Reexaminations may be called for at a future date, when in the opinion of the medical referee this procedure is necessary, and when it is reasonable to suppose that the claimant's physical condition will have changed. Cases may be reopened at the request of claimants on the presentation to the board of appeals of additional evidence. If the board of appeals considers such new evidence to be adequate, cases are sent to the medical board of review for reconsideration.

INSURANCE

Insurance provided for by Article IV of the War Risk Act, as amended, is a provision separate and distinct from compensation. Insurance is a matter of contract. It is optional with persons in the military or naval service as to whether or not they desire additional protection afforded by insurance. Their premiums must be paid to keep the insurance in effect as is required in the instance of a policy of insurance with a private insurance company, and the optional forms of policies are the same as are offered by commercial institutions, the difference being that there is no overhead charge for the cost of administration or an overhead cost due to excess mortality rates, the government itself bearing this cost of administration and this additional cost of protection.

There is one other cardinal distinction between the benefits of compensation and of insurance. Compensation is paid for an injury sustained or a disease contracted in line of duty, or an injury sustained or a disease accelerated by or aggravated by military or naval service; and the payments of insurance are made irrespective of a line of duty status or the connection of the injury producing a permanent and total disability with military or naval service.

TABLE 4.—CASES REFERRED TO UNITED STATES PUBLIC HEALTH SERVICE DISTRICT SUPERVISORS *

District	January	February	March	Total
1	3,025	3,299	3,613	9,937
2	5,103	5,424	4,091	14,618
3	2,750	2,667	2,073	7,490
4	2,111	2,625	2,539	7,275
5	4,124	4,373	4,792	13,289
6	1,869	1,927	1,688	5,484
7	5,901	5,576	5,048	16,525
8	5,869	5,853	4,274	15,996
9	3,959	4,553	4,123	12,635
10	1,942	1,920	1,757	5,619
11	1,582	1,642	1,082	4,306
12	1,558	1,549	1,326	4,433
13	1,155	1,220	1,006	3,381
14	2,665	2,782	2,254	7,701
15	91	95	70	256
16	102	85	77	264
Foreign	1,640	1,808	3,096	6,544
Total	45,446	47,398	42,909	135,753

* Number of claimants' cases referred to district supervisors for physical examination, in January, February and March, and for the quarterly period ended March 31, 1921.

Of the cases acted on by the Medical Division during March, 1921, 47,105 were rated as to degree of impairment. This number includes 31,754 new ratings and 15,351 reratings. Of the total number rated, 34,804 were allowed and 12,301 disallowed, 305 death cases were passed on, and nineteen certificates of injury were issued. The ratings given on cases allowed are shown in Table 2.

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SATURDAY, APRIL 23, 1921

THE MARTIN LUTHER OF MEDICAL EDUCATION

Prof. W. T. Sedgwick,[1] in an address delivered just before his death, said:

> Fifty years ago began in Boston a revolt against the then prevailing laxity of medical education, a nineteenth century reformation which laid the foundation of modern medical education and modern medicine in the United States. The Martin Luther of that medical reformation was Charles William Eliot, then the new and youthful president of Harvard University.

The event of which Professor Sedgwick spoke is but one of a long series, before and after, which mark the road that led to our present position in medical education. In the medical schools first founded in America the standards were high, corresponding to those in the European schools in which the faculty members had been educated. After the Revolutionary War, when the schools were reorganized, the standards for admission and graduation became lower. With the spread of population came the springing up of numerous medical schools, with resulting competition for students and consequently a further disregard of any educational standards. Entrance requirements virtually disappeared, and the requirements for graduation became largely nominal. The men who became leaders had acquired a proper training either by study in Europe or by the laborious process of individual study and experience. Public spirited physicians who had the welfare of the profession and the public at heart tried to secure definite requirements for those who practiced medicine. The first concrete results appeared in the organization of medical societies which were empowered to pass on the qualification of candidates for the practice of medicine. The advantage of this arrangement was soon lost because of the general acceptance of a degree from a medical school as sufficient authority to practice medicine. The requirements for graduation remained low: no preliminary tests, two courses of lectures of four months each, a thesis. Efforts were made by individuals on the faculties to extend the courses and raise the standards, but the rapid increase of schools and the rivalry for students prevented any improvement.

1. Sedgwick, W. T.: Modern Medicine and the Public Health, Pub. Health Rep. **36**: 109 (Jan. 28) 1921.

In the fourth decade of the nineteenth century, determined efforts looking toward a reform in medical education began to be put forth. The most aggressive of the advocates of improvement were young men, who were faithfully supported by many older ones. Youth supplied the enthusiasm and assurance, while maturity served to hold the efforts to lines likely to lead to success. The friends of reform were soon convinced that definite results could follow only concerted action. The first effort to secure such action was made by the faculty of the Medical College of Georgia.[2] In May, 1835, the faculty sent a letter to all the medical colleges suggesting "calling a convention of delegates from all the colleges in the Union to devise some general plan and adopt a system of education which should be uniform throughout the United States." It was "suggested that the determination of the time, the number of delegates from each college, etc., should be referred to the faculty of the University of Pennsylvania, the oldest medical school in our country." Failure of the University of Pennsylvania to act, it is alleged, arrested the movement. Joseph A. Eve, then 30 years old, who was probably the prime mover, says that "from some few of the colleges, answers favorable to the enterprise were received; others declined cooperation; a third portion made no reply. evincing thereby no disposition for reform." In 1836, Eve wrote an earnest plea for the reform of medical instruction in the United States. He took issue with Professor Jackson of the University of Pennsylvania, who acknowledged the need for improvement in various directions, but believed it was not for the present generation to undertake the reform. Eve impatiently exclaimed: "How long would this distinguished professor delay the reformation? The spirit of the times calls aloud for reformation."

The emphatic and imperative words of Eve reached some receptive ears. In 1836, James Moultrie[3] drew attention to the defects in our system of medical education, and insisted that medical instruction should be part of a general scheme of education controlled by the state. At the second session of the Medical Convention of Ohio,[4] in January, 1838, resolutions were adopted which directed attention to the defects in our system of medical education and to the steps necessary for their correction, and urged the holding of a convention of representatives of the various schools of the Union to cooperate regarding existing defects and to remedy them by cooperation. These resolutions were ably discussed in an editorial by Daniel Drake[5] on the "American Medical School," published in the *Western Journal of the Medical and Physical Sciences,* in which he urged the calling of the convention under invitation from the University of Pennsylvania. The "oldest medical school" in the country, however, did not act,

2. Eve, J. A.: Medical Education, South. M. & S. J. **1**: 216, 1836.
3. Moultrie, James: Memorial on the State of Medical Education in South Carolina, Charleston, 1836.
4. Western J. M. & Phys. Sc. **2**: 507, 1838.
5. Drake, Daniel: American Medical School, Western J. M. & Phys. Sc. **2**: 571, 1838.

and left it to influences outside the medical schools to initiate and subsequently to carry forward the fight for advancement in medical education.

In 1846, largely as a result of persistent efforts of the New York State Medical Society, there met in New York City a convention representing medical societies and colleges in sixteen states. A committee was appointed to effect a permanent organization, which resulted the next year (1847) in the founding of the American Medical Association. Through it the battles to raise medical standards have been subsequently fought.

One of the men most influential in the organization of the American Medical Association was Nathan Smith Davis. At that time he, too, was but 30 years old, and during his long life he constantly battled for the cause of higher medical standards. His enthusiasm and persistence accomplished wonderful results. In 1849, he migrated from New York to Chicago, and at once became a forceful figure in medical circles there. For ten years he tried to realize his ideals through the old medical school with which he was connected. He secured improved clinical advantages, but was impatient for more rapid and radical results. In 1859, to accomplish his purpose, he led in the organization of a new medical school. He resigned from the established school with its locally strong faculty and considerable body of successful alumni, and headed a group of men in the organization of the Medical Department of Lind University, a newly established local institution.[6]

It should be noted that another western school, the Medical Department of the University of Michigan, in 1850 had taken an advanced position in requirements for admission and graduation; but because of limited clinical advantages it was compelled to announce that "the hasty walk through the wards of a hospital furnishes at best but a sorry substitute for the close and accurate study of cases as they occur in the professional rounds of the private practitioner." Other medical schools, including those in the East, were slow to follow, deterred by the entailment of increased labor and diminished pecuniary receipts. In 1871, however, the Medical School of Harvard University introduced a graded course of study and more rigid requirements. In that year, H. J. Bigelow, in his annual address before the Massachusetts Medical Society,[7] spoke of the educational advantages of European countries, toward which we should strive, and said: "The mass of human knowledge grows, indeed; but many years must elapse before we can expect such growth in this country, before scientists will look to an American city, as to the Vienna, the Berlin, or even the Paris of medical science."

As Bigelow predicted, the process of growth was slow. Except in rare instances, the general level of medical education was not much raised for another thirty years. From this time on, the publication of actual facts regarding medical education by THE JOURNAL became a determining factor. This publication and the able work of the Committee on Medical Education of the Association must be largely credited with having brought us to the place from which the distant view of Eve, Moultrie, Davis and Bigelow can be distinctly discerned, and where we may prepare for the further efforts which are required for the complete realization of their vision.

And so the struggle which has brought about our medical reformation was initiated in the South, was taken up in the Great Lakes region, and later reached the eastern part of the country. In the struggle we cannot distinguish a Martin Luther, but rather in Eve "a voice crying in the wilderness," in Davis "an apostle to the Gentiles," a preacher and writer of epistles, and with them and after them a large group of apostles, too numerous to mention.

6. At the opening of the new school, Davis stated the principles on which it was founded (Chicago Medical Examiner **1**: 1, 1860). Briefly, they were: first, the extension of the college term to five months; second, the increase of professors corresponding with the number of branches actually included within the domain of modern medicine; third, the division of the term into junior and senior departments in such a way that all students attending their first course may concentrate their attention on the more elementary branches, and advance in their second course to the more practical; fourth, fewer lectures each day with practical examinations; fifth, the elevation of clinical medicine and surgery to the rank of professorships, and making clinical instruction in the wards of a hospital a necessary part of the course in the senior department.

7. Bigelow, H. J.: Medical Education in America, Cambridge, 1871.

THE VALUE OF THE WASSERMANN REACTION IN OBSTETRICS AND THE VALIDITY OF COLLES' LAW

In all fields of medicine the advent of the Wassermann reaction soon demonstrated that those who had been considered as extremists in advocating the importance of syphilis as an etiologic factor in the most varied aspects of disease were more nearly correct than their more conservative colleagues. "The trouble with pessimists is that they are so often right." Obstetrics is no exception in illustrating the fact that the worst expectations have been realized. An especially careful and extensive study at the Johns Hopkins Hospital by Williams[1] and his staff has revealed facts of great importance concerning the incidence and prenatal transmission of syphilis. A study of 10,000 consecutive deliveries prior to 1915, in which careful routine microscopic study of all placentas, and Wassermann tests in selected cases, furnished the evidence, showed that syphilis accounted for 26 per cent. of the fetal deaths between the end of the seventh month of pregnancy and the two weeks immediately following delivery. Since then the Wassermann reaction has been determined in every case, 4,547 in all, with 11.2 per cent. positive. About half the patients were negroes, with 16.29 per cent. positives as against 2.48 per cent. in the white women, a fact which must be taken into consideration in evaluating the significance of the effects of prenatal syphilis. There were 302

1. Williams, J. W.: Value of Wassermann Reaction in Obstetrics, Bull. Johns Hopkins Hosp. **31**: 335 (Oct.) 1920.

fetal deaths (99 whites and 203 blacks) and syphilis was responsible for 34.4 per cent. of these, not including infants discharged alive with syphilis or manifesting it later. Nevertheless, it was found that by no means all women with a positive Wassermann test transmit syphilis to the fetus even when untreated, there being 51.5 per cent. of apparently uninfected infants among 169 such patients, as compared with 66.8 per cent. sound offspring from 102 inefficiently treated women, while 93.6 per cent. of the children of 178 syphilitic women who were thoroughly treated seemed free from syphilis. The value of vigorous treatment of syphilitic women is thus conclusively established, and Dr. Williams believes that early application of the Wassermann reaction, with vigorous treatment in all positive cases, would reduce the mortality from congenital syphilis by five sixths, thus saving about fifty children from syphilis in every thousand deliveries in this particular clinic.

On the other hand, no less than forty-three syphilitic children were born to women who exhibited negative Wassermann reactions, which brings up again the question of the validity of the "law" propounded in 1837 by Abraham Colles. This, it will be recalled, was to the effect that it is possible for a syphilitic father to engender a syphilitic child by a normal mother, and that the latter would remain immune to infection from her own child, while others might be infected by it. Such an occurrence presupposes infection of the ovum by means of the spermatozoon, with the subsequent development of immunity on the part of the mother. Presumptive evidence in its favor is afforded by the fact that comparatively few mothers of syphilitic children present a history of primary infection, and frequently give birth to a series of syphilitic children without ever developing signs of the disease. Fournier was an ardent believer in the doctrine, and his advocacy of the occurrence of so-called conceptional syphilis, or *choc en retour,* lent still further support to the probability of paternal infection. Indeed, it may be said that Colles' law was almost universally accepted up to 1903, when its applicability was denied by Matsenauer.

When the spirochete of syphilis was discovered, however, it at once became seriously questioned whether a spermatozoon could possibly carry such a relatively enormous load as this large parasite would constitute and succeed in reaching and impregnating the ovum, especially in view of the fact that presumably it would be competing with unhandicapped spermatozoa on the long obstacle race from the vagina to the tube. Furthermore, the possibility of an ovum infected at the instant of fertilization by a virulent parasite ever passing through the complex cycle of reproduction to produce an approximately normal fetus also seemed difficult of comprehension. And soon came the Wassermann test, which showed that usually the supposedly nonsyphilitic mothers of syphilitic fetuses give positive reactions, despite the absence of clinical evidence of the disease. As a result, Colles' law became generally discredited.

Williams, however, despite the recognized plausibility of the arguments against Colles' law, in view of his extensive experience, holds that the question should still be regarded as *sub judice.* Not only are there numerous instances (forty-three in this series) of women giving birth to proved syphilitic children when the mothers exhibited no positive Wassermann reaction and no other evidence of syphilis, but also other items that give support to the possibility of paternal infection of the fetus without infection of the mother. For example, it sometimes happens that patients who present a positive reaction during pregnancy become negative shortly after delivery without having had treatment. He also cites the case of a woman who had five normal children, and then a sixth pregnancy with a syphilitic fetus. Her own Wassermann reaction was negative and that of her husband positive, as was the case when her seventh pregnancy resulted in syphilitic twins.

A most remarkable case, moreover was that of a woman who, after having had six normal children, gave birth to premature male ovum twins, one of which was syphilitic and the other normal, corroboration being furnished by microscopic study of the placentas. On questioning, admission was made that the patient had intercourse not only with her husband but also with a lover who was found to be under treatment for syphilis. The Wassermann reactions of both the mother and her husband were negative. Since then the woman has given birth to eleven more children, none of whom showed any evidence of syphilis, nor did the placentas on microscopic examination. The explanation that seems most reasonable, even if apparently fantastic, is that the one syphilitic infection resulted from superfetation of a second ovum by the syphilitic father, after normal fertilization of the first ovum by the husband, without infecting the mother. If so, this is a perfect demonstration of Colles' dictum.

PROGRESS IN THE STUDY OF MEASLES

The importance of ascertaining the etiologic agent in the causation of measles scarcely requires emphasis. Its widespread distribution and total mortality place it in the forefront of diseases demanding thoroughgoing investigation. The foremost reason why the prevention of measles is still so largely unsuccessful, even where strict quarantine is maintained, is the contagiousness of the disease during its prodromal period. Hence the best prospect of prevention seems at present to lie in the possibility of protective inoculation, as is true in smallpox. As recent writers have pointed out, this obviously requires isolation of the virus of measles, or at least the development of a method of handling the virus in pure form, whether or not it is

actually identified under the microscope and in the culture tube.

To rehearse the attempts that have been made to transmit measles experimentally to man and laboratory animals would require more space than the bounds of editorial discussion permit. The efforts to secure identifiable cultures of a specific effective microbiotic causative agent have usually failed; on the other hand, eruptive disease has undoubtedly been transmitted in some cases by inoculation of materies morbi in the form of blood or nasopharyngeal secretions. Sellards concluded that, although according to the literature most of the important symptoms of measles have been described in inoculated animals, it is striking that no single investigator has obtained all features in any one animal or even series of animals, and that no single symptom has appeared with constancy. The characteristic diagnostic features of human measles are sufficiently varied and well recognized to afford helpful assistance to the investigator. One need only recall the period of incubation, the febrile reaction, the Koplik spots, the skin rashes and the leukocyte behavior.

Especially interesting, therefore, are the latest attempts of Blake and Trask [1] at the Hospital of the Rockefeller Institute for Medical Research. They selected a natural path of infection—the intratracheal or respiratory route—and a presumably infective material—the nasopharyngeal secretions of patients in the early stages of measles—for their studies on monkeys. The group of symptoms induced have been constant and definite; and they have been successfully carried through six passages by intratracheal injection of saline emulsions of the skin and buccal membranes of monkeys killed from two to six days after the onset of the reaction. Intravenous injection of citrated whole blood from "passage" animals has likewise induced the characteristic group of symptoms. The cultures of the blood have consistently shown no growth.

Not only does the symptomatology of the reaction induced by inoculation with material containing the virus of measles closely parallel that of human measles, but the lesions are reported by Blake and Trask [2] to be essentially identical in the two species. These findings, considered together with the reported successful transmission of the reaction from monkey to monkey and the elimination of ordinary bacteria as a possible source of error in the interpretation of the results, appear to support the expressed belief of Blake and Trask that the reaction is caused by the inciting organism of measles.

1. Blake, F. G., and Trask, J. D., Jr.: Studies on Measles, I. Susceptibility of Monkeys to the Virus of Measles, J. Exper. Med. **33**: 385 (March) 1921.
2. Blake, F. G., and Trask, J. D., Jr.: Studies on Measles, II, Symptomatology and Pathology in Monkeys Experimentally Infected, J. Exper. Med. **33**: 413 (March) 1921.

Lethargic Encephalitis in New York State.—During January, 1921, there were ten deaths from lethargic encephalitis, 1.1 per hundred thousand population, among eighty-three cases reported, an incidence of 9.3 per hundred thousand.—*Bull. N. Y. State Dept. Health,* March, 1921.

Current Comment

WEST VIRGINIA ADOPTS MODEL LAW

Last week THE JOURNAL announced the passage of the model bill for the registration of births and deaths in Iowa. This week it is a pleasure to record the passage of the bill in West Virginia. Congratulations are due the officials of the state department of health for the constant work for the education of the public and for the stimulation of interest in this measure which has been carried on for the last two years. The passage of the bill by a vote of 65 to 14 in the lower house and by a unanimous vote in the senate is again proof of the fact that satisfactory public health legislation of any kind can be secured only after a lengthy campaign of public education. West Virginia is the forty-fifth state to adopt this law. It remains only for Arizona, Nevada and South Dakota to get in line with the other states to give this country what it has not had: complete and uniform registration of births and deaths.

VISCERAL PAIN

To every physician the occurrence and nature of pain present problems of signal importance. At present the pain sense is acknowledged to be something specific, not identified with either the tactile or the temperature sense. The sense of pain may be abolished while and where the sense of touch still remains. Analgesia and anesthesia are not identical in character. There was a time when pain was regarded as the sensation derived from overmaximal stimulation of any type of sensory nerve. This interpretation is scarcely tenable, however; for the effects of overstimulation in the case of auditory or optic end-organs are usually described as unpleasant rather than typically painful. Today the belief is well established that pain is definitely associated with the stimulation of certain sensory mechanisms. It seems anomalous that pain may result from changes in organs which are devoid of ordinary sensibility.[1] Thus, the intestine may be cut, sewed or handled without arousing any sensation whatsoever. A strong contraction of the muscular wall or increased distention of the intestine will, however, evoke a griping pain. In the same way the ureters, which are devoid of sensation, can give rise to excruciating agony when they are contracted firmly on a retained calculus. The experiences of the clinician and the direct experimenter in this field are further seemingly contradictory. The one reports pain in the bowel; the other, exploring the abdominal organs, tells us that whereas the parietal peritoneum and mesentery may be the seat of pain sense, the visceral peritoneum and the intestine itself are not. Temperature and tactile sense are lacking everywhere, as indeed they are in the pleura and thoracic organs. The explanations for the seeming discrepancies are divergent.[2] Lennander, for instance, proceeds from the assumption that the viscera are innervated by the sympathetic system, which does not

1. Starling, E. H.: Human Physiology, Philadelphia, 1915, p. 494.
2. Reviews of the subject are given by Neumann: Mitt. a. d. Grenzgeb. d. Med. u. Chir. **13**: 401. Kappis: Ibid. **26**: 493.

include nerves of the pain sense, in contrast with the branches of the cerebrospinal system, which conducts painful sensations. He explains all visceral pains as due to the parietal peritoneum, which contains cerebrospinal nerves, or to stimulation of spinal nerves which are found in the neighborhood of the vertebral column. The most recent contributor to the controversy, Hoffmann [3] of Heidelberg, is convinced that although the visceral organs are for the most part not sensitive to pain, they do exhibit such a sensitivity in certain localities. In these, however, nerve branches can invariably be detected. Even the sympathetic nerves contain centripetal fibers, so Hoffmann maintains, which may serve to conduct sensations of pain. The small number of visceral nerves capable of conducting pain stimuli centrally accounts for the relative infrequency of pain in abdominal operative procedures. The analgesia, however, is only relatively marked, not absolutely general. Without specific fibers pain cannot be perceived; but, if we may believe Hoffmann, its intermediators are more widely distributed than we have been wont to assume.

THE PUBLIC HEALTH ACTIVITIES OF THE RED CROSS

The League of Red Cross Societies, with headquarters at Geneva, has recently issued a statement respecting its connection with public health work in various parts of the world. The public health department of the league exists for the purpose of bringing to Red Cross societies, and other agencies interested in furthering public health, the counsel and assistance of a body of trained workers in the problems of hygiene and sanitation. Through its trained field staff and its strategic position as a center for the interchange of information between the health workers of various countries, it is in a position to assist in the preliminary study of public health problems in any country whose Red Cross society is affiliated with the league, to aid in the formation of constructive health programs, and particularly to offer counsel in regard to the technic of popular health propaganda and to furnish films, literature and other material adapted for enlisting the support of the community in an active modern health campaign. As is well known, the league has already accomplished much in this direction. During a large part of 1920 the league had a commissioner in Poland, and a considerable number of health workers who aided in every way possible the Polish authorities and the various voluntary organizations in connection with antityphus and other health work. A survey of health conditions in Roumania has been made, setting forth in systematic form a large amount of information regarding conditions in that country. Research on typhus fever was carried on during the early months of 1920 by a group of research workers in Warsaw. A survey of general health conditions in Poland has been made, and an especial study has been made of the child welfare problem in that country. Typhus conditions in Slovakia have also been studied, and similar work has been carried on in Czechoslovakia and Jugoslavia. Provision has been made for a study of antimalaria measures in Italy, and for the organization of an international antimalaria congress. An international school for the special training of qualified nurses has been established by the league in London. Material help was afforded by the league in the organization of the international congress for the revision of classification of causes of death, which met in Paris in October, 1920. Many other health activities of the league are described in the statement referred to. One of the most noteworthy is the foundation of the *International Journal of Public Health*, which is now beginning its second volume. It is evident that the attempt to coordinate the health activities of the nations of the world holds much promise, and may come in time to be a powerful means for counteracting the centrifugal tendencies which have for some years been such a discouraging feature in international affairs.

3. Hoffmann, V.: Ueber Sensibilität innerer Organe, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **32**: 317, 1920.

A MATTER OF COMFORT AND HEALTH

The closing of a vast number of saloons by the operation of the eighteenth amendment has eliminated a large amount of drunkenness and crime, but with them there departed the more or less savory free lunch and the exceedingly convenient "comfort station." Americans who have seen such stations universally present in Europe in villages, towns and cities have wondered at their scarcity in this country. During recent years, however, there has developed a recognition of the need of "comfort stations," and they have been provided here and there; but they are by no means as universal as they should be. From a public health point of view the necessity for such facilities is well known. Practically, however, their provision is not so much a medical as a plumbing problem. *Domestic Engineering*, a periodical devoted to the plumbing trade, features the subject of "comfort stations" in its current issue. A survey has been made of the facilities for this purpose in 120 American cities. Forty-four per cent. of these cities lack suitable facilities. Research has been made on cost of installation and operation, on various types of devices to be utilized, and on methods of conducting these stations. In many instances the old saloon "station" was a makeshift—insanitary, filthy, often obscene. The modern municipal comfort station is a clean, sanitary, commodious, even beautiful structure. Wisconsin, we are informed, has passed a state law, affecting more than 400 municipalities, making the provision of comfort stations compulsory. Physicians, knowing their importance, both for comfort and for health, will welcome progress of this character.

Report of Playgrounds and Recreation.—Four hundred and sixty-five cities conduct playgrounds and recreational centers under paid leadership, according to a recent report of the Playground and Recreation Association of America. Some idea of the growth of the movement is indicated by reports from 151 cities showing an attendance of 400,000 at their winter centers, being an increase of more than 124 per cent. over last year's attendance. Columbus, Ohio, has been given 40 acres of land to be developed into a model outdoor center and play field; Kalamazoo, Mich., 17 acres, located near the center of the city, for playground purposes; Sacramento, a memorial playground, and the recreational facilities of Scranton, Pa., have been largely increased through gifts of private citizens.

Association News

THE BOSTON SESSION

Identification Certificates Required for Special Railroad Fares

Members, who desire to take advantage of special railroad fares announced in THE JOURNAL, March 12 and 19 and April 9, should make request for Identification Certificates —accompanied by an addressed, stamped envelop—to the Secretary of the Association, Dr. Alexander R. Craig, 535 North Dearborn Street, Chicago.

These Identification Certificates are now ready for distribution and they should be secured as early as possible by members who plan to go to Boston. The special railroad fares which have been announced can be secured only on the presentation of these Identification Certificates.

An All Day Trip to Plymouth on Saturday Following the Scientific Assembly

The Local Committee of Arrangements for the Boston Session is planning what will be a fitting climax for the Session—an all day trip to Plymouth by boat, with a band and other features to make this an attractive outing. This year many will wish to visit Plymouth as it is the celebration of the Three Hundredth Anniversary of the landing of the Mayflower which in addition to the band of pilgrims brought a cargo of spinning wheels, four-poster beds and cradles, some of which will be on exhibition in Plymouth Hall.

The party will leave Boston from under the shadow of the Old North Church early on the morning of Saturday, June 11, for a three-hour sail down the Harbor and Massachusetts Bay. At Plymouth luncheon will be served outdoors. There will be guides who will show the visitors the different sights which have been made famous by Miles Standish, John Alden and others whose names are familiar to all Americans. The Ter-Centennial Committee will have restored Plymouth Rock to its original position long before the time set for this excursion.

This trip will afford an excellent opportunity to see the South Shore on the way down and back. A charge of five dollars will be made which will include the midday luncheon and the boat fare.

Special Train from Kansas City to Boston

Physicians of Kansas City are arranging for a special Pullman train through to Boston for the American Medical Association session. Those interested should send their names and the number in their party to the Secretary of the Jackson County Medical Society, General Hospital, Kansas City, Mo. Data on routes and schedule will be sent them as soon as determined.

The Scientific Exhibit

The Scientific Exhibit at the Boston Session will be located in the large galleries on the second floor of Mechanics Hall. Opening from these galleries are three of the section meeting halls, as well as the hall which will be used for the moving picture theater. This arrangement makes the Scientific Exhibit convenient of access to all those in attendance. The floor space and wall space provided are ample. Applications are now coming in, asking for reservations. Space will be assigned about May 1, and each applicant notified of the space assigned to him. Any one desiring space for an exhibit or an assignment of time on the moving picture theater program should make application before that date. No applications can be considered after May 1. Address Director of Scientific Exhibit, 535 North Dearborn Street, Chicago.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Doctor Sentenced.—It is reported that Dr. George C. Halliday, superintendent of the Venice General Hospital, has recently been given a suspended sentence of 100 days as a result of pleading "guilty" to a charge of practicing medicine without a license.

Physician Convicted.—It is reported that Dr. Reinhart-Allen, who with Dr. Galen Hickok was arrested last August following a raid on the "mystery castle" at Salada Beach and the finding of three young girls recovering from operations, has been convicted on a charge of contributing to the delinquency of a 14-year-old girl. Another charge against Dr. Reinhart-Allen remains to be tried.

Personal.—The Alameda County Medical Association entertained at a luncheon in Oakland, April 12, Dr. John M. T. Finney, Johns Hopkins University, who came from Baltimore to deliver an address before the California Academy of Medicine, San Francisco. Dr. Finney also spoke at a luncheon meeting of the Commonwealth Club, San Francisco, April 9, on the discoveries in the science of sanitation and surgery as a result of the World War.——Dr. Alexander M. Lesem, formerly superintendent of the Mission Valley Hospital, San Diego, has been appointed city health officer of San Diego. He will be succeeded at the hospital by Dr. Thatcher Miller. ——Dr. Henry L. Hayes, U. S. P. H. S. Hospital No. 24, Palo Alto, read a paper on "Gastro-Enteroptosis" at a recent meeting of the San Bernardino Valley Medical Society at Redlands.

Chiropractors Convicted.—It is reported that seven chiropractors, five of them living in Los Angeles, were found guilty recently of violating the medical practice law. Donald Donovan was fined $250, which he paid. H. A. Berge and D. A. Tracey were fined $100 each but requested that jail sentences be substituted. M. T. Larkin pleaded guilty and was sentenced to ninety days in the county jail. The sentence was suspended for two years. H. Engmark, who preferred being sentenced to ninety days in jail, rather than to pay the fine imposed, then went on a hunger strike. Melville C. Ellis of Long Beach was fined $100. J. F. White, Bakersfield, was found guilty in the superior court.——It is reported that the following chiropractors have recently been convicted of practicing medicine without licenses: Mrs. Vita Reid, Fillmore; T. H. David, Sacramento; John H. Heitman, Whittier; Graham L. Henderson, San Francisco; H. M. Rogge, Santa Monica, and J. Fred Courtney, Long Beach. The three last named chose to serve jail sentences rather than to pay the fines imposed.

Library on History of Medicine.—With the aid of a gift from Dr. Adolph Barkan, emeritus professor of the Stanford Medical School, the University is gathering in the Lane Library of the medical school in San Francisco a collection on the history of medicine that will be equaled by no other Western institution. Dr. Barkan will give $1,000 a year for the next three years, to which the university will be able to add from the income from certain Lane Library foundations $1,500 a year, making a total fund of $7,500, all of which will be expended on books concerning the history of medicine. Dr. Barkan himself, is now in Europe and he has employed an expert and has also gained the assistance of one of the most celebrated professors in Europe to aid him in getting together this collection. Dr. Barkan was professor of structure and diseases of the eye, ear and larynx in the medical school and retired from active teaching in 1911. He has before this been a liberal benefactor of the medical school library, having given his own library, dealing with the subjects in his own special field, together with $10,000 as a fund for the purchase of other books on these subjects.

DISTRICT OF COLUMBIA

Physicians and Surgeons Participate.—At the first meeting of the Columbia University alumni held at the University Club, Washington, many physicians and surgeons employed in the various government bureaus participated. Among the number were Rear Admiral William C. Braisted, former surgeon-general of the Navy, Dr. Carl L. Alsberg, chief of the

Bureau of Chemistry, and Dr. Livingston Farrand, American Red Cross. Many other medical graduates of Columbia University were present. The meetings are expected to be continued.

ILLINOIS

Chicago

Human Experiments with Scarlet Fever.—Last week a sensational account was published in a Chicago evening newspaper, of some proposed experiments to be made at the McCormick Institute for Infectious Diseases. It was stated that twelve persons were wanted who would submit to inoculation with twelve cultures of bacteria isolated from scarlet fever patients. The fact is that volunteers were needed to test out organisms which had been isolated by Drs. George Dick and Gladys Henry Dick. Following publication of the story several hundred persons volunteered for the test. Six persons have been inoculated and are now under observation. The experiments contemplated will require a considerable number of volunteers and no definite time limit can be specified as to the announcement of final results.

INDIANA

Muncie Medical Meetings.—At a meeting of the Delaware-Blackford Medical Association held at Muncie, March 31, Dr. Godlove G. Eckhardt, Marion, read a paper on "Bone Metastasis."——The Muncie Academy of Medicine held two meetings in March. Dr. David Ross, Indianapolis, president of the state medical association, spoke on "Tuberculous Spine or Pott's Disease," March 18, and the March 27 meeting was a symposium on epidemic encephalitis, lead by Dr. Miles F. Porter, Fort Wayne, Dr. Charles F. Neu, University of Indiana, and Dr. William A. Fankboner, Marion.

IOWA

Tuberculosis Clinic.—Dr. John H. Peck, Des Moines, and Dr. Herbert V. Scarborough, superintendent, State Sanatorium for the Treatment of Tuberculosis, Oakdale, assisted at the tuberculosis clinic recently held by the Cerro Gordo County Medical Society at Mason City.

Medical Books to Be Circulated.—It is announced that the medical department of the state library will furnish books to any member of the medical profession in the state, provided the user will pay transportation charges. The librarian will prepare bibliographies on special subjects and keep the reader informed regarding new literature on his particular subject.

KENTUCKY

Hygiene in High Schools.—At a meeting of the advisory committee on physical education held in Frankfort, March 18, it was decided to require a full year's work in hygiene of all high school students, the work to be done in the freshman year. The committee believes boys and girls should be in separate classes and that sex hygiene should be taught.

LOUISIANA

Malaria Surveys.—During the year malaria surveys will be made of the districts around Lake Charles, Holly Ridge and Franklin. Half the expense will be borne by the towns to be benefited by the survey and the other half will be contributed by the Rockefeller Foundation.

Occupation Tax.—Representatives of the state medical society and the Orleans parish medical society recently appeared before the tax committee at Baton Rouge, and gave as reasons why they should not be placed in the class with trades and made to pay a license tax, that Louisiana is the only state imposing such a levy, that physicians annually give more than $2,000,000 worth of systematic charity to the state, and that the practice of medicine should not be classed as a trade but as a dignified profession.

MARYLAND

Death of Professor Hynson.—Henry P. Hynson, professor of commercial pharmacy and dispensing in the Maryland College of Pharmacy, and one of the best known scientific pharmacists of the country, died recently at his home in Baltimore.

Personal.—Dr. Elijah J. Russell, physician to the Baltimore City Fire Department, has returned to duty after a sick leave of two weeks. Dr. Walter F. Sowers, whose temporary appointment during the illness of Dr. Russell was approved by the city service commission, will remain on duty for the present assisting Dr. Russell.

Dr. Jamar Honored.—A testimonial dinner recently was tendered Dr. John H. Jamar, Elkton, by physicians of Cecil County on the sixtieth anniversary of his graduation in medicine. Dr. Jamar was presented with a gold-headed cane in recognition of his long span of professional life and as a token of the esteem in which he has always been held by the medical profession.

Dr. Thayer Resigns from Johns Hopkins University.—After having filled the position of professor of medicine at the Johns Hopkins University and physician-in-chief of the Johns Hopkins Hospital, for several years, Dr. William S. Thayer has resigned. His resignation is due to his belief that the direction of the department should be in the hands of a younger man. Dr. Thayer will return to his private practice. The resignation does not go into effect for several months, and in the meantime the officials of the hospital will seek his successor.

MASSACHUSETTS

Defeat of Anti-Vaccination Bill.—After having passed the senate by a vote of 20 to 15, on April 5, the anti-vaccination bill was killed in the house by a vote of 21 to 100.

Use of Schools as Health Centers.—According to the plan announced by the health commissioner the various school centers will be used as health centers three nights a week from Oct. 15, 1921, to May 15, 1922, and one night a week thereafter until the end of the school session.

MISSOURI

Change of Date for Medical Meeting.—The date of the meeting of the Missouri State Medical Association has been changed from May 17-19 to May 24-26, St. Joseph. The Robidoux Hotel will be headquarters and all meetings and exhibits will be conducted in the hotel.

Hodgen Lecture on Surgery.—The St. Louis Surgical Society has established the "Hodgen Lecture on Surgery" in memory of Dr. John T. Hodgen, a former president of the American Medical Association and originator of the Hodgen splint. The first lecture was delivered by Dr. Rudolph Matas of New Orleans, March 26, in the auditorium of the Washington University School of Medicine, his subject being "The Effects of Arteriovenous Aneurysms on the General Circulation in Their Relation to the Symptomatology, Prognosis and Treatment of These Lesions."

Legislative News.—The governor has signed the bill removing the word "reputable" from the law governing medical colleges, and vetoed the bill permitting all practitioners of any system of healing recognized by the state, to attend patients in state institutions and all hospitals exempt from taxation. These bills were vigorously opposed by the Missouri State Medical Association, standardized medical colleges, and numerous laymen interested in medical progress, but were strongly supported by the osteopaths, chiropractors, and the low grade medical colleges.——Governor Hyde has also signed the bill passed by the legislature providing for a nonpartisan board of managers consisting of six persons to be appointed by him who shall have entire charge of the state eleemosynary institutions. The emergency clause puts the law into operation at once. The law requires the board to appoint a health supervisor who must be a skilled psychiatrist at a yearly salary of $7,000, with full control of superintendent and employees. The institutions consolidated under this law are the four state hospitals, the sanatorium for incipient tuberculosis, and the colony for the feebleminded.

NEW YORK

Provisional Fund for Albany Medical College.—The trustees of the Albany Medical College announce that a maintenance fund of $30,000 a year has been promised on condition that a similar amount is raised each year by the trustees. The Rockefeller Foundation will give $20,000; the General Electric Company $5,000, and Dr. Charles Alexander Richmond, president of Union University, $5,000. The money this year must be raised by June 1 to make the $30,000 available.

Proposed Organization of Medical Interests.—At a recent meeting of the Medical Society of the County of New York, Dr. Byron C. Darling, New York, called attention to the many medical problems and introduced resolutions making

he following recommendations for dealing with the situation: 1) The appointment of a commission to make a comprehensive survey of medical practice including the national nd state health departments, charity organizations, hospials and dispensaries, chambers of commerce and civic assoiations, industries, and industrial insurance companies; (2) the separate establishment of or arrangement with a veekly journal already in existence for weekly news; (3) the ppointment of an executive secretary for the state and ounty societies.

Legislative News.—The Medical Society of Jefferson County, at a special meeting in Watertown, called to consider legislation affecting the medical profession, passed resolutions endorsing proposed legislation to abolish the department of narcotic drug control of the state on the ground that it duplicates the Harrison Federal Narcotic law and is an unnecessary expense to the state; registered a protest against legalizing the practice of chiropractors in the state; opposed the health center bill because it would not accomplish the desired result, would be indirectly under control of the state board of health which was feared would be an entering wedge for state medicine; and disapproved the measure requiring early medical registration.——The Physicians' Protective Association, Ontario County, the Kings County Medical Society, the Professional Guild of Kings County and others are opposing the health center bill.——Brooklyn physicians have endorsed Senator Burlingame's bill to amend the workmen's compensation law by permitting an injured employee to select his own physician and have the costs borne by the employer.——The board of health at Ogdensburg has adopted resolutions requesting legislative representatives from the county and senatorial district to oppose a bill now pending that would admit chiropractors to the practice of medicine.——A bill has been introduced in the legislature which would prevent physicians and surgeons from dividing fees without the consent of the patient.——Representatives from the state health commission, the state medical association and the Albany Medical College, at a recent public hearing before the legislature, attacked the Wiswall bill, which would abolish the present public health council and appoint a new council composed of nine members —one from each judicial district—on the ground that it would bring the health council under political control.

New York City

Personal.—Dr. Amos T. Baker, Elmhurst, has been appointed superintendent and psychiatrist of the Bedford Reformatory for Women.

Cooperation of National Health Agencies.—For the purpose of coördinating their work fourteen voluntary national health agencies will centralize their offices in the Pennsylvania Terminal Building where the Federal Board of Vocational Education already has its New York office. The National Health Council, formed last fall, was instrumental in bringing about the centralization. The council will maintain an interorganization information service; a health legislative bureau which will keep council members fully informed on national and state health legislation. It also expects to aid in developing health education material and will foster periodic joint conferences among member organizations.

Special Medical Courses at Columbia.—Stimulated by the approaching visit of Mme. Curie and by the progress in experimentation reported by Dr. Francis Carter Wood, a course in cancer research will be given at the Crocker Laboratory during the summer months. The course will deal with the morphology and biology of tumors, and will be under the direction of Prof. W. H. Woglom of the laboratory staff. The course will consist of a series of lectures and laboratory exercises and is intended to give the student sufficient experience to enable him to diagnose all the commoner varieties of tumors. A series of courses in medicine will also be given this summer by the College of Physicians and Surgeons. A course in neural-anatomy will be given by Prof. O. S. Strong; a course in clinical pathology will be directed by Prof. K. M. Vogel, and Dr. P. C. Potter will give instruction in minor surgery and bandaging. There will also be courses in anatomy and bacteriology.

NORTH CAROLINA

Personal.—Dr. W. S. Rankin, secretary, state board of health, is in Baltimore to deliver a series of lectures before the Johns Hopkins School of Hygiene on "Some Problems in Modern Health Work."

Meeting of State Organizations.—The sixty-eighth annual session of the Medical Society of the State of North Carolina will be held at Pinehurst, April 26-29, under the presidency of Dr. Thomas E. Anderson, Statesville. The state board of health will also convene at the same time and place, while the state health office's association will hold its eleventh annual meeting on Monday, April 25, preceding the society's session.

Medical Representatives to Confer with Health Board.—Dr. W. S. Rankin, secretary, state board of health, has issued an open letter to the county medical societies inviting each to designate a representative to consult with the state board of health at the coming annual session of the state medical society in Pinehurst relative to the matters in common interest, responsibility and concern between the board and the members of the state medical profession. The state laws have provided for more than twenty years for an open conjoint session of the state board of health annually with the state medical society for conference purpose, and Dr. Rankin desires to emphasize the importance to the profession of maintaining an active interest in this conference.

OHIO

Illegal Practitioner Fined.—The Ohio State Medical Board reports that, on March 30, H. W. McFarren of Bowling Green was convicted of illegal medical practice on three counts and fined $25 and costs, in all amounting to $130. McFarren is alleged to have treated numerous diseases and to have prescribed "McFarren Remedies."

Mental Hygiene Survey.—At the invitation of the Cincinnati Public Health Federation, Dr. Victor V. Anderson of the National Committee for Mental Hygiene, New York, has come to Cincinnati to take charge of a survey to determine the problems relating to mental diseases, epilepsy and other abnormal mental conditions in Cincinnati and Hamilton County.

OKLAHOMA

New Officers of Medical Society.—At a meeting of the Woods County Medical Association held, March 29, at Waynoka, under the presidency of Dr. Daniel B. Ensor, Hopeton, the recently elected officers—Dr. Ebenezer P. Clapper, Waynoka, president, and Dr. Oscar E. Templin, Alva, secretary-treasurer (reelected)—were installed.

Tests for Racial Intelligence.—Mental fatigue tests have recently been made at the Indian schools at Chilocco and Albuquerque, N. M., by Dr. A. E. Garth, psychologic department, University of Texas, to be used in a report on the intelligence of different races to be made before a group of scholars at an international meeting in Toronto, Canada.

PENNSYLVANIA

Legislative News.—The house has passed the bill prohibiting the sale of preparations containing narcotics for the use of children under 12 years.——The Dithrich bill extending provisions of the workmen's compensation act to brothers and sisters and other dependants next of kin was passed after a lengthy debate by a vote of 127 to 48.——Among other bills pending that are of interest to physicians are the Finegan-Martin measure providing for a central board for the control of professional licenses; the Dunn bill providing that no rules or regulations shall be applied by the state bureau of medical education and licensure other than those specifically mentioned in the act creating it; the Trainer bill providing penalties for drug users; and the Steedle bill creating a commission of mental health to replace the state committee on lunacy.

Personal.—Dr. John L. Laird, Philadelphia, spoke on the "Relation of the Laboratories to the Physician" at a meeting of the Bedford County Medical Association, held April 6, at Bedford.——Dr. Oskar Klotz, professor of pathology in the University of Pittsburgh Medical School, has been appointed representative of the International Health Board of the Rockefeller Foundation for medical research work and education of São Paulo, Brazil, serving as director of a pathologic institute.——In a series of appointments announced recently, Dr. Edward Martin, state commissioner of health, has named Dr. Arthur Miltenberger as chief of the maternity center at Johnstown; Dr. Louis E. McKee as chief of the genito-urinary clinic at Altoona, and Dr. Lewis H. Seaton, chief of the same clinic at Chambersburg. Medical inspectors of schools named include: Dr. William H. Nix, Pocopson and East Marlboro townships, and Dr. T. L. Moore, West Marl-

boro and New Garden townships, Chester County. Dr. John L. Good was named for New Cumberland, Upper and Lower Allen, Cumberland County.

Philadelphia

College of Physicians.—At a meeting of the section of ophthalmology, April 21, Dr. Robert Scott Lamb, Washington, D. C. (by invitation), made an address on "Retinal Detachment; Suggestions as to Its Treatment," and Dr. Warren S. Reese (by invitation), gave a "Report on Two Cases of Cavernous Sinus Thrombosis."

Personal.—Dr. Florence L. Meredith, consultant of the U. S. Public Health Service and a member of the American Medical Association Council on Health Education, has been appointed associate professor of hygiene in the Woman's Medical College of Pennsylvania.——Herbert H. Bunzell, Ph.D., University of Chicago, formerly professor of the University of Cincinnati Medical School, has been appointed associate professor of chemistry in the Woman's Medical College of Pennsylvania.

TEXAS

Physician to Serve Penitentiary Sentence.—It is reported that on March 23 counsel for Dr. G. F. Randle of Houston withdrew the motion for an appeal of his case. Several days previously Dr. Randle had been sentenced to serve a year and a day in the federal prison at Atlanta for violation of the narcotic law.

WISCONSIN

State Health Meeting.—Under the auspices of the hygiene department of the Milwaukee Normal School, cooperating with the U. S. Interdepartmental Social Hygiene Board, the Milwaukee Health Department and the state department of health, there was held a state health congress, April 8-9, at Milwaukee. Among the speakers were Col. Percy M. Ashburn, U. S. Army; Dr. Benjamin F. Simon, St. Paul; Dr. Rachelle S. Yarrows, Chicago; Thomas W. Galloway, Ph.D., New York, and Mr. Willard S. Small, International Hygiene Board, Washington, D. C.

CANADA

Meeting of Anesthetists.—The Canadian Society of Anesthetists is to meet at Niagara Falls, June 1-3.

University News.—Although disappointment has been freely expressed at the recent action of the Ontario government with regard to financial support to the Ontario universities, it is understood that the government will come to their immediate relief as follows: the University of Toronto, $900,000; Queen's at Kingston, $325,000; the Western at London, $200,000. These sums will enable all three universities to carry on in the meantime, although the medical department of the University of Toronto in particular frets at the delay owing to the fact that $1,000,000 was in sight from the Rockefeller Foundation.

GENERAL

Officials of the Manila Medical Society.—Drs. H. W. Wade, D. de la Paz, L. Gómez and R. Fernández have been appointed respectively, president, vice president, secretary and treasurer, and member of the "Manila Medical Society."

American Field Service Fellowships for French Universities.—Several months ago twenty graduate fellowships for French universities were established named after "the men of the American Field Service who died in France." A report just received gives the awards for the year 1921-1922. Only one of these is in medicine, which was given to Percival Bailey, B.S., Ph.D., University of Chicago, and M.D., Northwestern University, 1918.

Investigating Health Problems.—Major-Gen. Wilmott Harringham, Royal Army Medical Corps of England, accompanied by Sir Walter Fletcher of the British Research Council, has arrived in the United States for the purpose of investigating problems connected with medical education and medical progress in this country. Major-General Wilmott will be the guest for several days of Major-General Ireland, Surgeon-General of the Army, at Washington, D. C.

Science Service.—In an effort to aid in the dissemination of scientific information by obtaining the best possible quality of popular science writing and presenting it to the largest possible number of readers "Science Service" has been established at Washington, D. C. It is a nonprofit-making corporation and all receipts from the sale of articles, books or films will be devoted to the development of new methods of popular education in science. The charter authorizes "Science Service" to publish books and magazines, to conduct conferences and lecture courses, and to produce motion pictures. Its first conference was held last summer at San Diego, Calif., on the problems of the Pacific, and another on urbanization and ruralization is planned for next summer. The board of trustees is composed of three representatives of the National Academy of Sciences; three, of the American Association for the Advancement of Science; three, of the National Research Council; three, of the Scripps Estate (financial support is assured by Mr. William E. Scripps, Miramar, Calif.), and three representatives of the journalistic profession. Edwin E. Slosson, Ph.D., New York, is the editor and Mr. Howard D. Wheeler, New York, manager.

Bequests and Donations.—The following bequests and donations have recently been announced:

Chestnut Hill Hospital, $2,000, by the will of Mrs. Lossa S. Strawbridge.

Methodist, Jewish and Germantown hospitals, Philadelphia, each $5,000, by the will of Elizabeth H. Nice.

University of Cincinnati College of Medicine, a gift of $25,000 to be used as the nucleus of an endowment fund for the establishment of a chair of surgery and anatomy to be known as "The Joseph Ransohoff Professorship of Surgery and Anatomy," from Mrs. Minnie R. Ransohoff, Cincinnati.

Bryn Mawr (Pa.) Hospital, $5,000, by the will of Katherine Lesher.

Jewish Federated Charities, $3,000; Society for Ethical Culture, $2,000, by the will of Morris Langsdorf, New York.

United Hospital Fund of New York, $500,000; Greenwich (Conn.) General Hospital, $100,000; and New York Dispensary, $25,000, by the will of Edmund C. Converse, Greenwich, Conn.

Yale University, New Haven, Conn., a gift of $1,000, for the appointment of a Fellow to investigate the tubercle bacillus under the direction of Prof. Treat B. Johnson of the Department of Chemistry, from the National Tuberculosis Association.

St. Luke's and Roosevelt hospitals, New York, each $100,000; Women's Hospital Association, New York Eye and Ear Infirmary, New York Infirmary for Women and Children, Society for the Relief of Ruptured and Crippled, New York Orthopedic Dispensary and Hospital, each $25,000, by the will of Miss Elizabeth Southmayd.

Medical Bills Before Congress.—The reconvening of Congress witnesses the introduction in Congress of numerous bills which failed of passage at the last session. Senator Jones and Mr. Miller have introduced a bill forbidding the exportation of opium and cocain except under certain conditions. It is practically the old Curtis-Rainey bill. It passed the House at the last session, and it is very probable will become a law at this session.——A bill introduced by Congressman French requires that all virulent poisons shipped from one state to another shall be placed in containers bearing the word "poison" and the labels shall contain at least one suitable antidote; and in the case of liquids, the container must be a colored glass roughened bottle of a type prescribed by the Secretary of Agriculture.——Senator Myers has again presented his bill (Senate 758) "To prohibit experiments on living dogs in the District of Columbia or any of the territorial or insular possessions."——Senator Capper has reintroduced the bill to "regulate the practice of osteopathy in the District of Columbia." The same bill has been introduced in the House by Congressman Smith, H. R. 2918.——Senator Owen of Oklahoma has reintroduced the bill to establish a department of health and Senator Kenyon the bill to establish a Department of Social Welfare.——The Fess-Capper bill for the promotion of physical education has again been introduced in Senate and House.——Congressman Butler of Pennsylvania has introduced a bill permitting the Secretary of the Navy to enlarge the Naval Hospital at San Diego, Calif., on land donated to the government, at a cost of $1,975,000.—Senator Spencer of Missouri has introduced a bill to permit the Secretary of the Treasury to sell or exchange the Marine Hospital site in St. Louis, which is no longer suitable for hospital purposes, and from the proceeds of such sale or exchange acquire another tract of land in St. Louis and construct on such new location a government hospital to cost not to exceed $1,625,000.——Congressman Kincheloe has introduced a bill to increase the expenditure for the U. S. Public Health Sanatorium at Dawson Springs, Ky., to $750,000.

LATIN AMERICA

Exchange of Fellowships with Mexico.—A plan for an interexchange of scholarships between Mexican and American universities has just been completed. The Mexican government will pay the transportation, teaching and expenses of twenty American students in Mexico, while 150 Mexicans will receive the same privileges in this country.

Brazilian Representatives.—The secretary of war of Brazil has appointed Majors Joao Affonso de Souza Ferreira, Joao

Florentino Meira and Alarico Damazio and Lieut. Manoel Vieira da Fonseca Junior of the army medical corps, to represent Brazil at the International Congress on Military Medicine and Pharmacy which will be held at Brussels in June.

FOREIGN

Another Physicians' Strike in Spain.—The physicians of Avila, Spain, declared a general strike because the authorities refuse to increase their salaries.

Correction.—Our German exchanges state that their notice of the death of Prof. G. Gärtner of Vienna—reproduced in THE JOURNAL, p. 1021, was a mistake. Professor Gärtner writes that he is in the best of health.

Gratitude to Hoover.—The Vienna Medical Society at a recent meeting elected to honorary membership as token of gratitute for their efforts in promoting the public health of Austria, Mr. Herbert Hoover of Washington, D. C., and Dr. F. Ferrière, the vice president of the International Red Cross, at Geneva.

Retirement of Netter.—As Prof. A. Netter of the University of Paris soon reaches the retirement age, his friends and pupils are planning to present him with a testimonial plate. Subscriptions are being received by Dr. Durand, 6 Square Moncey, Paris. A subscription of 40 francs entitles to a bronze replica of the plate, and 100 francs to a silver plated replica.

Interchange of Professors.—Prof. T. Lewis of London delivered at Leyden recently the first lecture of the interchange series between England and the Netherlands. His subject was auricular flutter and the electrocardiogram, and he was introduced by Einthoven, the father of electrocardiography.——Faure, Marion and Vaquez have been the French interchange professors at Madrid recently, and Tapia, Goyanes and Gimeno of Madrid have been appointed the interchange professors at Paris, with Ramón y Cajal if his health permits.

Prizes Offered by Barcelona Academy of Medicine.—The Real Academia de Medicina y Cirugía of Barcelona offers seven prizes for 1922. The prizes are to be awarded for the best works offered in international competition before Sept. 30, 1921, on the pathogenesis of perinephritis pneumoconiosis, relations between skin disease and changes in the kidneys, original observation on pathology of deranged metabolism, transmission of an epizootic disease to man, an original method of preparing organ extracts, and study of some epidemic in Spain. The competing articles must be in Spanish, French, Italian or Latin, and sent in anonymously to the Secretaría, Baños Nuevos 9, Barcelona, Spain.

Klinkert's Fiftieth Anniversary.—On the recent fiftieth professional anniversary of Dr. H. Klinkert of Rotterdam, he was presented with a fund to be called by his name and applied as he might direct. Among the tributes were the decoration of the Order of the Lion, presented by the queen, and engraved addresses from the Utrecht University, the mayor, and others. Klinkert handed over the fund to the Netherlands Antituberculosis Society, asking that the income be appropriated for seashore or other sanatorium treatment for Rotterdam children threatened with tuberculosis. The *Nederlandsch Tijdschrift* relates that his home was "buried under flowers while congratulations rained on it."

Medical Journal Wins Suit for Slander.—In 1919, Dr. Bachmann, a *kreisarzt* at Hamm, in his journal, the *Blätter für biologische Medizin,* accused the medical press in general and the *Deutsche* and the *Münchener medizinische Wochenschrifts* in particular of suppressing the freedom of science, and promoting for material reasons things which they could not scientifically endorse, and misusing their prestige and influence for pecuniary reasons. This accusation of corruption roused the *Münchener medizinische Wochenschrift* to action, and the suit it brought to compel the defendant to prove or retract his assertions has just been tried at Munich. The defendant was condemned to a fine of 500 marks and the costs of the case, and was ordered to publish the court decree in full in his journal and also in the *Münchener medizinische Wochenschrift.* The report in the *Münchener medizinische Wochenschrift,* p. 350, states: "The proceedings were very long drawn out on account of the defendant's having summoned such a crowd of witnesses on his behalf. All those whose works have been rejected by the medical press in recent years or who otherwise have a grievance against medical journals were invited by the defendant to testify. It was an actual 'Salon of the Rejected.' Among those present was Dr. Dreuw, the foe of salvarsan, with a suitcase full of documents; Dr. F. F. Friedmann, the 'inventor' of the turtle tubercle bacillus vaccine; Dr. Kleinschrod, the *Kneipparzt;* Dr. Tischner, the homeopathist, and Graf Wieser, the ophthalmologist. Other witnesses speaking for the defendant included Dr. J. Siegel, the discoverer of an alleged causal agent of syphilis; Böing, who leads the fight against vaccination for smallpox; Sanitätsrat Sachs of Breslau, who advocates a bath treatment for wounds, and, lastly, Professor Adamkiewicz of Vienna, the inventor of the cancer remedy Cancroin. The *Wochenschrift* summoned only one witness; this was Professor Mulzer of Munich. As experts, Prof. R. Sauerbruch and Professor von Zumbusch were called on by the court. The result of all the testimony taken was what was to have been expected. The verdict emphasized that the defendant had been unable to prove the truth of a single one of his allegations."

Deaths in Other Countries

Dr. **Jacques L. Borelius,** professor of surgery at the University of Lund, secretary of the Surgical Association of the Northland, and one of the three surgeons cooperating on the "Nordisk Haandbog i Kirurgie," now in press.——Dr. **Alfred R. Mandri,** acting assistant surgeon of the U. S. Public Health Service, at Barcelona, Spain.——Dr. **Tomás S. Palomo,** San Salvador, El Salvador, C. A., former candidate for president and well known as surgeon, professor and government official.——Dr. **E. Fraenkel,** privatdozent of gynecology and obstetrics at the University of Breslau until his retirement, and author of numerous works on these specialties, aged 77.——Dr. **Charles Monod,** surgeon *honoraire* of the Paris hospitals and member of the Académie de médecine.——Dr. **L. Gentes,** professor of anatomy at the University of Bordeaux.——Dr. **Jamin,** formerly chief of the Lyons maternity.——Dr. **E. Freise,** privatdozent for pediatrics at the University of Leipzig.

Government Services

THE MEDICAL RESERVE CORPS, ITS PRESENT STATUS AND PLANS FOR ITS REORGANIZATION

(Prepared under the direction and published at the request of the Surgeon-General of the Army)

The war demonstrated that the medical profession must be prepared and organized before the emergency, if it is to be an effective asset to the nation in time of need. The Medical Reserve Corps is the only institution provided by law by which this can be accomplished. Only by careful and thorough organization can the Reserve be ready and become effective without the loss of time and the consequent inefficiency that attends the mobilization of large masses of men, the very process of which demands an organized medical force on the field before the arrival of untrained troops. The mobilization of the man power of the country and its training up to a certain stage of the training schedule are largely medical problems.

Delayed mobilization of medical men; gathering of these without adequate knowledge of their qualifications; prolonged training at camps of instruction; inappropriate and ill-considered assignments to duty; shifts back and forth from post to post and from duty to duty; unjust promotions, inadequate promotion, no promotion—all these have formed the basis of criticism of the late adventure, and the answer is: Unpreparedness.

Can thirty or forty thousand medical men be again called together suddenly and equipped quickly for the work at hand with any other result? The answer is again: Only by preconceived plans—in a word, by organizing.

The law creating the Medical Reserve Corps (the first military reserve this country ever had) was enacted in 1908. Legislation since then, chiefly the national defense act of 1916, and the reorganization act of June 4, 1920, has provided for the creation of a reserve of officers for each department or branch of the military establishment. Within the Medical Department we have the Medical, Dental, Veterinary and Medical Administrative Corps Reserve Sections, with legal authorization for the establishment of a Sanitary Section to be composed of scientific and technical personnel, such as psychologists, sanitary engineers, food and nutrition experts, chemists, hospital architects, laboratory and roentgen-ray technicians, public health licentiates who are not graduates

in medicine, statisticians, and business and technical men engaged in the production of supplies and appliances used by the Medical Department. Many of these were commissioned during the war in the Sanitary Corps, which ceased to exist, Dec. 31, 1920.

Under the law of June 4, regulations governing the organization of the Reserve Corps are being drawn up by a committee composed of Regular Army officers and an equal number of Reserve, National Guard and former officers. These regulations will prescribe rules governing the eligibility, appointment, promotion, assignment and training of Reserve officers. It is expected that these regulations will soon be ready for issue.

PRESENT STATUS OF MEDICAL RESERVE CORPS

Until the present time, only those who served as officers during the World War have been eligible for appointment. Appointments were stopped immediately after the passage of the act of June 4, at which time there were nearly 6,000 in the Medical Section of the Reserve. Appointments were reopened, October 4, but again restricted to those who had service during the World War.

A word of explanation regarding appointments heretofore made: Immediately after the armistice, the appointment of former officers in the Reserve was governed by laws passed during the emergency, and provided for the appointment of officers in any grade. So far as the records at hand show, only three officers have been appointed to a grade more than one grade higher than that held while on duty. The appropriation act of July, 1919, limited the appointment to the same grade or one grade higher than that previously held. The act of June 4, 1920, again changed the law governing the appointment in the whole Reserve, irrespective of departments, and limited the appointment to the same grade or a lower grade than that held in service during the World War. It is hoped that it will be understood, therefore, that many of the seeming inequalities of grade now held by reserve officers are the result of legal restrictions. It is also to be noted that the act of June 4 provides for the promotion, under such rules as the President may prescribe, of officers of the Reserve who have held commissions for at least one year in the next lower grade. A definite plan of promotion in all sections of the Officers' Reserve Corps will be prescribed by the Secretary of War in the regulations soon to be published.

STATUS AND RESPONSIBILITY

It should be understood that, as a reserve officer, one cannot under the law be called to active duty for more than fifteen days a year without his consent except in time of national emergency expressly declared by Congress. The War Department has announced that there will be no training except for volunteers, under the provisions of this law before the end of the next fiscal year (June 30, 1922). Just how extensive will be the practical training of reserve officers will depend on public sentiment as expressed in congressional appropriations. It is hoped that practical training in the duties for which officers are suited and for which they have tentatively been selected in the mobilization scheme will be available to those who wish to volunteer.

The sacrifices made by the medical men of the country during the recent war are fully appreciated by the Surgeon-General, who clearly recognizes the right of each one to reorganize and promote his medical practice without interruption, except that made necessary by a national emergency or for training preparatory thereto.

Those of the Reserve of the Medical Department who served during the World War are considered to have had practical training enough to exempt them from much of the usual training of officers. Problems of mobilization, hospitalization, evacuation, military surgery, sanitation and preventive medicine, however, are matters in which every medical man takes an interest, and in some one or more of these, many reserve officers will desire further experience and training. When the reserve forces are organized into divisions and corps, each Medical Reserve officer will have been assigned to either combat troops or a medical unit, such as medical regiment (old sanitary train), evacuation, surgical, base or special hospital, surgical team, splint team, special duty with the Chemical Warfare Service or Air Service, or as professional consultant or to duties in connection with mobilization and organization of the expeditionary forces. It is hoped that for those who can spare the time, the educational facilities of the Medical Department, especially the Medical Field Service School at Carlisle Barracks, Pennsylvania, will be made available for a limited number during the summer of 1921.

A Reserve Corps Section has been established in the Personnel Division of the Surgeon-General's Office. Under the direction of the Surgeon-General, the reserve officers are being classified according to their record of service, their special qualifications and territorially. Accurate classification is the key note of organization. With the corps classified, the medical service for any required military force can be blocked out and organized for immediate mobilization, with a rational assignment of officers to duty for which they are trained and adapted.

The participation of the medical profession in the organization of the Reserve Corps is necessary and inevitable, and awaits only the adoption of a definite plan of organization governing appointment, assignment, training and promotion. A digest and analysis of the many letters received by the Surgeon-General from former officers clearly show that these matters must be settled in such a way that one will know before joining the Reserve Corps his status, his rights and his responsibilities, as well as the general purpose of the organization. In years to come, the normal recruitment of the Reserve will be through the graduation of members of the Reserve Officers' Training Corps from the units now being established in the various medical schools. In the meantime the corps will be open to former officers whose experience during the war is convincing of the necessity of prewar organization.

Department of Public Welfare

The creation of a Department of Public Welfare will be one of the constructive acts of the Harding Administration. In his message to Congress President Harding emphasizes the importance of this new department and suggests that Congress pass favorable legislation on the subject. In asking for this legislation, the president in his message said:

> In the realms of education, public health, sanitation, conditions of workers in industry, child welfare, proper amusement and recreation, the elimination of social vice, and many other subjects, the Government has already undertaken a considerable range of activities. I assume the maternity bill, already strongly approved, will be enacted promptly, thus adding to our manifestation of human interest. But these undertakings have been scattered through many departments and bureaus without coordination and with much overlapping of functions which fritters energies and magnifies the cost. Many subjects of the greatest importance are handled by bureaus within Government departments which logically have no apparent relation to them. Other subjects which might well have the earnest consideration of Federal authority have been neglected or inadequately provided for. To bring these various activities together in a single department, where the whole field could be surveyed, and where their interrelationships could be properly appraised, would make for increased effectiveness, economy, and intelligence of direction. In creating such a department it should be made plain that there is no purpose to invade fields which the states have occupied.

Study Treatment of Leprosy

The U. S. Public Health Service has sent Surg. Herman E. Hasseltine to Honolulu, Hawaii, to take charge of the Leprosy Investigation Station established there by the government for the study of cures of leprosy. Since the establishment of the leprosarium at Carville, La., the U. S. Public Health Service has intensified its investigation of the leprosy treatments that were recently discovered with a view of curing the hundreds of patients that will be assembled at Carville.

No General Officers for Corps

Recommendations for the appointment of general officers in the Army submitted to the Senate by President Wilson did not include the names of any officers in the Medical Corps of the Army. It was announced at the Surgeon-General's Office that the full complement of general officers in the Medical Department existed and that no promotions were necessary at this time.

Ask Appropriation for Reserves

An appropriation to cover the pay and allowances of about 100 reserve officers to be called into active service will be asked by the Medical Department of the Army in the new Army Appropriation Bill to be drawn up at the special session of Congress. Should the money be appropriated, the Surgeon-General will call this number of reserve medical officers into active duty in order to give them the advantage of special educational courses now being established in the service.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 28, 1921.

Another Martyr to the Roentgen Rays

William Ironside Bruce, physician to the roentgen-ray and electrical departments of the Charing Cross Hospital, and an authority on roentgenology, has fallen a victim to his occupation at the early age of 45, after an illness of two months. He was found to be suffering from a severe form of aplastic anemia. It is now becoming recognized that the more penetrating rays derived from the roentgen-ray tube or from radium have an injurious effect on the blood-forming tissues, and set up this form of anemia. Several radium workers and a roentgen-ray worker in Italy are reported to have died from it. Dr. Bruce was among the earliest to use tubes of high penetrating power, and believed that they would greatly enlarge the usefulness of the roentgen ray in the treatment of malignant growths and blood diseases. He fell ill only in January, and the nature of his complaint was understood only a few weeks. Every effort, including the transfusion of blood from a willing donor, was made to save him. He graduated at Aberdeen University in 1900, and served in the South African War, during which he became interested in the use of the roentgen ray in the diagnosis of war injuries. On returning home he became assistant at Charing Cross Hospital to the late Mackenzie Davidson, and remained in the service of the hospital until his death. His writings on roentgenology are well known. The most important is his "System of Radiography with Atlas of the Normal," which he produced early in his career. As a technician and a teacher he stood in the first rank. He was a nephew of Dr. J. Mitchell Bruce, the physician and author of the widely used "Materia Medica and Therapeutics."

In view of the dangers to which roentgenologists are exposed, it has been decided to appoint a committee consisting of physicists, physiologists and roentgenologists to investigate: (1) the changes induced in tissues by the roentgen ray, particularly the blood changes; (2) the properties of the roentgen ray and the best means of controlling their action; (3) to report on the equipment of roentgen ray and electrical departments with a special view to the protective measures employed, and (4) recommendations for the guidance of assistants in those departments, particularly dealing with hours of work and the need for fresh air and change. The progress of roentgenology in this country has been impeded by the want of coordinated research work. It is hoped that money will be subscribed for an institute endowed for research on the physical, technical and biologic sides.

A Clinic for Birth Control

An institution that is novel in this country—a clinic for birth control—has been founded in London by Dr. Marie Stopes, the author of "Married Love" and other works dealing with sexual subjects. Dr. Stopes is not a physician but a doctor of science. Her object is to furnish mothers of the working class with "the key to personal security and development, to united happiness and success with their husbands in marriage, and to voluntary and joyous motherhood. Birth control knowledge will be given not in the crude repressive form it is advocated in some quarters, but as the keystone in the arch of progress toward racial health and happiness." She points out that the poor woman who is driven into her motherhood blindly, involuntarily and rebelliously is not she who best serves the race. "Well-to-do women have acquired the knowledge how to control nature's inveterate desire for mere crude conception and thus have been spared the strain of incessant pregnancies and the pathos of puny and dying babies."

The Prevention of Venereal Disease

The National Council for Combating Venereal Disease, in view of recent events and controversies, has adopted the following policy: In the first place, the public must be informed of the prevalence, causes and consequences of venereal diseases. As by far the most important cause is promiscuous sexual intercourse, the question cannot be dealt with apart from social and moral factors, with regard to which all physicians, parents and teachers must feel their separate responsibility. Parents must instruct their children not only with regard to the facts of sex but also in the moral responsibility thereby imposed. The action of public health authorities in dwelling in their publications on the medical prevention to the exclusion of moral considerations is deprecated. The means used to prevent spread of the diseases must not be such as to weaken the deterrents or have any appearance of condonation. At the same time the council recognizes that there are individuals who do not respond to the moral or social appeal and who may not only contract the diseases but infect innocent persons. Infection of these individuals must be prevented so far as possible without condonation. The public recommendation, by advertisement or otherwise, of protective disinfectants must result in giving increased notoriety to quack remedies, and is deprecated. Official instructions as to the use of these disinfectants, issued with the sale, will have the appearance not only of official condonation but also of official guarantee against contracting the disease. Further, such instructions, unless scrupulously followed after definite personal tuition, may aggravate rather than diminish the incidence. On the constructive side, the council urges that strict personal cleanliness, with information as to the part played by dirt and organisms in causing infection of the genital passages, should be inculcated as part of the instruction in sex hygiene. If an individual has incurred the risk of infection he (or she) must be brought to understand that it is his duty to cleanse himself thoroughly and immediately. Only thus can he make such amends as are possible for what is a social as well as a moral offense. The existing cleansing and disinfecting centers should be continued experimentally, subject to careful supervision. The main difference of this policy from that of the rival organization, the National Society for the Prevention of Venereal Disease (THE JOURNAL, Jan. 29, 1921, p. 323) is thus the enjoining of cleansing instead of the use of disinfectants; and yet the two organizations are maintained in sharp antagonism!

Darwin's Theory of the Origin of Man

Continuing his lectures at the Royal Institution, Professor Keith said that those who were imperfectly acquainted with Darwin's theory expected that a full knowledge of the stages passed through by the human embryo would yield the story of man's descent. They expected to see a passage, step by step, from the lowest to the highest state of the animal kingdom. In a broad sense man did recapitulate his story during development, as Darwin thought; but what had been learned from a full study of man's embryologic history related more to the means which had given him his preeminence than to the route he had traveled to reach it. Those who had watched the preliminary stages of the erection of a modern "skyscraper" could best guess the methods that Nature had followed in fashioning man—the "skyscraper" of the animal world. The builder did not begin by "recapitulating" an evolutionary scale of buildings, but as soon as he had dug the foundations he ran up his scaffolding and cranes to supply the workmen with materials. Nature followed a some-

what similar plan in the erection of the human frame. Careless of historical accuracy, her first effort was to run up a scaffolding to supply nourishment and shelter for the human germ. A remarkable fact, discovered in recent years, was that in fashioning the anthropoid ape she ran up an exactly similar scaffolding. Man and the anthropoids had a monopoly of this type of scaffolding; monkeys were provided with a mere primitive design, and lemurs with a still simpler or earlier type. Some of the human characters were inherited from adaptations arising during the fetal stage. At the sixth month of fetal life the chimpanzee and the human child had the same hairless body and hairy scalp. At birth the chimpanzee became furred all over, while the human baby retained the fetal distribution of hair. The fetal state was not an old, but a new character, and in man had been continued into adult life. Many human characters had thus been acquired, such as the fair skin of the European, and the big heads and small faces of the more civilized peoples.

An Ambulance Aeroplane

An ambulance aeroplane, the *Vimy*, built by Messrs. Vickers, has been taken over by the air ministry. It is of the color of aluminum and is decorated with a large red cross. It can carry for five hours at 109 miles an hour, one pilot, one mechanic, one physician, one nurse, four stretcher or eight sitting patients and 400 pounds of medical stores. The machine is fitted with two Napier "Lion" engines, giving a total horse power of 900, and is equipped with wireless. The stretcher patients are put aboard through a tunnel in the nose of the aeroplane. Sitting and other patients can be taken in through the side doors. The racks for the stretchers are telescopic, and when not in use are folded against the side of the cabin. The trap in the nose of the machine and ample floor space make it possible to carry a stretcher patient into the aeroplane and place him on the rack without making a right-angled turn and without tilting. Runners are fitted on the floor to facilitate the sliding of stretchers into the cabin. In the front wall of the cabin, opposite the passage way, is a fan which drives the air through a screen kept constantly moistened. This maintains the atmosphere of the cabin at an even temperature and will be particularly useful in hot climates. There is complete lavatory and sanitary accommodation, and equipment for 15 gallons of water. From a storage plant, eight patients can be supplied with oxygen. In case of emergency the ambulance can be flown at 120 miles an hour.

MADRID

(From Our Regular Correspondent)

March 25, 1921.

Serious Deficiencies in Insane Asylums

Several sessions of the National Academy of Medicine have been devoted to the regrettable condition of Spanish insane asylums. Dr. Fernández Sanz called attention to this subject. Dr. Decref repeated before this society the protests he had published in the newspapers, adding that, in justice to politicians, he should state that the premier and the secretary of the interior, as soon as they heard of the matter, took steps to remedy the defects noted at the Mérida Asylum. Dr. García del Real asked that the schools of medicine should devote more attention to mental diseases. Dr. Pulido laid stress on the need of carrying out a campaign of education. He referred to the many difficulties he had to conquer when trying to suppress public executions. He added that in Spain a religious order, the San Juan Brethren, wants to keep a monopoly on the treatment of insanity. Even acknowledging the importance of religion, it is plain that the treatment of patients is a medical matter and should be entrusted to physicians. Dr. Lafora commented on the campaign he has conducted, following Dr. Pulido, to improve Spanish insane asylums. He referred to the photographs taken personally and shown at the Madrid Ateneo, in which can be seen insane patients, without any clothes, sleeping on rotten straw. The academicians were so impressed by these facts that at the motion of the president they appointed a committee charged with the duty of explaining to the people the need of a reform in Spanish insane asylums and introducing bills in Congress to put an end to the present condition of affairs. In the session of the provincial assembly of Badajoz, held on February 7, Deputies Gomez and Castaño stated that there had been at the asylum of Merida five deaths due to hunger and cold.

Faure's Subtotal Hysterectomy

Dr. J. L. Faure, professor of the School of Medicine of Paris, has just given at the National Academy of Medicine and the School of Medicine of Madrid two interesting lectures on subtotal hysterectomy. Among its advantages, compared with total hysterectomy, he mentioned simpler technic, less danger of complications, and lower death rate. Owing to the fact that the uterus is fixed in its lower or cervical portion, the subtotal or supercervical hysterectomy is simple. He described the method of Kelly (of Baltimore) and his own two methods: subtotal hysterectomy beginning at the level of the cervix in the posterior aspect, and hysterectomy by uterine semisection. The insertion of the right index finger through the broad ligament below the tube on each side enables him to tie the ovarian vessels easily. The advantages of these three hysterectomies were shown graphically by lantern slides. His lectures were heard with great pleasure. He did some operating at Professor Recasens' clinic in the School of Medicine.

PARIS

(From Our Regular Correspondent)

April 8, 1921.

Medicosocial Inquiries on Syphilis

The propaganda committee on social hygiene and prophylactic education, to the work of which I referred in previous letters (The Journal, Aug. 7, 1920, p. 424, and Feb. 26, 1921, p. 601), has undertaken a series of inquiries on syphilis, on the relation of syphilis to tuberculosis, on the relation of syphilis to cancer; also on infant mortality due to syphilis and on the effect of syphilis on the birth rate. Information on these subjects is being sought from physicians direct, the propaganda committee being of the opinion that the campaign against syphilis will not become truly effective until general practitioners shall have enlightened the committee in regard to its spread, its domain and its real dangers. Owing to their wide experience, acquired during the course of many years' practice among all classes of society, general practitioners are the only persons in a position to throw light on these important questions. It is not the purpose so much to collect a large mass of statistics as it is to secure the expert opinion of practitioners by inviting them to communicate the facts that they have observed and by urging them to direct their attention more particularly to certain problems, such as the relation of syphilis to tuberculosis, to cancer, and the like. In order to give uniformity to the observations of practitioners, so that definite conclusions may be drawn from a comparison of their statements, the propaganda committee is sending to physicians uniform lists of questions. As regards hereditary syphilis, the questionnaire includes a "familial inquiry" which embraces these questions: state of health of the parents and grandparents of patients; cause of death of the father, the mother, etc.; has the mother had miscarriages,

stillborn children, children who died in early childhood, or twins? What is the condition of health of the brothers and sisters—diseases, causes of death? As to descendants: miscarriages, stillbirths, children dying in early childhood, twins; condition of health of living children and grandchildren, if any.

Infant Foods

Dr. Doléris has recently called the attention of the Academy of Medicine to the dangers that result, not only for infants but also for children during weaning, from the use of various prepared milk and farinaceous foods when administered in considerable quantities and made the principal basis of their daily diet. According to the observations of Perrot and Lecoq, it seems to be demonstrated that twenty-two out of twenty-four foods experimented with, all of which are on the market and in general use, are entirely inadequate, of themselves, to provide the necessary nutriment for certain experimental animals, such as the rat, which is omnivorous, as is man, and reacts, from certain alimentary aspects, in the same manner as man. If, then, inadequate to supply the needed nutriment and development, such foods are not entitled to be called "complete foods." A second conclusion is that the complementary ration thus added to the milk diet of the child does not furnish the required vitamins, owing, no doubt, to the complicated method of manufacture of these products. It is therefore a matter of prudence if we do not accord more than moderate confidence to these various products recommended as very favorable for the development of infants and of children during the weaning process—not even under the head of complementary foods—rejecting them absolutely as pretended "complete foods." It will be the part of wisdom to hold to full milk rations, combined with selected appropriate fresh foods. Prudence also indicates the administration to children of a few drops of orange juice, lemon juice or grape juice as a prophylactic against scorbutic avitaminosis. Before manufacturers of such infant foods should have the right to use the term "complete food," they should be required to indicate on the labels the exact proportions that the food contains of the substances essential for physiologic nutrition. The label should also affirm the presence of the indispensable vitamins.

Care of the War Wounded

The law of March 31, 1919, provides that all expense for medical care, medicines and pharmaceutic supplies in general required by the war wounded shall be borne by the state. But this law did not establish a tariff schedule for such medical care and supplies, and it is only recently that supplementary legislation has made up this deficiency. Unfortunately, the tariff schedule is far from being satisfactory to the medical profession, and the Union des syndicats médicaux de France has recently sent this protest to all practitioners:

WHEREAS, On the one hand, the schedule of charges was not established after an understanding with the medical profession had been reached, being imposed solely by the administration and constituting the first attempt to establish an official schedule of charges;

WHEREAS, The free choice of the wounded and disabled men has not been respected, since they have not the privilege of choosing the physician or surgeon whom they wish to consult and are compelled to go to the hospital from which they were discharged, being thus treated as indigents;

WHEREAS, Not even the schedule of charges that applies to victims of industrial accidents has been adopted, which puts those maimed and disabled through war in an inferior position to the victims of industrial accidents;

WHEREAS, No provision is made either for specialists or for private medical care given by physicians who treat patients in their own apartments;

WHEREAS, Our confrères in the provinces have not been allowed adequate sums for traveling expenses, and

WHEREAS, On the other hand, no one has the right to impose on attending physicians a schedule of charges; therefore, be it

Resolved, That, from this date on, the beneficiaries of the said law shall be treated as ordinary clients; in other words, they will pay their physician according to the customary schedule. Physicians will write their prescriptions on the usual blanks. They will refuse absolutely to fill out any governmental papers whatsoever, and they will deliver to their clients stamped receipts, if such are in use, covering fees collected. In case the financial situation of the patient does not permit him to pay his physician, he shall receive nevertheless medical care, and his name will be sent to the Syndicat médical local in order that an inquiry into his case may be made. But even in such cases no governmental papers are to be filled out. All physicians are expected to agitate for this propaganda among their confrères and the beneficiaries of the law. The beneficiaries should be made to understand that the free choice of physicians and surgeons is denied them; also that physicians cannot accept from the administration whatever schedules of charges it chooses to try to impose.

BERLIN

(From Our Regular Correspondent)

March 26, 1921.

Prophylaxis of Venereal Diseases

Concerning the value of the various preparations used for the prophylaxis of venereal infection there seems to be no settled opinion. At the instance of the Council for the Campaign Against Venereal Disease, in the Prussian ministry for public welfare, a testing of these various preparations has been undertaken in the Institute for Infectious Diseases and in the Public Health Office of Germany. At the last session of the Berlin Society for the Promotion of Public Welfare, Dr. Manteufel (*Regierungsrat*) reported on the experimental studies that he had made on this question in the Public Health Office during the past eighteen months. Manteufel pointed out the difficulties that stood in the way of practical testing of the efficacy of the preparations. For gonorrhea there was a lack of proper experimental animals, and the heavy expense attending the use af apes, or even rabbits, was a drawback in experiments on syphilis. Manteufel therefore resorted to test-tube experiments for gonorrhea. He mixed the preparation to be tested with 50 per cent. human serum, and observed at stated intervals hemolysis of the culture on agar plates. For the testing of the prophylactic remedies against syphilis he used white mice, which were inoculated percutaneously with the spirillum of recurrent fever and their skin then anointed with the remedy. A preparation was regarded as efficacious against gonorrhea if the gonococci were killed within the space of fifteen minutes. In the case of syphilis, prophylactic remedies were considered effective if the percutaneous infection was prevented. The result of the tests was not very satisfactory. In the first place, it was found that the preparations in watery solution were superior to those in the form of bougies or ointments. It was also discovered that many preparations were not stable, as they lost their efficacy when kept in stock some time. Another disadvantage lies in the fact that it is necessary to use two prophylactic remedies, one against gonorrhea and one against syphilis.

The preparations that are directed against the two diseases at the same time have not, thus far, proved reliable. Mercuric chlorid ointment and mercuric cyanid ointment proved the most effective, the latter being less irritative to the mucous membrane. It must be considered, however, that the favorable effect of the mercuric chlorid in the test-tube experiments is partially due to the fact that a portion of the remedy itself is transferred to the agar plate and that thus a checking of the growth of the gonococcus cultures is brought about. The character of the ointment base, which must form an emulsion with the secretion of the mucous membrane of the urethra, is also important. It is also especially important to note that protection against syphilis can be secured only in case the remedy is used before the infection occurs. Experiments have shown that inunction with the disinfecting ointment three minutes after induced infection of the skin failed to have any effect. In the discussion following the address it became evident that opinions in regard to the

practical value of the preparations are still quite divergent. Some speakers called attention to the practical results secured during the war by means of self-protection. Others, however, emphasized the fact that, in spite of prophylactic protection, the prevalence of venereal diseases had increased markedly, for which reason it was the duty of the profession to call the attention of the public to the risk associated with this method of self-protection.

Personal

Prof. Theodor Schott, for many years prominent as a watering-place specialist at Nauheim, died recently at the age of 70.

PRAGUE

(From Our Regular Correspondent)

April 4, 1921.

Sanitary Train for Typhus Fight

The American Red Cross loaned to the Czechoslovak government and the Czechoslovak Red Cross the services of a sanitary train to fight typhus fever in eastern Slovakia and Ruthenia. The train consists of six cars containing a hospital of twelve beds, a small operation hall, a pharmacy and ambulances for the transport of patients. The Czechoslovak Red Cross will attach to the train another car with a disinfecting plant. The train equipped with Czech personnel will be sent immediately to Ruthenia.

Training of Nurses

In the old Austrian times the training of nurses was sadly neglected. Only practical nurses were employed in hospitals and, because these were not adequately paid, the profession did not attract a high class of women. A regular school for nurses was opened in Prague both for Czech and German girls before the war. A considerable effort has been made since the revolution to improve the situation. A school for nurses has been reorganized in Prague under the direction of Miss Marion Parsons of the American Red Cross. A field demonstration of district nursing is being carried on by Miss Pansy Beasom of the American Red Cross. Plans are under way to start a special school for public health nurses, who are especially needed for Slovakia.

Ministry of Health

The Commission of the Ministry of Public Health and Physical Education, after its return home from a trip to the United States and England under the auspices of the Rockefeller Foundation, has organized a new section in the ministry for the study and reform of public health activities throughout the republic. A scheme for an advisory council and an executive office was approved recently by the council of ministers. The section will also endeavour to demonstrate the value of propaganda and public health education and to develop vital statistics in the field of public health.

Marriages

Robert Hugh Collins, Lieut., M. C., U. S. Navy, Washington, D. C., to Miss Florence V. Tonkin of New York, March 26.

John Edward Walker, Major, M. C., U. S. Army, to Miss Emma Marquess Ritch Burgess, both of Washington, D. C., April 1.

Franklin Gessford Ebaugh, Trenton, N. J., to Miss Dorothy Reese of Reisterstown, Md., April 9.

Joe Vincent Meigs, Boston, to Miss Elizabeth Wallace of Fitchburg, Mass., April 2.

Henry Henkin, Chicago, to Miss Goldie A. Joffa of Minneapolis, March 15.

Deaths

John G. Jay ⊕ Baltimore and Mt. Washington, Md.; University of Maryland, Baltimore, 1871; aged 73; emeritus professor of surgery in his alma mater; professor of anatomy and operative surgery from 1882-1891, and surgery from 1891-1902 in Woman's Medical College, Baltimore; surgeon of the Fifth Maryland Regiment during the Spanish-American War; died, April 1, from heart disease.

Garrett Newkirk, Pasadena, Calif.; Rush Medical College, 1868; aged 73; well known as a writer on popular subjects; also a dentist; dean of the College of Dentistry, University of Southern California from 1901-1906, and president of the California State Board of Dental Examiners, 1907-1908; died, April 7.

John Benjamin Roe, Oregon, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1895; aged 49; a member of the Illinois State Medical Society; lieutenant, M. C., U. S. Army, and discharged, June 6, 1919; died at Wesley Memorial Hospital, Chicago, March 26, from acute nephritis and uremia.

Frederick Christian Seiberling, Allentown, Pa.; University of the City of New York, 1862; aged 80; a member of the Medical Society of the State of Pennsylvania; at one time president of the Lehigh County Medical Society; died, April 4, from senile debility.

Elbridge Gerry Carpenter, East Greenwich, R. I.; University of Vermont, Burlington, 1874; aged 71; a member of the Rhode Island Medical Society; at one time president of the Kent County Medical Society; died, March 30, from senility.

James Ferguson, Rockland, Ont.; University of the City of New York, 1865; aged 83; mayor of Cumberland, Ont., from 1876 to 1880; and for many years health officer of Cumberland, and coroner of Russell County; died, February 10.

John D. Trahan, Lafayette, La.; Tulane University, New Orleans, 1867; aged 78; a veteran of the Civil War; at one time a member of the Louisiana State Board of Medical Examiners; died, March 26, from Bright's disease.

Thomas Patterson Camelon ⊕ Detroit; Trinity Medical College, Toronto, 1890; Queen's University, Kingston, Ont., 1890; aged 50; major, M. C., U. S. Army, and discharged, April 28, 1919; died, April 7, from pneumonia.

Charles Lindsey Wright ⊕ Huntington, Ind.; Rush Medical College, 1886; aged 58; at one time secretary of the board of health of Huntington and surgeon to the Huntington Hospital; died, April 2, from an overdose of opium.

William H. Baker, Terre Haute, Ind.; Hahnemann Medical College and Hospital, Chicago, 1882; aged 62; a practitioner of Terre Haute for twenty-five years; died in Chicago, January 23, from carcinoma of the pancreas.

Carl R. Meloy ⊕ Detroit; Johns Hopkins University Medical School, 1906; at one time adjunct professor of pathology in the University of Virginia; pathologist to Grace Hospital, Detroit; died, March 29.

Frank Garten, New York; Albany (N. Y.) Medical College, 1908; aged 39; a member of the Medical Society of the State of New York; contract surgeon, U. S. Army; died, April 2, from pneumonia.

James Edwin Callaway, Chillicothe, Mo.; Eclectic Medical Institute, Cincinnati, 1866; aged 86; one of the organizers and at one time president of the Eclectic Medical Society of America; died, March 28.

Carl Anderson Arnold, Des Moines, Iowa; Washington University Medical School, St. Louis, 1914; aged 32; a member of the Iowa State Medical Society; died, April 4, from epidemic encephalitis.

Frank Young, Lorain, Ohio; Western Reserve University, Cleveland, 1872; aged 77; at one time a member of the board of education and police surgeon of Lorain; died, February 26, from paralysis.

Dennis M. Cutright, Adrian, W. Va.; American Eclectic Medical College, Cincinnati, 1896; aged 54; a member of the West Virginia State Medical Association; died, March 29, from mastoiditis.

Jerome M. Davis, North, S. C.; University of Georgia, Augusta, 1889; aged 59; was instantly killed, April 2, when the automobile in which he was riding was struck by a passenger train.

⊕ Indicates "Fellow" of the American Medical Association.

Joseph Bongartz, Kingston, N. Y.; College of Physicians and Surgeons in the City of New York, 1886; aged 63; a member of the Medical Society of the State of New York; died, March 28.

Luther Monroe Sims ⊕ Kalama, Wash.; Rush Medical College, 1888; aged 74; secretary of the Cowlitz Medical Society for five years; at one time a member of the state legislature; died, April 2.

Thomas W. Bullitt, River Vale, Ind.; Cincinnati College of Medicine and Surgery, 1874; Hospital College of Medicine, Louisville, Ky., 1875; aged 71; died, February 12, from arteriosclerosis.

J. H. Baxter, Sharpsville, Ind.; Kentucky School of Medicine, Louisville, 1875; aged 89; a member of the 140th Indiana Volunteer Infantry during the Civil War; died, March 27.

Albert A. Parisot, Mt. Clemens, Mich.; Detroit College of Medicine and Surgery, 1895; aged 56; for many years mayor of Mt. Clemens; died, February 3, from heart disease.

Edmund Francis O'Reilly, Lancaster, Calif.; University of Southern California, Los Angeles, 1914; aged 32; was instantly killed, March 16, in an automobile accident.

Louis Allen Crocker, Brewster, Mass.; Harvard University Medical School, Boston, 1902; aged 57; a member of the Massachusetts Medical Society; died, January 8.

John C. Nicholson, Leesville, S. C.; Maryland Medical College, Baltimore, 1904; Medical College of South Carolina, Charleston, 1907; aged 42; died, about April 3.

Alfred T. Drake, Girkin, Ky.; Louisville (Ky.) Medical College, 1872; aged 76; a member of the Kentucky State Medical Association; died, March 28.

Seth Ward Lacey ⊕ Footville, Wis.; Rush Medical College, 1880; aged 64; one of the founders and president of the Footville State Bank; died, April 2.

George E. Ellis, Dunkirk, N. Y.; University of Buffalo, 1891; aged 56; a member of the Medical Society of the State of New York; died, March 14.

Elmer Harold Maurer ⊕ Ashland, Pa.; Hahnemann Medical College and Hospital, Philadelphia, 1902; aged 40; died in Tampa, Fla., March 29.

Daniel George Long, Reading, Pa.; University of Pennsylvania, Philadelphia, 1875; aged 70; died, March 31, from cerebral hemorrhage.

William Jenks Dudley, Wilmington, Ohio; Starling Medical College, Columbus, 1901; aged 45; died, February 14, from heart disease.

Rilla Grafton Hay, Los Angeles; State University of Iowa, Iowa City, 1873; Denver College of Medicine, 1885; aged 70; died, April 7.

William H. Rice, Atlanta, Ga.; Southern Medical College, Atlanta, Ga., 1887; aged 58; died, April 2, from cerebral hemorrhage.

Llewellyn Coons ⊕ Wichita Falls, Texas; University of Louisville, Ky., 1867; aged 73; died, April 3, from cerebral hemorrhage.

James Albert White, Portland, Ore.; State University of Iowa, Iowa City, 1873; aged 71; also a druggist; died, March 27.

Willis Vincent Buckley, Hartford, Wis.; Marquette University School of Medicine, Milwaukee, 1915; aged 38; died, March 26.

Henry H. Carr, Pitman, N. J.; Homeopathic Medical College of Pennsylvania, Philadelphia, 1885; aged 57; died, March 30.

Jesse Hicks Hughes, Nanticoke, Pa.; University of the City of New York, 1892; aged 55; died, March 5, from pneumonia.

James Jefferson Shell, Memphis, Tenn.; Vanderbilt University, Nashville, Tenn., 1890; aged 74; died, March 22.

Jorge Aguilu, Coamo, P. R.; Jefferson Medical College, 1919; aged 28; died, March 25, from pneumonia.

Morris Jasper Hill, Sterling, Ill.; Chicago Homeopathic Medical College, 1878; aged 78; died, March 26.

James W. McFaul, Atlanta, Ga.; Atlanta (Ga.) Medical College, 1868; aged 79; died, March 13.

Charles Louis Hobbs, San Leon, Texas; Rush Medical College, 1896; aged 45; died, March 19.

John M. De Weese, Denver; Baltimore Medical College, 1900; aged 64; died, March 8.

John E. Inglish, Bacon, Mo. (license, Missouri, 1884); aged 77; died, March 26.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MORE MISBRANDED NOSTRUMS

Methylax Blue Pearls.—In April, 1919, William R. Warner & Co. of New York shipped a quantity of a product labeled "Methylax Blue Pearls, Pfeiffer Chemical Co., New York, St. Louis." The Bureau of Chemistry reported that analysis showed this preparation to consist of capsules containing cubebs, methylene blue, and probably copaiba and kava-kava. The preparation was labeled:

"For the treatment of gonorrhea (and its complications) and catarrhal conditions of the urinary tract. Helps to stop mucous discharges. Useful as a urinary antiseptic."

These claims were declared false and fraudulent as the product "did not contain any ingredient or combination of ingredients capable of producing the effects claimed." In June, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8252; issued Jan. 31, 1921.*]

Jax Capsules and Antiseptic Injection.—The Tropical Cooperative Company, Jacksonville, Fla., shipped in May, 1919, a quantity of "Jax Capsules" and "Jax Antiseptic Injection." Analyzed by the Bureau of Chemistry the "capsules" were reported to contain powdered cubebs, balsam of copaiba and cornstarch while the "injection" was reported to consist of a solution containing phenol, thymol, methol, boric acid and zinc sulphate. The capsules were labeled:

"A highly efficient treatment for gonorrhea and gleet and other diseases of the bladder and urinary organs."

The injection was labeled:

". . . for gonorrhea and gleet guaranteel not to cause stricture."
". . . efficient remedy for the disease (gonorrhea and gleet)."

These claims were declared false and fraudulent and in May, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the products be destroyed.—[*Notice of Judgment No. 8255; issued Jan. 31, 1921.*]

Stops It in One Day.—In April and May, 1919, the O. K. Remedy Co., Brazil, Ind., shipped a quantity of "Stops It in One Day" which the government charged was misbranded. The nostrum was reported by the federal chemists to consist of two preparations: a bottle containing a dilute solution of berberin sulphate and a tube containing a mixture of potassium permanganate and potassium sulphate. The stuff was falsely and fraudulently represented as an effective remedy for gonorrhea, gleet, leucorrhea and venereal diseases of men and women "whereas, in truth and in fact, it was not effective." In March, 1920, judgment of condemnation and forfeiture was entered and it was ordered by the court that the product be destroyed.—[*Notice of Judgment No. 8411; issued March 10, 1921.*]

Purola Kidney and Liver Remedy, Diarrhea Mixture, Femaline, Sarsaparilla Compound and Compound Extract of Buchu.—The Blumauer-Frank Drug Co., Portland, Oregon, shipped in February, 1918, a quantity of the drugs just named which the government officials declared were misbranded.

"Purola Liver and Kidney Remedy" was reported by the federal chemists to be a water-alcohol solution consisting essentially of vegetable extractives carrying emodin and resin, potassium acetate, sugars and a faint trace of salicylic acid. It was falsely and fraudulently represented as a cure for Bright's disease, diabetes, and diseases of the kidneys and liver, as well as for a number of other conditions.

"Purola Diarrhea Mixture," according to the federal chemists, was a water-alcohol solution of opium, camphor, cap-

sicum extractives, rhubarb, oils of peppermint and anise and indications of a trace of gambir. This was falsely and fraudulently represented as a cure for cholera, cholera morbus, dysentery and bowel complaints generally, "when, in truth and in fact, it was not."

"Purola Femaline" was reported by the Bureau of Chemistry to be a water-alcohol solution containing glycyrrhiza (licorice) extractives, emodin, resin, a trace, of alkaloid sugar, glycerin and aromatics. It was falsely and fraudulently sold as a cure for female weakness and maladies, such as falling of the womb, suppressed menstruation, leucorrhea, etc.

"Purola Syrup Sarsaparilla Compound with Iodide of Potash" was, according to the federal chemists, a water-alcohol solution consisting essentially of vegetable extractives carrying emodin, indications of saponin, glycyrrhizin, alkaloids, volatile oils, sugar, glucose and potassium iodid. It was falsely and fraudulently represented as an effective blood purifier and a cure for scrofulous affections and cutaneous diseases, boils, ring worms, rheumatism, syphilitic and mercurial diseases, etc.

"Purola Compound Extract of Buchu" when analyzed by the federal chemists was found to be a water-alcohol solution of buchu, extractives, sugar, licorice extractives, potassium acetate and little, if any, emodin. It was falsely and fraudulently represented as a cure for Bright's disease, catarrh of the bladder, diseases of the genital organs, etc.

In April, 1920, a plea of guilty was entered on behalf of Blumauer-Frank Drug Co. and the court imposed a fine of $200.—[*Notice of Judgment No 8424; issued March 10, 1921.*]

Planters Golden Crown Special.—The Planter Medicine Co., Baltimore, Md., shipped in April, 1919, a quantity of this preparation which was declared misbranded. Analysis showed the product to consist essentially of oil of cassia, methyl salicylate, copaiba, alkaloids of sanguinaria, ethyl nitrite, water and 45.6 per cent. by volume of alcohol. The stuff was declared misbranded, first, because it was labeled "Alcohol 20 per cent." when, as a matter of fact, it contained over 45 per cent. and, second, because it was falsely and fraudulently claimed to be "A Safe and Reliable Medicine for Gonorrhea, Gleet and diseases of a Similar Character . . . for Kidney Troubles. Stone in the Bladder and all aching and painful sensations in the small of the back." It was also fraudulently claimed to prevent stricture. In May, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8467; issued March 11, 1921.*]

Correspondence

"EXPERIMENTAL STUDIES OF EPIDEMIC ENCEPHALITIS"

To the Editor:—In your editorial of April 2 on epidemic encephalitis you present rather fully the excellent work of Levaditi and Harvier, but in referring to Loewe and Strauss you mention only that portion of their results which the French authors were unable to confirm. I think this is hardly just to the American workers. The editorial writer in the *Lancet,* February 26, on the other hand, states that "in America the research has advanced rather more rapidly than here and in France," and presents fully the main results of Loewe and Strauss and of Thalheimer. Levaditi and Harvier, themselves, state that "the work of the American authors proves: (1) that the virus of encephalitis is transmissible to the rabbit and the monkey; (2) that the virus is filtrable and may be preserved in glycerin, and (3) that the virus exists not only in the central nervous system but also in the nasopharyngeal secretions." They also contrast the "fully demonstrative" experiments of Loewe. Hirshfeld and Strauss" with the somewhat uncertain report of Wiesner. They seem to regard their work as confirmatory in essential respects of that of the Americans. A similar attitude is reflected by several other continental experimenters, as Ottolenghi (*Policlinico* **25**:39, 1920); Maggiore (*Pediatria* **21**:1, 1920); Micheli (*Riforma Medica* **38**:1, 1921) and others, all of whom frankly recognize the priority of the American contributions. Since the chronologic record shows that our New York colleagues published four communications before any other reports on the matter appeared in medical literature, it would appear that the European scientists had met all the demands of courtesy in referring to the American contributions. Under these circumstances it may cause some surprise that your editorial writer has failed to observe these details.

Of course, the matter of priority is perhaps not of very great importance. As the *Lancet* intimates, these energetic laboratory workers are probably attracted by the fascination of the work, and by the joy of adding something to medical knowledge. There is credit enough for them all. Yet, as a reader of The Journal, which is the leading American medical weekly, I should prefer to have its references historically accurate, its inferences clear, and its estimates as just and frank as those of the *Lancet,* and it is for this reason that I am impelled to write to you about the matter.

James Ewing, M.D., New York.

[Comment.—In addition to the foregoing letter from Dr. Ewing, letters were received from Dr. I. Wechsler and from Dr. Israel Strauss, New York, calling attention to the fact that the editorial referred to had failed to mention all of the work of Drs. Loewe, Strauss and Hirshfeld. Possibly it would have been better if the editorial in question had summarized briefly all the reports of experimental work on epidemic encephalitis. It was restricted intentionally, however, to some of the principal results of the French investigators, and anything like a balanced estimate of previous work with complete references was not contemplated. As the etiology of epidemic encephalitis still is under investigation, there no doubt will be occasion for fuller discussion of the work of various investigators than seemed to be indicated in connection with the review of this particular French work.—Ed.]

AN IDEAL URETHRAL INSTILLATING SYRINGE

To the Editor:—In The Journal (Jan. 15, 1921, p. 176) Dr. Neil Moore, St. Louis, described a new urethral instillating syringe devised by him, which in my opinion does not serve the purpose, as is also the case with those of Guyon, Albarrán and Ultzman. All of the latter have the disadvantage of pistons with leather or rubber washers, fitted into glass tubes and metal barrels, which do not withstand frequent boiling. Dr. Moore's syringe, on the contrary, may be completely sterilized since its cannula is made of silver and the whole syringe is made of glass. It has, however, the disadvantage, besides being somewhat cumbersome, that the adjustment of the cannula, being of metal, will be attacked by solutions of silver salts used constantly for these instillations. Nor can one or two drops of the solution be placed precisely or any one point involved since the top of the piston lacks a screw device to control the passage of the liquid.

In my opinion, any syringe for urethral instillation should consist of a glass tube, with a piston also of glass, in a word, a Luer 5 c.c. syringe, but having a screw piston which would advance gradually by a turning motion so that we might drop, in any specific place along the course of the urethra, a drop or more of the solution, as done with the Guyon syringe. This screw device, all glass, would be ideal; but it must be rather difficult to manufacture since no manufacturer has yet offered such a device. The cannula should

e replaced by an olivary rubber bougie adjusted directly to he piston.

This syringe would have these advantages:

1. Complete sterilization without injury to its parts.
2. A piston that could not be injured by solutions, above ll by silver nitrate, the one used most frequently.
3. Regulation of the number of drops required for disinfection or cauterizing any point in the urethra.
4. Doing away with the difficulty always found when a netallic and therefore unbending sound is introduced in a ensitive urethra, which often has friable walls.

NAZARIO V. MONTEJO, M.D., Campeche, Mexico.

ERROR IN REPORTING PATERSON (N. J.) MORTALITY FROM TYPHOID FEVER

To the Editor:—In THE JOURNAL, March 26, in the article on "Typhoid Fever in the United States," "Table 6," deaths from typhoid in cities from 125,000 to 150,000 population, the rates range from 1.4 in Bridgeport, Conn., which heads the list to Paterson, N. J., at the bottom with a rate of 14.7. Commenting on this is the following: "Group 5 (from 125,000 to 150,000 population) has two surprises, first the remarkably low death rate in Grand Rapids after some years of rather disappointing performance, and, second, a rate in Paterson, N. J. (14.7), which is not only much higher than the 1916-1920 average (6.7), but higher than the average for 1911-1915 (9.1)." Here are the facts on record in the office of the board of health for 1920 in relation to typhoid fever: Total number of cases, twenty-two; total number of deaths, two; total number of cases sent from out of town to Paterson hospitals, six; number of cases reported during July, August and September (being the months when rural typhoid is imported into cities by returning vacationists), ten; leaving six cases that may have been caused locally.

J. ALEX BROWNE, M.D., Paterson, N. J.
Health Officer.

[COMMENT.—On receipt of his letter, THE JOURNAL wrote to Dr. Browne that the record returned to us and signed by the secretary of the board of health gives the number of deaths from typhoid in Paterson in 1920 as twenty. On the basis of this, the rate was calculated and printed in our article. To this Dr. Browne replies that the secretary was a new man in the position, and that he (Browne) personally did not see the report that was included in the survey. THE JOURNAL regrets that the mistake should have been made in reporting the number of deaths, and is glad to know that conditions are not what were reported in THE JOURNAL.—ED.]

"THE EFFECT OF PHOSPHORUS IN RICKETS"

To the Editor:—In their paper on rickets in THE JOURNAL, March 26, 1921, Phemister, Miller and Bonar seem to attach too much weight to the value of both cod liver oil and phosphorus. A child suffering from rickets is suffering from nutritional errors. With the exception of one of the cases, reported, there was a radical change of diet for from two to six months, which of itself should be sufficient to account for the improvement. Is it not necessary to carry out similar observations on children in like condition, for the same length of time, *using only proper diet?*

Kerley (Practice of Pediatrics, Ed. 2, p. 116) says: "A child suffering from rachitis is suffering from nutritional errors, as a result of improper feeding or inability to assimilate a suitable food; and I have yet to see a case which will not improve when suitable nourishment can be given and assimilated, regardless of the age of the patient, provided, of course, there is no other disease."

H. ALLEN WHISLER, M.D., Wallace, W. Va.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

TOXICITY OF ETHER

To the Editor:—1. What is the substance which is toxic in ether that has been long exposed to the air?
2. What are the symptoms of such poisoning?
3. Can you refer me to literature concerning the subject?
Please omit my name in case of publication. S. G. W.

ANSWER.—1. Ether exposed to air may take up moisture. In the presence of moisture, oxidation may occur, forming such substances as peroxids and aldehyds. Adequate tests are given in the U. S. Pharmacopeia to detect undue amounts of aldehyds and peroxids.

2. The impurities that may occur in commercial brands of ether may contribute to local irritation, but probably not to dangerous effects. Henderson considers poor ether as more excitant, disposing to acapnia. It has been shown that ether which contains small amounts of acetaldehyd does not induce postanesthetic glycosuria in dogs more readily than pure ether.

3.

Sollmann, Torald: Manual of Pharmacology, 1917, p. 588.
Ross, E. L., and Hawk, P. B.: Postanesthetic Glycosuria as Influenced by Diet, Body Temperature and Purity of the Ether, Arch. Int. Med. **14**: 779 (Dec.) 1914.
Postanesthetic Glycosuria, Purity of Ether and Diet, editorial, THE JOURNAL, Feb. 20, 1915, p. 668.
Variations in Different Brands of Ether, Queries and Minor Notes, THE JOURNAL, April 11, 1914, p. 1190.
Baskerville, Charles: Chemistry of Inhalation Anesthetics, THE JOURNAL, Nov. 23, 1912, p. 1837.

MILK AND MOLASSES ENEMA

To the Editor:—Great difficulty having been experienced in relieving paresis of the bowel, an enema of equal parts of molasses and milk was suggested. This seems to be very efficacious. Can you refer me to any literature on the subject or tell me what the action of this combination is on the colon? JAMES A. GARDNER, M.D., Buffalo.

ANSWER.—The "milk and molasses enema" composed of equal parts of molasses and milk is an old reliable, rather drastic evacuant of the colon. Its action is due chiefly to the fact that molasses, even when present only to the extent of 50 per cent., is a hypertonic fluid, which by abstracting water from the mucous membrane produces so-called "salt irritation," i. e., an irritation analogous to that produced by a saturated solution of magnesium sulphate. Glycerin has a similar effect. The milk probably acts chiefly as a diluent. It is possible that the combination may also act as a lubricant by reason of its viscosity. While not to be recommended for prolonged or frequent use, as it may cause excessive irritability of the colon, it is worth trying when milder enemas fail to produce satisfactory evacuation. For a general discussion of the subject see Fantus' "Useful Cathartics," published by the American Medical Association, price $1.

THE SOY BEAN

To the Editor:—Will you kindly advise whether you have printed any article on the value of soya beans in diabetic diet?
N. E. HELMICK, Seattle.

ANSWER.—Following is a list of references on this subject:

Holmes, A. D.: Digestibility of Steam-Cooked Soy Beans and Peanuts, THE JOURNAL, March 20, 1920, p. 798.
Peanuts and Soy Beans as Human Foods, editorial THE JOURNAL, Oct. 26, 1918, p. 1410.
Osborne, T. B., and Mendel, L. B.: Use of Soy Bean as Food, *J. Biol Chem.* **32**: 369 (Dec.) 1917; abstr. THE JOURNAL, Jan. 12, 1918, p. 127.
Daniels, A. L., and Nichols, N. B.: Nutritive Value of Soy Bean, *J. Biol. Chem.* **32**: 91 (Oct.) 1917; abstr. THE JOURNAL, Nov. 10, 1917, p. 1650.
Friedenwald, J., and Ruhrah, J.: Use of the Soy Bean as a Food in Diabetes, *Am. J. M. Sc.*, December, 1911; abstr. THE JOURNAL, Jan. 7, 1911, p. 70.
The Soy Bean, Its Enzymes and Carbohydrates, editorial, THE JOURNAL, Oct. 16, 1915, p. 1372.

Exercise and Tuberculosis.—There is no difficulty in conceiving that an active tuberculous focus works its deleterious influence through the toxins it sheds, and that the inimical effects of bodily exercise depend largely, if not wholly, on its favoring mobilization of the poisonous output.—H. Sewall, *Am. Rev. Tuberc.* **4**:825, 1921.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arkansas: Little Rock, May 10. Sec., Reg. Bd., Dr. T. J. Stout, Brinkley. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

Georgia: Augusta, June 1-3 and Atlanta, June 8-10. Sec., C. T. Nolan, Marietta.

Kentucky: Louisville, May 10. Sec., Dr. A. T. McCormack, Sixth and Main Sts., Louisville.

Louisiana: New Orleans, May 3. Sec., Homeopathic Bd., Dr. F. H. Hardenstein, 702 Macheca Bldg., New Orleans. June 9-11. Sec., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

Nebraska: Lincoln, June 8-10. Sec., Mr. H. H. Antles, Dept of Public Welfare, State House, Lincoln.

Nevada: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.

New York: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

Ohio: Columbus, May 31-June 1-3. Sec., Dr. H. M. Platter, State House, Columbus.

Tennessee: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

AN INTRODUCTORY COURSE IN FUNCTIONAL PATHOLOGY FOR SECOND YEAR MEDICAL STUDENTS

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Stanford University, Calif.

In no field of education have there been more radical changes, during the last thirty years, than in the aims and methods of teaching in the preclinical medical sciences. In the typical medical school of the earlier days these sciences were usually taught by practitioners or by men primarily interested in clinical subjects. The sciences were usually presented with constant references to their clinical applications, and with an undue selection of subject matter of immediate clinical interest. The aim was the imparting of usable facts, rather than the giving of a broad fundamental training in the science in question.

Students trained by these earlier methods were conceivably well prepared for the practical treatment of the simpler forms of disease. Their grasp of clinical phenomena, however, was necessarily superficial, and they usually lacked the breadth of view and fundamental training necessary for investigation. As a result, an undue amount of the fundamental advances in research medicine has been due to the efforts of nonmedical workers.

These defects in the earlier educational methods are now generally recognized. In practically all high type medical schools the preclinical sciences have been taken over by professional workers in preclinical fields who are not primarily interested in their clinical application. These men usually present their subjects from the purely scientific point of view, with emphasis on their inherent scientific interest and educational value. In their hands, the preclinical sciences are rapidly gaining a recognized dignity and educational importance comparing favorably with the nonprofessional university subjects.

There is one fundamental preclinical science, however, that has not yet been removed from the hands of practitioners and developed from the broader scientific point of view. This is the subject of functional pathology (pathologic physiology). Students are usually dependent for their instruction in this field solely on occasional references to underlying physiologic causes in clinical courses. Usually the only physiologic facts emphasized are those of immediate diagnostic importance. In no medical school is the subject of functional pathology presented in its entirety, with emphasis on its intrinsic scientific interest and educational value, the method deemed necessary in all other preclinical sciences. Yet no other preclinical science has the potentialities of functional pathology as an educational instrument and a field of nonclinical research.

Believing that an introductory training in functional pathology should logically precede the clinical courses, I attempted, in 1906, in the University of Chicago, to develop a formal course in this subject for second year medical students. This, I believe, was the first formal course in functional pathology attempted in American medical schools. This early course consisted of twenty lectures and was offered as an elective, parallel with the required course in general pathology. This course has been expanded and repeated several times during the last four years in Stanford Medical School, where it has usually been elected by the entire second year class. During the current year, I have had an opportunity of giving this course in Washington University Medical School, St. Louis. From contact with students in these three institutions, I am led to believe that a formal course of this type would be welcomed by all second year medical students.

The course I now recommend would consist of at least thirty-six lectures or lecture-demonstrations. If time is available, the course should be supplemented by about ten three-hour laboratory exercises. The course would cover, in an introductory way, the entire field of functional pathology, the subject matter being presented from the experimental point of view. The topics selected should not duplicate topics adequately presented in other preclinical courses. The following is an outline of the elective second year course at present offered in Stanford Medical School:

RECOMMENDED INTRODUCTORY COURSE IN FUNCTIONAL PATHOLOGY FOR SECOND YEAR MEDICAL STUDENTS

1. *Pathologic Physiology of Cutaneous and Mesoblastic Sensations.*—(*a*) Cutaneous and mesoblastic anesthesias, hyperesthesias and paresthesias, disturbances in steriognostic sense; etc.

2. *Pathologic Physiology of Skeletal Muscle.*—(*a*) Pathologic changes in electrical and mechanical excitability, reactions of degeneration, regeneration, etc. (*b*) Pathologic changes in muscle strength, muscle fatigue, muscle tone. (*c*) Motor irritation movements, pathologic changes in voluntary movements (paralyses, paresis, ataxias, incoordinations, motor aphasia), pathologic associated movements. (*d*) Pathologic changes in deep and cutaneous reflexes, effects on voluntary movements, etc.

3. *Pathologic Physiology of Circulation.*—(*a*) Cardiovascular reactions and compensations with reduced oxygen content of blood, reduced carbon dioxid elimination, increased carbon dioxid elimination, etc. (*b*) Cardiovascular reactions and compensations with hemorrhage, experimental plethora, retained excretion products, increased blood temperature, decreased blood temperature, etc. (*c*) Cardiovascular disturbances secondary to irritative and destructive lesions of the peripheral and central nervous systems, increased intracranial pressure, surgical and traumatic shock. (*d*) Circulatory distubrance and compensations secondary to vascular and pericardial lesions (arteriosclerosis, stenosis, aneurysm, pericardial effusion, pericardial adhesion, etc.). (*e*) Circulatory disturbances and compensations for valvular and congenital heart lesions, functional reserve, decompensation. (*f*) Circulatory disturbances and compensations with myocardial lesions, cardiac sensations.

4. *Pathologic Physiology of Respiration.*—(*a*) Respiratory disturbances and compensations with altered oxygen and carbon dioxid tension of respired air, altered oxygen and carbon dioxid carrying capacity of blood, retained excretion products, etc. (*b*) Respiratory disturbances and compensations secondary to cardiovascular lesions, lesions of the peripheral and central nervous systems, etc. (*c*) Respiratory disturbances and compensations secondary to pleural and pulmonary lesions, respiratory sensations.

5. *Pathologic Physiology of Digestion and Absorption.*—(*a*) Pathologic disturbances in salivary and buccal secretion, deglutition, gastric motility. (*b*) Disturbances in gastric secretion, bacterial processes in stomach, disturbances in pyloric action, intestinal secretion, etc. (*c*) Disturbances in intestinal movements, intestinal absorption, intestinal excretion, bacterial processes in intestine, etc. (*d*) Disturbances in defecation, gastro-intestinal sensations, pathology of hunger, etc.

6. *Pathologic Physiology of Metabolism, Internal Secretion, Heat Regulation, etc.* (*a*) Pathologic disturbances in basal metabolism. (*b*) Disturbances in heat regulation. (*c*) Disturbances in hormone control. (*d*) Disturbances in sugar metabolism. (*e*) Disturbances in protein metabolism, protein sensitization. (*f*) Disturbances in lipoid metabolism, vitamin deficiency, etc.

7. *Pathologic Physiology of Excretion.*—(*a*) Disturbances in hepatic function (internal secretion), disturbances in urinary excretion secondary to changes in blood composition, secondary to cardiovascular lesions. (*b*) Abnormalities in renal excretion secondary to renal lesions, lesions of ureter, bladder, etc., renal sensations.

8. *Pathologic Physiology of Reproduction.*—(*a*) Disturbances in sexual instincts, pathologic physiology of pregnancy, prenatal influences, etc. (*b*) Laws of heredity, hereditary pathologic conditions, etc.

). *Pathologic Physiology of the Special Senses.*—(*a*) Pathologic dis-bances in olfactory and gustatory sensations (anesthesias, hyper-hesias, paresthesias, etc.). (*b*) Auditory and labyrinthine sensations.) Vision.
10. *Pathologic Physiology of Psychical Processes, etc.*—(*a*) Mental ts, mental age, etc. (*b*) Neurosis and psychoneurosis. (*c*) Psychoses.

COMMENT

I believe that at least half of this course should be finished fore the student enters on his clinical studies, and that the tire course should be completed by the end of his first inester of clinical work. Given at this time, the course ould serve as a valuable introduction to clinical phenomena id would tend to bridge over the present gap between the eclinical sciences and the clinical subjects. The course, I lieve, could be given most advantageously as an independent urse, closely correlated with the required course in patho-gic anatomy and physical diagnosis. I believe that a course this nature is of sufficient scientific and educational impor-nce in the preclinical curriculum to warrant the creation of separate department of functional pathology in the better rade medical schools.

Social Medicine, Medical Economics and Miscellany

GROUP MEDICINE

I. P. P. HOLLINGSWORTH, M.D.
PHILADELPHIA

Recently there has been a tendency for medical men to ssociate themselves in groups for practice. This has been articularly true in those smaller towns of the West which re more remote from large clinics. A notable example is he development of group efficiency at Rochester, Minn., which as become a famous clinic. Wherever this formation has aken place, the welfare of the patient, the general character of the medical work, and the status of the practitioners of the community have all been improved. Medicine has been generally conceded to have advanced to a point at which the family physician cannot in many conditions make a thorough examination unaided.

During the last year I had the opportunity, while occupying a disinterested public health position, to observe closely the establishment and development of a group of eleven men in a city of 30,000 population. This group included a laryngol-ogist, a roentgenologist, a pathologist, an obstetrician, a neurologist, two surgeons, an internist and two men doing general work. After a period of six months most of the med-ical men of the city were willing to admit that this is the ideal way to practice modern medicine. How much better work would be done if the community hospital should be used in this way, just as in the large centers practically the same thing is carried out on an extensive scale in the big hospitals. In the outlying communities of the large cities and in the counties of the different states, there is a great opportunity for organization along these lines.

In order to render such work effective in the community, all the reputable men of the neighborhood should be asso-ciated with the group, and not left without the opportunities which such an organization would give them. The com-munity hospital is in reality the proper place for the develop-ment of a health center, and should be utilized for this increased scope of usefulness to the public. From a public health standpoint, group medicine is in all probability the most advanced kind of this sort of work, provided the idea of the health center is preserved in addition to that of remedial activities. For instance, in the group referred to above, the pathologist was instrumental in diagnosing a number of cases of diphtheria which would in all probability have previously gone undiagnosed as, through lack of organ-ization and prompt culture facilities, cultures were not always taken. The laryngologist and pediatrician, through public school clinic work, also drew attention to many conditions which needed correction. It has been truly said that the indi-viduals who get the best medical treatment are the very rich and the very poor. Through such group practice the large class of people of small means get the attention which other-wise they go without, as these people in most cases are unable to journey to the large clinics and hospitals in the cities for diagnosis and treatment.

Few men doing general work have the time and facilities to determine basal metabolism, sugar tolerance and similar findings on those patients who require such tests. Such examinations long ago reached a point at which they no longer belong to research work, and have become a part of a thorough practical investigation of the patient. Group prac-tice would readily put these and all similar facilities at the command of all men in the community. Such group work does away with the questionable interpretation of different findings by certain pathologists known as technicians, who are depended on by many men either for reasons of economy, or because a pathologist is not readily accessible for prompt reports.

In a recent paper, Billings[1] of Chicago strongly advocated organization of medicine along such lines, and it may not be long before the general public will demand such work. The day of empiricism has to some extent gone; and while medi-cine is by no means as yet an exact science, it certainly attempts to use more exact methods than formerly in order to arrive at an intelligent diagnosis. The better posted part of the public already demands such thorough examinations, and as they have acquired the habit of putting everything on trial, when they do not receive a "quid pro quo," they pass judgment accordingly.

The solution of those two clouds on the horizon, state medicine and compulsory medical insurance, may very well lie in the proper medical organization among the men them-selves in each community for scientific work which they can-not do alone. Not all men, fortunately can be surgeons or even near surgeons, and the large majority of the younger men are obliged to go into general practice, much as many of them are desirous either to operate or to specialize. Most of the present-day graduates who enter general practice are only too willing and eager to do up-to-date, accurate work, but receive very little encouragement through lack of means and facilities to study their cases properly. Group medicine would afford them such opportunities. It can scarcely be denied that no present-day industry of importance would attempt to operate in such an unorganized state as medicine does in many communities at present, and in this day of efficiency and efficiency experts even the churches are observing the value of proper organization.

Those who have been in works where steel products are manufactured and where power presses are used, will readily understand the difference in power given by one revolving pulley and the immense power generated by the combined action of a series of pulleys. The difference between the com-bination of all the reputable men of a community with the hospital as the center, and the old way of each man acting as an isolated weak unit, constitutes the advantage of the much to be desired group medicine. The one great stumbling block is conservatism and the inability to break away from the beaten path.

7008 Greene Street.

1. Billings, Frank: The Future of Private Medical Practice, J. A. M. A. **76**: 349 (Feb. 5) 1921.

Book Notices

THE DETERMINATION OF HYDROGEN IONS. An Elementary Treatise on the Hydrogen Electrode, Indicator and Supplementary Methods with an Indexed Bibliography on Applications. By W. Mansfield Clark, M.A., Ph.D., Chemist, Research Laboratories of the Dairy Division, United States Department of Agriculture. Cloth. Price, $5. Pp. 317, with illustrations. Baltimore: Williams and Wilkins Company, 1920.

A treatise on the determination of hydrogen ions is primarily of interest to the physical chemist. The publishers of Clark's book state, however, that the subject "is so important to botanists, biologists, bacteriologists and medical men" that it is deserving of comment in a medical publication. One would expect, therefore, that the subject matter would be presented in such a manner that those not familiar with the technic of precise physical measurements should, by the knowledge gained from this book, be able to determine the p_H of a solution. With this idea in mind, we have considered Clark's publication.

The first chapter deals with general relations among acids and bases; it is essential for the experimenter who for the first time is endeavoring to think in terms of hydrogen ions $[H^+]$ to understand some of the fundamental laws discussed in this chapter. But the author's method of presentation is so precipitous that the novice in this subject may soon be lost in a maze of mathematical equations; the reasons for which are not adequately explained. Thus, after a short introduction we find that the effect of dilution of a solution on the hydrogen ion concentration may be represented by the equation:

$$[H^+] = \sqrt{K_a S_a + \frac{K_a}{4}} - \frac{1}{2} K_a$$

which to the average medical laboratory reader will mean little. He wants to know why the square root is or is not taken; if it is not necessary to know this, then why bother the reader with such a cumbersome equation? Again, why is the logarithm used in the reference to p_H? The reasons appear simple if explanations are satisfactory.

For the practical determination of p_H there are two methods: (*a*) the use of a series of indicators which give certain color values in respective solutions of certain hydrogen ion concentration, and (*b*) precise physical measurements whereby the potential difference between an electrode of "platinum black" saturated with molecular hydrogen and the hydrogen ions in the solution is determined by electric instruments. The first method is the more practical for the average clinician. Solutions of unknown values are compared colorimetrically with solutions of known p_H. The values of the latter solutions are obtained by the electrometric method, so that certain mixtures of salts ("buffer salts") yield fairly constant hydrogen ion concentrations. In the description of these colorimetric methods, the author is at his best. Several years ago Dr. H. A. Lubs synthesized a series of indicators which formed the basis of the exceedingly valuable publications of Clark and Lubs on this subject. The clinical laboratory worker will find the chapters on indicators, buffer solutions and colorimetric determinations interesting and "full of meat," while the directions are presented in such fashion that they may be followed without undue effort.

The colorimetric method, however, has its limitations; for example, the inappropriate employment of an indicator, the presence of certain "salts" or "proteins," interfering colors and the "personal" equation. Even at best it is not exact, though sufficiently accurate for many biologic estimations. Thus, the ultimate and accurate method is the electrometric. Given the proper apparatus, the electrometric method is by no means difficult, provided one has gained a proper amount of experience. The essentials of the apparatus include a hydrogen electrode, a calomel cell and a potentiometer or substitute. The discussion by Clark of the hydrogen electrode is not what a medical man desires. Plenty of theory and references to the literature are present, but there is lacking carefully worked out details. We find an evasiveness on the part of the author as if he himself was not sure as to a satisfactory procedure of deposition of platinum black. For instance: "Another essential in the preparation of a good electrode is that the deposit of black metal be not only even but of proper thickness"; what current densities are needed, the percentage of platinum in solution, the acidity and all such are not given. The treatise on the calomel cell may be subjected to the same type of criticism. The practical (not *research*) laboratory technician wants to know how to prepare a reliable calomel cell; Clark expatiates on the liability of errors, but does not get down to concrete directions. Indeed, if one takes the discussions too seriously, valuable time will be lost preparing pure reagents, although for the average worker the market products should amply meet his requirements.

As a reference compendium to the literature the book is quite complete; the arrangements show the care exercised by the author in compiling the excellent classified appendix. It is rather disappointing, however, to see the advertisements of market instruments included in the bound volume, especially when the author has some rather derogatory remarks to make about the "cheaper" types. As a pioneer contribution to American literature in this relatively new field, the book is decidedly worth while even to the modern clinician. In view of this, however, it is to be hoped that the author will undertake a serious revision of the chapters on the electrometric method so that they will be of more value to those whose training in physical chemistry is somewhat deficient.

DERMATOLOGY. The Essentials of Cutaneous Medicine. By Walter James Highman, M.D. Cloth. Price, $6. Pp. 482, with 95 illustrations. New York: Macmillan Company, 1921.

According to the preface, this work "is dedicated to the novice and to the general practitioner" and "aims to present essentials succinctly, consecutively, completely and simply, without sacrificing important detail." The book, then, should be judged by the purpose which the author has set up for himself—which is a high and difficult one. From this standpoint the work is as successful as could reasonably be expected. It is clearly written, in good English, and the arrangements of various topics are logical. The author has, however, entangled himself in a new classification which does not seem to give essential relations or clinical associations in ways that are more readily grasped than the more familiar ones. The part of the book on general dermatology—symptomatology, etiology, diagnosis, etc.—to which he gives twenty-nine pages, is too short to be satisfactory. What there is is suggestive, but in a book intended for the general practitioner and beginner certainly a clear and adequate outline of the fundamentals of dermatology is needed. One notes that there is nothing said on the pathology of skin in this introduction—and little, indeed, throughout the work; and this is noted with more regret because the author is competent to write a valuable chapter on this subject. The rest of the book is devoted to a detailed consideration of the various dermatoses. This part is well done. Occasionally the author gives an illuminating paragraph, such as his brief discussion on pages 89 and 90 of the essential telangiectases. One would wish that there were more departures like this from the ordinary textbook. The descriptions of diseases are, for the most part, good, and as complete as could be expected in the space at his disposal. Once in a while a description of a common dermatosis seems to be inadequate. From his description of pityriasis rosea, for example, one would not discover that there is a papular type of the disease. One can hardly subscribe to the itching in pityriasis rosea as often very intense, or that bromids need to be prescribed for it. Under pityriasis rosea one finds the sort of generalization that he is inclined to challenge. Highman says: "It occurs prevailingly in the spring and fall in an epidemic manner. Thus it is clearly infectious." It may be infectious, but this is not clear from the fact that it is of seasonal occurrence "in an epidemic manner." The same thing is true of freckles in summer at seaside resorts. But these are hardly fair criticisms, for it is an excessively difficult thing to write the essentials of dermatology or any other large subject. The job has not been done in a masterly manner in dermatology. One is more inclined to criticize Dr. Highman because one feels that he has the large grasp of the subject, the perspective, and the intellectual courage that would be necessary in order to do it. The make-up of the book is good, and the illustrations are excellent. The work will doubtless have success, and it deserves it, for there is no better manual of dermatology.

Medicolegal

Malpractice Not Shown in Compound Fracture Case

(Connelly v. Cone et al. (Mo.), 224 S. W. R. 1011)

The Springfield (Mo.) Court of Appeals, in affirming a judgment in favor of the defendants, three physicians, says that they were charged with malpractice in reducing and treating a compound fracture of one of the plaintiff's legs, which he, being about 55 years of age, sustained by being thrown out of a buggy. The evidence showed that he fell so that the bones of his leg protruded through the flesh, underwear, overwear and through a rubber boot, and stuck in the ground; that he had to be taken 10 or 12 miles, and it was at least two hours before treatment could be obtained; that while on the ground he and the man who assisted him into the buggy straightened out the broken leg, pulling the bone back into the flesh. There was necessarily a certain amount of dirt, trash and leaves which stuck to the bones and was pulled back into the flesh by them right after the accident, and a couple of hours before the medical aid of the defendants was received. The evidence also showed that there were several pieces of loose bone which remained in the leg. Not a single witness for the plaintiff, expert or otherwise, testified that the treatment of the injury by the defendants was done in a negligent or unskilful manner. The only ground on which it could be contended that there was any negligence shown was that the result of the injury and the treatment in and of itself showed an unskilful and negligent treatment, and the principal fact relied on in this respect was that some thirty days after the physicians had begun to treat the case, and after a serious infection had set up and pus was being emitted from the wound, a piece of leaf the size of a thumb nail came out. It was further shown that small slivers of bone came out of the wound from time to time. Something like sixty to sixty-five days after the injury the defendants told the plaintiff that his leg ought to be rebroken and set properly, but he said that he was not strong enough to stand that. The court considers that there was a failure of proof to show that the plaintiff's misfortune was added to by any negligence or unskilfulness of his physicians. To hold otherwise would base a finding on conjecture pure and simple. The trial court should have granted the defendants' demurrer to the evidence at the close of the case. An instruction to the jury which placed on the plaintiff the burden of proving that he was not guilty of contributory negligence after the physicians had set his leg and were treating it was error; but the court considers that under all of the circumstances, it was harmless error.

Liability for Injury to Employee from Influenza

(Engels Copper Mining Co. v. Industrial Accident Commission et al. (Calif.), 192 Pac. R. 845)

The Supreme Court of California, in affirming an award under the workmen's compensation act, in favor of one Rebstock, says that he was employed at the company's mine as a safety engineer. His duties in that capacity did not require him to give attention to or come into contact with sick employees of the company, at least above ground. When the epidemic of influenza prevailed in the fall of 1918, a very considerable number of the company's employees were attacked. The company attempted to care for those cases in its hospital and in temporary accommodations for that purpose. Among the places so used was Rebstock's office. The number of regular medical attendants and nurses of the company was insufficient to meet the emergency, and Rebstock practically gave up his regular duties, and for some five or six days devoted himself to caring for the influenza patients, bathing them, giving them food and medicine, attending to their wants generally, and having the closest personal contact with them. At the end of that time he himself was taken with the disease, resulting in an affection of the heart which incapacitated him for anything but light work.

The company contended that the exceptional exposure to which Rebstock was subjected, and by reason of which alone it could be claimed that he contracted his illness in the course of his employment, was incurred by him, not in the performance of the duties for which he was employed, but in the performance of services outside his duties, voluntary in nature, and not so much for the benefit of his employer as for that of the little community of which he was a part. But there was evidence in the case which would justify the commission in believing that the company's superintendent had directed Rebstock to assist in caring for the company's influenza patients. This fact at once took Rebstock's services in that respect out of the class of purely voluntary services. Although the services were exceptional, and without the usual scope of Rebstock's employment, they were within its actual scope at the immediate time, because rendered in response to the company's direction. That was sufficient to justify the award so far as that particular point was concerned.

Then the company contended that there was nothing to show that Rebstock contracted his disease by reason of the exceptional exposure to which he was subjected; that it was not at all improbable that he acquired it by reason of the general exposure to which every member of the community was subjected at the time; that it was not possible to determine with any reasonable certainty whatever which exposure was the cause of his illness, and to endeavor to do so was but guessing; and that the award of the commission could not be justified by a mere guess, but in order to be valid required for its support an affirmative showing taking the determination out of the realm of mere conjecture. But absolute certainty as to the fact that the disease was contracted because of the employment and in no other manner was not possible or necessary. All that was required was that degree of certainty on which men may reasonably act, and by which their affairs may reasonably be determined.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.

American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2-3.
American Association of Physicians, Atlantic City, May 10-11.
American Climatological and Clinical Association, Lenox, Mass., June 3-4.
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston, June 3-6.
American Society for Clinical Investigation, Atlantic City, May 9.
American Surgical Association, Toronto, Canada, June 14-16.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Arkansas Medical Society, Hot Springs, May 3-5.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
California, Medical Society of the State of, San Diego, May 10-12.
Conference of State and Provincial Health Authorities, Boston, June 3-4.
Connecticut State Medical Society, Hartford, May 18-19.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Illinois State Medical Society, Springfield, May 17-19.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Iowa State Medical Society, Des Moines, May 11-13.
Kansas Medical Society, Wichita, April 26-28.
Louisiana State Medical Society, New Orleans, April 19-21.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-28.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Mississippi State Medical Association, Laurel, May 10-11.
Missouri State Medical Association, St. Joseph, May 17-19.
National Tuberculosis Association, New York, June 13-17.
Nebraska State Medical Association, Lincoln, May 9-12.
New Hampshire Medical Society, Concord, May 25-26.
New Mexico Medical Society, Albuquerque, April 28-30.
New York, Medical Society of the State of, Brooklyn, May 3.
North Carolina, Medical Society of the State of, Pinehurst, April 26-28.
North Dakota State Medical Association, Fargo, May 26-27.
Ohio State Medical Association, Columbus, May 3-5.
Oklahoma State Medical Association, McAlester, May 17-19.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
South Dakota State Medical Association, Aberdeen, May 24-26.
Texas, State Medical Association of, Dallas, May 10-12.
West Virginia State Medical Association, Charleston, May 24-26.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Surgery, Chicago

March, 1921, 2, No. 2

*Relation of Chronic Fibrosis and Thrombophlebitis of Spleen to Conditions of Blood and of Liver. W. J. Mayo, Rochester, Minn.—p. 185.
*Studies in Exhaustion. G. W. Crile, Cleveland.—p. 196.
*Operation for Epiphysitis of Head of Femur (Perthes' Disease). D. B. Phemister, Chicago.—p. 221.
*Prognosis in Prostatectomy. J. B. Deaver and L. Herman, Philadelphia.—p. 231.
*Pelvic Abscess. L. R. Wharton, Baltimore.—p. 246.
*Gynecologic Significance of Appendicitis in Early Life. W. P. Graves. Boston.—p. 315.
*Treatment of Pes Cavus (Hollow Claw Foot). A. Steindler, Iowa City. —p. 325.
*Midline Congenital Cervical Fistula of Tracheal Origin. M. G. Seelig, St. Louis.—p. 338.
*Diverticula of Jejunum. W. I. Terry and F. R. Mugler, San Francisco. —p. 345.
Fracture Reduction and Fixation with a Specially Designed Band. A. W. Collins, San Francisco.—p. 354.

Fibrosis and Thrombophlebitis of Spleen.—Careful observation of a considerable mass of material has left Mayo with the impression that generalized splenic fibrosis and thrombophlebitis are the result of many causes, and the pathologic changes in the spleen, the liver and the blood are regularly developed without regard to the primary etiologic factors.

Studies in Exhaustion.—The first purpose of Crile's research has been to identify the organs and tissues which are affected by the various causes of exhaustion. The second purpose has been to ascertain whether or not all the known causes of exhaustion produce identical end-effects in the essential organs. The results of his study are summarized by Crile as follows: Prolonged insomnia produces histologic lesions in the central nervous system, the liver and the suprarenals. Prolonged insomnia produces no appreciable alteration in the H-ion concentration of the blood. Prolonged insomnia decreases the electric conductivity of the central nervous system—cerebrum, cerebellum and spinal cord. Sleep repairs the histologic lesions in the central nervous system and in the liver in all cells except those in which the nucleus has become disintegrated. Sleep and rest, if sufficiently prolonged increase the electric conductivity of the cells of the central nervous system to, or above, the normal. Nitrous oxid-oxygen to some extent appears to be an efficient substitute of sleep in its restorative effect on the brain cells.

Perthes' Disease.—Phemister's patient was 10 years old. The condition was of five months' duration. The pathologic picture presented at operation was that of a mild synovitis of the hip joint and an old quiescent epiphysitis of the head of the femur with extensive alterations in shape, resulting from breaking down of its center of ossification. The result of operation with curettage of the broken down focus in the head was the gradual filling out of the diseased area by new bone with the disappearance of the roentgenologic signs of active epiphysitis. This indicates the value of operative treatment of the disease. Or if nonoperative treatment is carried out, Phemister says, there should be no weight bearing for many months, because of the collapse which it produces secondary to the broken down center of ossification in the head.

Prognosis in Prostatectomy.—In a series of collected cases analyzed by Deaver and Herman the death rate following the perineal operation in 3,286 cases was 10.9 per cent. in contrast to 6.9 per cent. mortality in 4,654 cases following suprapubic prostatectomy. If the patients operated on by the more experienced men among the group, that is, if all series of 100 or more cases are eliminated from the calculation, the average mortality rate rises to between 20 and 30 per cent. The figures indicate that 69 per cent. of all deaths following prostatectomy are due either to uremia, hemorrhage, shock or sepsis. Analysis of the end results of 372 perineal prostatectomies and of 814 suprapubic prostatectomies showed that of these patients 70 and 76 per cent., respectively, are reported as being completely cured. Seventy-eight per cent. of the patients who had undergone perineal prostatectomy and 79.4 per cent. of those who had undergone suprapubic prostatectomy were alive and free from bladder symptoms, two years after operation. The authors state the physical condition of the patient is of major importance and the average result of operation is of only relative importance. However, if the patient desires statistical information, he can be assured that his chances for recovery from the operation, in company with that of fellow sufferers are more than 90 per cent. and that the probabilities of continued life and entire comfort are more than 70 per cent. The death rate steadily increases with advancing years. The duration of the disease is an important prognostic factor, as is the type of preoperative treatment, and the local complications, such as acute urinary retention, from which the patient has suffered.

Pelvic Abscess.—The clinical histories of 716 cases were reviewed by Wharton. These patients were treated by vaginal incision and drainage. In ninety-one cases, vaginal incision and drainage was attempted but pelvic abscess was not found. In some of these instances, this operation was performed merely as a diagnostic procedure. In the treatment of the 716 cases, vaginal incision and drainage was employed 871 times and 286 laparotomies were performed. The mortality in cases of pelvic abscess was 5.1 per cent. Taken as a whole, 12 per cent. of the patients with pelvic abscess treated by vaginal incision and drainage have returned either unimproved or with acute exacerbations of their old infections. Twenty-five per cent. of patients with pelvic abscess have apparently been permanently cured by vaginal incision and drainage. These patients have been relieved of all symptoms and have been in perfect health for periods of from three to twenty-five years. Twenty-two per cent. have been improved permanently, and in 56 per cent. this treatment has resulted in ultimate failure in that these patients have not been permanently relieved of their symptoms. In 87 per cent. of these cases permanent sterility has resulted.

Gynecologic Significance of Appendicitis.—Graves maintains that appendicitis in childhood and young girlhood is an affection which must be regarded not simply with reference to the diseased appendix itself but to the serious harm which it may exert on the pelvic organs, if left to work out its own destiny in a state of chronic inflammation. Early operation is, therefore, indicated in children when there is any suspicious evidence of appendicular infection. In the acute stage, the appendix should be removed immediately to forestall if possible a secondary involvement of the adnexa. If pus is present, every effort should be made to drain the pelvis, it being feasible in certain cases to drain the pouch of Douglas through the vagina. Excepting in cases of localized abscess, it is advisable to make a median line incision in order that the pelvic organs may be inspected, and that any abnormalities of position or plastic adherence may be remedied by a proper surgical procedure.

Treatment of Pes Cavus.—Among ninety patients with hollow claw foot operated on by Steindler stripping of the os calcis was done in fifty-nine cases, and stripping and osteotomy in thirty-one cases. The results were quite satisfactory as far as correction of the deformity was concerned. In the earlier operations, the results were frequently not entirely satisfactory because of the incompleteness of the surgical procedure. Later, however, when osteotomy became included more regularly in the operative plan, and arthrodesis was employed in the severe paralytic cases of cavus and calcaneocavus, the operative results of the treatment became sufficiently complete and permanent to warrant the advocacy of this method for the correction of the hollow claw foot deformity.

Congenital Cervical Fistula.—Seelig reports a case which he says seems to establish quite clearly the fact that midline congenital fistulas of the neck may be due to tracheal anomalies and that all these fistulas cannot unreservedly be grouped under the head of thyroglossal duct anomalies.

Diverticula of Jejunum.—In the case cited by Terry and Mugler, the patient complained of symptoms typical of duo-

dental ulcer. The clinical diagnosis of duodenal ulcer was confirmed by roentgenogram and later at operation. The roentgenograms showed no evidence of jejunal diverticula. At the operation, five diverticula of the jejunum were discovered below the duodenojejunal flexure, all on the concave side of the jejunum, but not between the layers of mesentery. There seemed to be a definite relation between the blood vessels and the diverticula in that the large diverticula had rather large blood vessels running over them and the smaller ones looked as if the blood vessels pierced their apexes. A search of the literature disclosed a recond of twenty-six cases of divertculum of the jejunum.

Johns Hopkins Hospital Bulletin, Baltimore

March, 1921, **32**, No. 361

*Causc of So-Called Idiopathic Hydrocephalus. W. E. Dandy, Baltimore.—p. 67.
*Rocntgenograms of Bones in Diagnosis of Syphilis in Fetus and in Young Infants. P. G. Shipley, J. W. Pearson, A. A. Weech and C. H. Greene, Baltimore.—p. 75
*Internal Migration of Ovum. G. W. Corner, Baltimore.—p. 78.
*Serious Reactions to Repeated Transfusions in Pernicious Anemia. H. M. Bowcock, Atlanta, Ga.—p. 83.
*True Solutions (Phenolsulphonephthalein) and Colloids (Trypan Blue) Injected into Mammalian Embryo. G. B. Wislocki, Baltimore.—p. 93.

Cause of Idiopathic Hydrocephalus.—The purpose of Dandy's paper is to present proof of the cause of communicating hydrocephalus, i. e., of that type of hydrocephalus in which all the ventricles are in communication with the subarachnoid space. In the course of intensive studies on the absorption of cerebrospinal fluid in hydrocephalus, it was found that in the communicating type the absorption from the subarachnoid space was greatly reduced. A reduction in the amount of the absorbing spaces which are reached by the cerebrospinal fluid was suspected as the cause and a hypothetical pathology suggested along this line of reasoning. Four cases of communicating hydrocephalus were studied at necropsy, and in each adhesions were found which obliterated the cisterne; hence it was assumed that, by preventing the cerebrospinal fluid from reaching the great absorbing spaces over the cerebral hemispheres, these adhesions had caused the hydrocephalus. That the cause of communicating hydrocephalus (the remnant of so-called idiopathic hyprocephalus) is an obstruction in the cisternae is conclusively demonstrated in three ways: (*a*) Experimentally communicating hydrocephalus can be produced by blocking the mesencephalic cisterna. (*b*) The obstruction can be demonstrated graphically in the experimental animal or at necropsy in the human by injecting a suspension of India ink into the spinal canal; the color stops abruptly at the obstruction. (*c*) In all living patients the obstruction can be shown clearly by cerebral pneumography after air has been injected into the spinal canal; the air also stops at the obstruction, and can be outlined sharply in the roentgenogram. The obstruction in the subarachnoid space is most frequently located in the mesencephalic or pontine cisterna. The obstruction may be in the large branches which carry the fluid from the cisternae chiasmatica and interpeduncularis to the cerebral sulci. Any number of these branches may be occluded. If all the main branches are obstructed, the hydrocephalus will be the same as if the occlusion were in the cisterna. If some of the branches remain unobstructed, the degree of hydrocephalus will be modified proportionately; a complete cure may even result because of the absorption which takes place in the remaining patent areas of the subarachnoid space. Adhesions, which follow meningitis and occlude the cisternae, cause the vast majority of cases of communicating hydrocephalus. They also cause many cases of obstructive hydrocephalus, by blocking the foramina of Luschka and Magendie. Adhesions give infallible proof of a preexisting meningitis. In two cases the hydrocephalus appeared to be due to a congenital failure of the cisternae or of its branches to develop. Tumors in the pons, medulla, or midbrain also produce partial or complete obstruction of the subarachnoid space and therefore cause cummunicating hydrocephalus. Pneumographic records are shown demonstrating the existence of a very early stage of communicating hydrocephalus, the cause of the hydrocephalus, the reason for its unusually tardy development, and for its spontaneous arrest.

Diagnosis of Syphilis in Fetus.—The authors have examined about 300 white fetuses ranging in age from the sixth month of intra-uterine life to nearly term with the object of securing as many variations as possible of the normal and pathologic skeletal roentgenograms. Out of the first 100 plates studied, fifteen showed advanced luetic osteochondritis, ten had signs of less marked syphilitic involvement and twenty-one showed one or more bones which presented slight variations from the normal picture and were noted as suspicious. In other words, the skeletons of 25 per cent. had marked signs of syphilis and forty-six out of the first 100 bodies examined had well marked or suspicious lesions. Practically all the bones are involved by the syphilitic process. However, syphilis of the fetus and newly born child apparently, even in advanced cases, interferes very little, if any at all, with skeletal growth.

Internal Migration of Ovum.—With the rarest exceptions, all convincing human cases of migration of the ovum are capable of explanation by the external route. No conclusive evidence, clinical or experimental, has been found to show that internal migration occurs, and thus it has remained merely a hypothetical possibility. However, internal migration is still to be regarded as occasionally possible, more especially perhaps in cases of multiple gestation.

Repeated Transfusions in Pernicious Anemia.—In certain patients suffering from pernicious anemia, who have been transfused repeatedly, Bowcock states transfusion becomes self-limited because of the inadequacy of methods for selecting suitable donors. This difficulty having once been discovered, no attempt should be made to transfuse these patients. The severe reaction is probably due to an anaphylactic manifestation, and not to hemolysis per se. Blood matching should be carried out with the greatest care; whenever possible, the incubation period should be at least two hours, or longer. Blood serum free from cellular elements may produce bone marrow stimulation.

Absorption of True Solutions and Colloids from Peritoneal Cavity.—Experimental observations of Wislocki show that phenolsulphonephthalein which represents an easily diffusible, nontoxic dye, is absorbed from the peritoneal cavity of the fetus. It passes slowly from the fetal blood stream through the placenta into the maternal blood stream and is excreted the maternal kidneys. It is also excreted by the fetal kidneys, since it is found in the fetal urine. This observation demonstrates that the fetal kidneys are capable of excretion, but sheds no light on the extent to which they act as a pathway of excretion before birth. No difference was noted between the cat and the guinea-pig as to the time of transmission of the dye by the placenta, but a marked difference in the time required was observed in individuals of the same species. Trypan blue, a less diffusible, nontoxic colloidal dye, is also absorbed from the peritoneal cavity of the fetus. It is not excreted in the maternal urine, and microscopic examination shows that it is not transmitted by the placenta to the maternal organism. It is excreted by the fetal kidneys. The observations with trypan blue show that the placenta is incapable of transmitting an inert foreign colloid from fetus to mother, and hence it is probable that the placenta does not transmit the colloidal products of fetal excretion unless they are first converted into simpler, readily diffusible, substances. The fetus becomes vitally stained after injections of trypan blue into the fetal peritoneal cavity. The dye is stored in the endothelial cells of the liver, and also accumulates in the ephithelial cells of the renal convoluted tubules. The dye is absorbed by clasmatocytes which occur throughout the fetus and in the placenta and fetal membranes.

Journal of Experimental Medicine, Baltimore

March 1, 1921, **33**, No. 3

*Effect of Cellular Reaction Induced by Roentgen Rays on Cancer Grafts. J. B. Murphy, R. G. Husscy, W. Nakahara and E. Sturm, New York.—p. 299.
*Effect of Induced Cellular Reaction on Fate of Cancer Grafts. IV. Studies on Lymphoid Activity. J. B. Murphy, R. G. Hussey, E. Sturm and W. Nakahara, New York.—p. 315.
Lymphocyte in Natural and Induced Resistance to Transplanted Cancer. VI. Histologic Comparison of Lymphoid Tissue of Naturally Immune and Susceptible Mice. W. Nakahara and J. B. Murphy, New York. —p. 327.

*General Leukocytic Response of Guinea-Pig During Reaction of Artificial Immunity in Experimental Tuberculous Infection. R. G. Hussey, New York.—p. 337.
Giant Cells in Cultures from Human Lymph Nodes. W. H. Lewis and L. T. Webster, Baltimore.—p. 349.
*Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. II. Filterability and Resistance to Glycerol. P. K. Olitsky and F. L. Gates, New York.—p. 361.
Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. III. Studies of Concurrent Infections. P. K. Olitsky and F. L. Gates, New York.—p. 373.
*Studies on Measles. I. Susceptibility of Monkeys to Virus of Measles. F. G. Blake and J. D. Trask, Jr., New York.—p. 385.
*Studies on Measles. II. Symptomatology and Pathology in Monkeys Experimentally Infected. F. G. Blake and J. D. Trask, Jr., New York.—p. 413.

Effect of Cellular Reaction Induced by Roentgen Rays on Cancer Grafts.—Small areas of the skin in the groin of mice were subjected to an erythema dose of roentgen rays and a week later a cancer graft was inoculated intracutaneously into the area and at the same time a like graft was inoculated in the same manner in the opposite groin protected from roentgen rays. The graft in the roentgenized area showed a low percentage of takes, while that in the normal skin gave the usual high percentage. When the graft was introduced into the subcutaneous tissues it grew equally as well in the roentgenized area as in the protected area. Histologic examination shows the skin layers, a few days after roentgen-ray treatment, to be markedly infiltrated with round cells of the lymphoid type. The reaction did not extend deeper than the skin layers. It is suggested that this local lymphoid reaction induced by the roentgen rays controls the graft made into the skin, while its absence in deeper tissues accounts for the growth of the grafts more deeply implanted.

Mice sensitized by an injection of 0.2 c.c. rat blood and ten days later inoculated with a mixture of rat blood and a transplantable mouse cancer showed a high degree of immunity to the cancer growth, while mice sensitized in the same manner and inoculated with cancer graft with no rat blood showed no immunity. Likewise, nonsensitized mice inoculated with a mixture of rat blood and cancer cells showed no immunity. Mice sensitized to rat blood and then given a series of doses of roentgen rays between the time of this injection and the inoculation of the cancer-rat blood mixture showed a suppression of the factors affording protection or immunity, since the cancers grew as well in these animals as in the controls. Mice were sensitized with rat blood and ten days later inoculated with a cancer-rat blood mixture. Twenty hours after the inoculation when the cellular exudation was at its height, the cells were destroyed by a local dose of roentgen rays. The degree of immunity was reduced and the cancers grew almost as well as in the controls.

Leukocytic Response During Reaction of Artificial Immunity in Tuberculosis.—Guinea-pigs have been rendered relatively immune against infection with virulent tubecle bacilli by preliminary inoculation with a suitable quantity of avirulent tubercle bacilli. Blood counts on these animals show that associated with the immune reaction there is a definite general leukocytic response characterized by an absolute increase in the total count, with an absolute and relative increase in the lymphocytes. The period of greatest activity coincides with that known to be the period of greatest reaction, based on anatomic evidence during the course of infection following this method of immunization. Moreover, blood counts made on animals inoculated with avirulent tubercle bacilli alone show an increase in the circulating lymphocytes during the period of greatest reaction to the infection, while blood counts on guinea-pigs inoculated with virulent bacilli alone show an erratic course in which the polymorphonuclear forms are much increased, though not regularly so.

Infectivity of Nasopharyngeal Secretions in Influenza.—An active transmissible agent present in the nasopharynx in early cases of influenza has been found to produce definite and characteristic clinical reactions and pathologic effects in rabbits as already described in an earlier publication. The experiments reported by Olitsky and Gates in this paper indicate that this active agent, as it exists in the nasopharyngeal secretions in man, and in the lungs of rabbits injected with the human secretions, passes through Berkefeld V and N candles. The filtered material produces the same effects on the circulating blood and on the lungs of rabbits as the unfiltered material. The peculiar effects described as arising in the inoculated rabbit may also be induced in guinea-pigs inoculated with the agent. The agent responsible for the reaction on the blood and the lungs of rabbits withstands the action of glycerol in a sterile 50 per cent. solution, for periods up to nine months. In two experiments, after ten and a half months contact, the agent induced no observable changes in the blood and lungs of rabbits.

Experimental Measles.—The symptomatology of the reaction induced in monkeys by inoculation with material containing the virus of measles is described by Blake and Trask. The symptoms and course of this reaction closely parallel those of human measles. The microscopic pathology of the lesions of the skin and buccal mucous membrane of monkeys experimentally infected with the virus of measles is also described. These lesions are essentially identical with the corresponding lesions of measles in man.

Journal of Immunology, Baltimore

March, 1921, **6**, No. 2

Antibody Studies. I. Reversal of Antigen-Antibody Reaction. F. M. Huntoon.—p. 117.
Id. II. The Recovery of Antibody from Sensitized Antigen Technic. F. M. Huntoon and S. Etric.—p. 123.
*III. Chemical Nature of Antibody. F. M. Huntoon, P. Masucci and E. Hannum.—p. 185.

Chemical Nature of Antibody.—Present knowledge as to the chemical nature of antibody is summarized by Huntoon et al. as follows: The antibody molecules are of large size, not being dialysable, indicating the colloidal nature of the substance. Antibodies are not affected by trypsin over considerable periods indicating either that they are not protein in nature, or have been racemized by the dilute alkali used, or belong to the peptide group having a carboxyl-amino linkage. Antibodies are not precipitated by solutions containing little or no electrolyte content, indicating that they are not of a euglobulin nature. Antibodies are not soluble in ether, therefore are not of the lipin group. Antibodies free from any gross amount of globulins are not precipitated or affected by a short exposure to 30 per cent. sodium chlorid solution, indicating that they are not of a pseudoglobulin nature. Antibodies are not injured by certain dilute alkalis or acids. Antibodies are not affected by temperature up to 60 C. Higher temperatures progressively destroy or alter their nature. Therefore, antibodies do not belong to that group of proteins usually considered under the head of serum proteins.

Kentucky Medical Journal, Bowling Green

March, 1921, **19**, No. 3

Syphilis and Central Nervous System. IV. Spirochetes and Neurosyphilis. C. Pope, Louisville.—p. 81.
Epidermophyton Infection. H. H. Koehler, Louisville.—p. 84.
Late Postoperative Obstruction Enterostomy Under Local Anesthesia. W. I. Hume, Louisville.—p. 86.
Economic Problems in Medicine. W. L. Mosby, Bardwell.—p. 88.
Epidemic Encephalitis. T. F. Hale, Louisville.—p. 89.
Syphilis of Central Nervous System; Report of Cases. G. H. Day, Louisville.—p. 95.
Report of Pendleton County Health Board. H. C. Clark, Falmouth.—p. 100.
Pellagra, with Report of Cases. H. G. Stambaugh, Walfpt.—p. 101.
Doctor of To-Day. W. R. Burr, Auburn.—p. 105.
Schick Reaction. W. Z. Jackson, Bardwell.—p. 108.
Fibroma of Nasopharynx. G. C. Hall, Louisville.—p. 110.
Prolapse of Cord Complicating Labor; Report of Two Cases. J. W. Fitch, Louisville.—p. 113.
Cancer of Cervix. G. W. Payne, Bardwell.—p. 114.
Case of Fractured Hip in Patient Aged one Hundred and Six Years. R. T. Pirtle, Louisville.—p. 115.
Recognition and Treatment of Premonitory Signs and Symptoms of Prostatic Hypertrophy. O. Grant, Louisville.—p. 117.
Résumé of Nasal Accessory Sinuses and Their Importance. A. L. Bass, Louisville.—p. 120.
Kidney Cyst and Ectopic Gestation; Case Reports. J. B. Lukins, Louisville.—p. 123.
Malignant Disease of Superior Maxillary Bone. S. G. Dabney, Louisville.—p. 125.
Tubercular Disease of Hip Joint; Appeal for Earlier Diagnosis and Treatment. J. D. Trawick, Louisville.—p. 127.
Unusual Foreign Body (Medicated Bougie) in Urinary Bladder. H. J. Farbach, Louisville.—p. 130.
Tabes Dorsalis in Female Aged Twenty-Nine. S. W. Bates, Louisville.—p. 131.
Surgical Advance. W. E. Senour, Bellevue.—p. 131.
Fallacy of Single Urinary Analysis. J. R. Morrison, Louisville.—p. 135.

Maine Medical Association Journal, Portland

March, 1921, **11**, No. 8

Public Health Accomplishments and Needs in Maine. L. D. Bristol, Augusta.—p. 243.

Medical Record, New York

April 2, 1921, **99**, No. 14

Advantage of Mental Therapy in Organic Nervous Disorders. L. P. Clark, New York.—p. 551.
Gallstones. M. Einhorn, New York.—p. 556.
*Two Classifications of Bright's Disease. R. Floyd, New York.—p. 558.
*Temperature Control as Related to Improvement in Milk, Cream and Butter Supplies, and How it Should be Applied. J. M. W. Kitchen, East Orange, N. J.—p. 565.
Malformations of Anus. C. J. Drueck, Chicago.—p. 569.
Concept of Roentgen-Ray Pathology. Dislocations. A. J. Pacini, Washington.—p. 570.

Classification of Bright's Disease.—Delafield's classification of kidney diseases made in 1882 and 1903 is compared by Floyd with that of Volhard and Fahr made in 1914. Both classifications constitute a determined attempt to interpret renal symptoms in terms of renal lesions. Both differentiate between the degenerative changes in the tubular epithelium and inflammation of the organs as a whole. Both consider the ubiquitous division of kidney cases into parenchymatous and interstitial as useless, invalid and misleading. Both Delafield and Fahr describe almost precisely the same microscopic lesions of glomeruli, tubes, stroma and blood vessels, although their comprehensions of the pathogenesis and clinical significance of the varying combinations of these individual lesions differ, at times widely. Volhard and Fahr have the advantage of more various and refined histological methods and of all the recent methods of studying renal function, hypertension, etc.

Temperature Control as Related to Improvement in Milk, Cream and Butter.—There is not a package of milk or cream or a pound of butter sold today, Kitchen claims, that is as good as it should be, or as good as it can easily be made, because: (1) of the uncertainty that exists in regard to the character of all such products as to infections and toxic contaminations; (2) of the certainty that all such products are more or less contaminated with putrefactive products, and (3) none of these products is of the highest attainable gustatory excellence. Furthermore, none of these products is sold at as low a price as that for which they should be sold. The reason for the existence of this state of affairs is, more than anything else, due to a lack of applying specifically corrective and preventive temperature influences practically continuously between the times of the drawing of the milk, and the consumption of the milk, or the cream and butter derived from the milk. This defect is unquestionably due to ignorance as to the real existing condition and as to how to meet and overcome that condition. One basic reason why such foods are not sold at lower prices, Kitchen says, is owing to the fact of the reprehensible activities of the several cattle breeding associations, breeders, experimental stations, the trade press, and dairy farmers, in unwarrantably holding the idea that an unreasonably large amount of milk production in the cow is a virtue. The world does not need more milk; it needs a lesser amount of milk, but milk of better quality. Galactorrhea in the cow is a disease, as well as in the human female, that results in a decrease of constitutional strength, depleted breeding ability, increased tendency to mammary and other troubles, and sensitivity to the invasion of bovine tuberculosis and other troubles. To counteract even partly such tendencies in high power cows, they must be met by an increased uneconomic feeding of easily digested, high priced grain concentrates and other foods, if the tendencies are to be counteracted and constitutional strength maintained in the cow.

New York State Journal of Medicine, New York

March, 1921, **21**, No. 3

Type of Cystic Kidney Amenable to Surgical Intervention. F. J. Parmenter, Buffalo.—p. 73.
Symptomatology of Perforated Duodenal Ulcer. R. S. MacDonald, Plattsburg.—p. 79.
Abdominal Incision. C. W. Hennington, Rochester.—p. 81.
Course of Tubercle Bacillus from Sputum to Child. A. K. Krause, Baltimore.—p. 83.
Endoscopy, as Diagnostic Aid in Diseases of Upper Air Passages and Esophagus. C. J. Imperatori, New York.—p. 86.
Advantages of Evisceration Over Enucleation. W. B. Weidler, New York.—p. 90.
Practice of Psycho-analysis. C. P. Oberndorf, New York.—p. 95.
Spinal Concussion; Report of Case. L. Casamajor, New York.—p. 99.

Philippine Journal of Science, Manila

November, 1920, **17**, No. 5

Studies on Philippine Rubiaceae, IV. E. D. Merrill.—p. 425.
Low Sun Phenomena in Luzon. II. Zenith Observations of Dawn, Baguio, 1920. W. J. Fisher.—p. 487.
Philippine Termites Collected by R. C. McGregor, with Descriptions of One New Genus and Nine New Species. M. Osima.—p. 489.
Occurrence in Philippine Islands of Fresh Water Amphipod Paracalliope Fluviatilis (G. M. Thomson). C. Chilton.—p. 513.
Niphargus Philippensis, A New Species of Amphipod from Underground Waters of Philippine Islands. C. Chilton.—p. 515.

Rhode Island Medical Journal, Providence

March, 1921, **4**, No. 3

Radical Treatment of Trifacial Neuralgia. F. E. McEvoy, Providence.—p. 37.
Fads in Medicine. F. B. Smith, Washington, R. I.—p. 39.
Cycloplegia in Refraction. F. J. McCabe, Providence.—p. 43.

Southern Medical Journal, Birmingham, Ala.

March, 1921, **14**, No. 3

Significance of Vertigo. D. Vanderhoof, Richmond, Va.—p. 181.
Whys and Wherefores of Unreliable Wassermann Reports. W. Krauss, Memphis, Tenn.—p. 186.
Chronic Appendictis. E. H. Gaither, Baltimore.—p. 190.
Causes and Management of Athrepsia. W. Weston, Columbia, S. C.—p. 199.
Factors Involved in Medical Inspection of School Children. P. G. Pope, Grenada, Miss.—p. 205.
Head Injuries. L. E. Burch, Nashville, Tenn.—p. 211.
*Effect of Surgical Operations on Blood Pressure. A. McGlannan, Baltimore.—p. 214.
Seminal Vesiculitis: Symptoms, Differential Diagnosis, Treatment and Bacteriological Studies in 1,000 Cases. E. W. White, Chicago, and R. B. H. Gradwohl, St. Louis and Chicago.—p. 223.
Static Conditions of Lower Extremities as Influenced by Circulatory Disturbances. T. M. Foley, Washington, D. C.—p. 232.
Relation of Eye and Certain Skin Diseases. W. T. Davis, Washington, D. C.—p. 237.
Diagnosis of Headaches of Nasal Origin. W. D. Black, St. Louis.—p. 241.

Effect of Surgical Operations on Blood Pressure.—A study of the blood pressure records of 1,000 surgical patients showed that the factors required for the production of shock are present in practically all patients undergoing operation under general anesthesia. Trauma, previous devitalization by infection or some other disturbance of nutrition, the effect of ether and chloroform on the chromaffin glands, have all been proved to change the blood pressure as it is changed in shock. With a shocked patient, when the vascular tone is greatly diminished, a sudden change of position can easily add to the severity of the symptoms and may become the determining factor between recovery and death. For this reason such patients should be treated in the operating room, on the table, until a rally occurs. When the patient has a good heart and sound vessels, careful hemostasis, gentle manipulation, nerve blocking and the use of nitrous oxid anesthesia make it possible to perform an operation of long duration without shock. Few experiences in surgery are more dramatic than direct transfusion. Seldom is the immediate effect of a remedy more definitely shown. The ultimate value of transfusion, except after hemorrhage, may be debated, but the immediate result is unquestionably brilliant.

Surgery, Gynecology and Obstetrics, Chicago

March, 1921, **32**, No. 3

*Methods to Secure End-to-End Suture of Peripheral Nerves. H. C. Naffziger, San Francisco.—p. 193.
*Chemical Influence of Active Constituents of Ductless Glands. E. C. Kendall, Rochester, Minn.—p. 205.
*Thyroid and Its Diseases. C. H. Mayo, Rochester, Minn.—p. 209.
Protection of Patient in Surgery of Thyroid. G. W. Crile, Cleveland.—p. 213.
*Tumors of Kidney. A. Hyman, New York.—p. 216.
Young-Stone Operation for Urethrorectal Fistula. Report of Three Cases. E. G. Davis, Omaha.—p. 225.
*Surgical Treatment of Suppuration in Posterior Mediastinum. W. Lerche, St. Paul.—p. 232.
Differentiation of Saphenous Varix from Femoral Hernia. D. W. Stetten, New York.—p. 235.
*Reconstruction of Hand: A New Technic in Tenoplasty. R. T. Taylor, Baltimore.—p. 237.

Chronic Endocervicitis. H. B. Matthews, Brooklyn.—p. 249.
*Epicondylitis Humeri. L. Carp, New York.—p. 257.
*Abscess of Prostate. H. L. Kretschmer, Chicago.—p. 259.
Pregnancy with Death of Fetus and Failure of Efforts at Spontaneous Delivery, Resulting in Macerated Fetus and Perforation of Abdominal Wall; Operative Removal; Recovery. F. R. Crawford, Kashing, China.—p. 269.
*Simple Incision for Operations on Gasserian Ganglion. F. E. McEvoy, Rochester.—p. 271.
*Pin Method for Approximation of Fragments in Fractured Patella. Hertzler, Halstead, Kan.—p. 273.
Sling Suspension Method of Exercise in Infantile Paralysis. F. J. Gaenslen, Milwaukee.—p. 274.
*Plaster Rope Cast. Efficient Splint for Infected Fractures of Leg. A. E. Gordin, Jackson, Miss.—p. 276.

Suture of Peripheral Nerves.—Naffziger discusses this subject in all its phases. He believes that free nerve grafting from the same individual is the most rational method of filling unbridgeable gaps but that resort to it should be made only after all methods of obtaining end-to-end suture have proved ineffectual. Of the method found most useful in obtaining apposition of the divided nerve ends are: (1) free mobilization of the proximal and distal portions of the nerve; (2) transposition of the nerve to a shorter route than the normal one; (3) favorable posture of the extremity to shorten the distance to be overcome, and (4) gradual lengthening of the nerve by a two-stage operation.

Chemical Influence of Ductless Gland Constituents.—In the study of the ductless glands, Kendall says, clinician is guided by the end results of physiologic processes. He is compelled to study these processes indirectly. However, these physiologic processes are carried on by definite chemical substances, and when the chemist deals with these compounds he is working in an exact science. The slightest deviation from the necessary chemical structure destroys the value of the substance. It is a case in which "something just as good" will not do. In the cooperation between the chemist and the clinician what will be the greatest aid to the clinician is the isolation of each of the active constituents of all the ductless glands with the determination of their exact chemical influence on the animal organism.

Thyroid Disease.—In the Mayo Clinic during 1919, 1,707 of 2,205 operations on the thyroid were performed with ether anesthesia, 135 with procain and 363 by combined methods. The old vicious circle of late operation and high mortality and the high mortality conducing to a late operation has been largely overcome. More and more patients with hyperthyroidism are seen early; and the natural risks are thereby greatly reduced. Now only about 20 per cent. of these patients come in the late stages. The consequent reduction in mortality is not wholly due to the surgeon's increased ability and technic, but partially to the general advance of professional knowledge and to the diagnostician's cooperation.

Tumors of Kidney.—Of forty cases of renal tumor which came to operation, twenty-eight were hypernephromas. The three cardinal symptoms of renal tumor presented in this series were: (1) hematuria, the most frequent initial symptom, and present in over 90 per cent. of cases some time during the course of the disease; (2) pain as an initial symptom was noted in 30 per cent. and was present in more than 40 per cent. at one time or another, and (3) a tumor was palpated in 85 per cent. of the cases. A number of patients complained of all three symptoms, and in more than 85 per cent. two of the classical symptoms were present. Of the twenty-eight patients operated on in this series, there were twenty nephrectomies with one death, a mortality of 5 per cent. This patient died with uremia manifestations ten days after operation. At postmortem, it was found that the growth extended from one renal vein into the vein of the opposite kidney. Among the eight exploratory operations, one patient died six days after from general weakness. This operation was performed under local anesthesia, and an inoperable tumor found. Nine deaths occurred within the first year from recurrence or metastases and five in the second year. The percentage of cures over three and one-half year period is 33.3. Three patients who have already survived nephrectomy three and one-half years had well advanced processes. One patient is alive seven and one-half years after nephrectomy.

Treatment of Suppuration in Posterior Mediastinum.—In Lerche's case the suppuration originated in the neck and extended into the mediastinum. It was treated by drainage of the posterior mediastinum by the cervical route. An incision was made along the anterior border of the sternocleidomastoid muscle to the sternal notch. When the right lobe of the thyroid was retracted toward the mid-line, a large abscess cavity was disclosed behind it, between the esophagus and the trachea on the inner side and the sternocleidomastoid muscle and the large vessels on the outer side. The abscess could be followed into the superior and posterior mediastinum for from 9 to 10 cm. below the top of the sternum. A rubber drainage tube was left in the mediastinum, the rest of the abscess cavity packed with iodoform gauze. Later a soft rubber bulb was attached to the drainage tube, which the patient now and then adjusted for suction. The wound healed in seven weeks. The patient recovered and is alive today, thirteen and a half years following the operation.

Reconstruction of Hand.—Taylor describes a tendon folding clamp which he devised and which makes it possible to obtain a more perfect application of the fine silk approximation of stay sutures leaving a minimum of silk exposed to prevent the production of possible traumatic adhesion from the silk. Taylor describes his technic in detail.

Epicondylitis Humeri.—This condition is found in individuals engaged in heavy manual work, characterized by pain in the elbow region and functional impairment to a greater or lesser degree, together with persistent tenderness limited to the epicondyle of the humerus. Immobilization seems to be the best treatment. Its course seems to be self-limited and may be rather protracted, notwithstanding additional therapy.

Abscess of Prostate.—Of forty-three cases of abscess of the prostate reported by Kretschmer, thirty gave a positive history of gonorrheal infection, either recent or remote. Examination of the discharge showed the presence of the gonococcus in sixteen cases. In eighteen cases gonococci were found in the pus obtained from the abscess. Kretschmer emphasizes that abscess of the prostate occurs more frequently than is generally recognized. Early surgical intervention—namely, incision and drainage—is a rational method of handling these cases and does not differ from the surgical treatment of abscess occurring in other organs. The results are good.

Incision for Gasserian Ganglion Operation.—The incision used in the Mayo Clinic is simple and can be made and closed rapidly; it precludes the possibility of injury to the temporal branch of the facial nerve; it is entirely within the hair-line and leaves no visible scar, and it prevents the swelling so prone to occur about the orbit in flap incisions. The incision begins at the lower border of the zygoma, 1 cm. in front of the ear, and extends 8 cm. backward and upward in the direction of the fibers of the temporal muscle. The incision is extended through the skin, fascia and muscle, but in addition the temporal fascia is divided parallel with the zygoma for a distance of 0.5 centimeter in each direction from the oblique incision, thus affording greater exposure of the lower angle. A self-retaining retractor is used to expose the bone for decompression with removal of bone down to the floor of the middle fossa.

Pin Method for Approximating Patella Fragments.—Strong pins are passed through the tendons as close as possible to the patella. The pins are then approximated by means of bandages or adhesive strips. This brings the broken fragments in close approximation. The advantage of this method is that the bones can be certainly approximated without entering the knee-joint.

Plaster Rope Cast.—The rope cast is made of six-inch plaster bandages. A bandage is folded on itself several times, and is then folded lengthwise three times, so as to make a flattened plaster rope from ten to fifteen layers thick. These ropes are thus made strong enough to stand a considerable strain. Gordin usually molds one rope to the anterior surface of leg and one to the posterior surface, and at various intervals where there are no raw surfaces or discharging wounds, he winds plaster ropes around the leg. Usually about four ropes around the leg will hold it very firmly. Almost any modification can be made to suit individual cases.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

March 19, 1921, No. 3142

Some Recent Advances in Physiology of Respiration, Renal Secretion, and Circulation. J. S. Haldane.—p. 409.
Physiologic Principles in Midwifery Practice. J. S. Fairbairn.—p. 413.
Treatment of Syphilis. H. MacCormac.—p. 415.
Suprapubic Drainage of Bladder: De Pezzer Tube. G. S. Mothersill and C. Morson.—p. 418.
*Antimony in Leprosy. F. G. Cawston.—p. 419.
*Acute Retention of Urine Complicated by Perforation of Duodenal Ulcer. G. A. Ewart.—p. 420.
Calcium in Treatment of Pulmonary Tuberculosis. E. E. Prest.—p. 420.
Cerebrospinal Fluid in Encephalitis Lethargica R. H. Hodges.—p. 421.
Transverse Cervical Laceration. S. Caplan.—p. 421.

Antimony in Leprosy.—The beneficial effects of various preparations of antimony in the treatment of lepers Cawston states show that they are not confined to the colloidal preparations of the drug. Some leper patients have been treated with intravenous injections of a 2 per cent. solution of tartar emetic, while others have received the antimony in the form of antimonial wine in a cough mixture. To the usual expectorant mixture containing squills was added wine of antimony, from 15 to 20 minims t.d.s. The use of antimony appears to be particularly indicated in "chest" cases. Some cases of leprosy seem to have benefited much under treatment with antimony given in the form of tartar emetic in from 2 to 5 c.c. doses of a 2 per cent. solution twice a week.

Strain Causes Rupture of Duodenal Ulcer.—In the case cited by Ewart strain was the actual cause of rupture of a duodenal ulcer. When violently straining to urinate, the patient was seized with an agonizing pain in the upper abdomen which felt as if "something had given way." The abdomen became distended, universally rigid and tender, the liver dulness being absent. Palpation of the bladder was impossible owing to the rigidity of the overlying muscles, but on percussion it was estimated that it reached fully an inch above the umbilicus. On opening the abdomen, free gas and a fair amount of turbid fluid was discovered, the intestines were injected, and the bladder was seen to reach above the umbilicus. The stomach and intestines generally were greatly distended and the latter loaded with fecal matter. On further investigation, gas and fluid were found welling up from the region of the second part of the duodenum, where an indurated perforated ulcer could be felt. The condition of the patient was so bad, that it was deemed inadvisable to make any prolonged attempt at closing the perforation. A large drainage tube was passed to the seat of perforation, and another into Douglas' pouch, and after a brief attempt to cleanse the peritoneum, the abdominal cavity was closed. A suprapubic incision was next made and the bladder opened. A drainage tube was introduced and fixed in the bladder by means of a soft catgut stitch, and the suprapubic wound was partially closed. The condition of the patient improved slowly. The upper incision healed without the formation of a duodenal fistula. The patient had an uninterrupted convalescence.

March 26, 1921, **1**, No. 3143

Importance of Infinitely Little. W. D. Halliburton.—p. 449.
Glandular Fever. H. L. Tidy and E. B. Morley.—p. 452.
Ununited Fractures. G. W. Beresford.—p. 456.
Treatment of Hemorrhoids by Electrolysis. J. C. Webb.—p. 457.
*Tuberculin in Epilepsy. J. Crocket.—p. 458.
Supremic Glycosuria. T. E. Mitchell.—p. 459.
Normal Delivery After Traumatic Rupture of Uterus. R. T. Thorne.—p. 459.

Tuberculin in Epilepsy.—Some textbooks on the subject of tuberculin mention epilepsy as a contraindication to its administration. Crocket's experience shows that, so far from that being so, it is a decided indication for its use, especially under two circumstances: (1) the presence of a tuberculous lesion, active or quiescent; (2) a family history of tuberculosis. Six and a half years ago he began to give tuberculin to a patient 32 years of age, who had suffered from epilepsy of the major type since the age of 7, and who had a large mass of tuberculous glands below the right ear with several discharging sinuses. In the course of a year and a half the glands disappeared entirely and the pleurisy cleared up. Pari passu with the disappearance of the tuberculous lesions, the epileptic fits became fewer, and after two and a half years ceased entirely, and the patient likewise improved mentally. For four years this patient has been free both from tuberculosis and from epilepsy. Encouraged with the results of treatment in this case, about eighteen months ago he began to administer tuberculin to several other epileptics who had no clinically obvious or apparent tuberculosis, but gave a family history of tuberculosis. One of these has responded excellently. Tuberculin was first given to him in November, 1919. For nearly fourteen months he has had no signs of epilepsy, and mentally he has also improved. The records of this case show that previously the patient was pugnacious and irresponsible, but during the past year he has been well behaved, and fairly industrious. Five others to whom tuberculin has been given for six to twelve months, show a diminution in the number and in the severity of their seizures. Three show no change. We have begun to give tuberculin to a hundred epileptic. The tuberculin used was Burroughs, Wellcome and Co.'s B. E. and P. B. E., mixed in equal parts, and it was given in doses beginning at 0.00000001 c.c., gradually increased to 0.4 c.c. The injections were given at intervals of seven days to begin with, and later of fourteen days. The treatment has gone on without any intermission. General reactions have been avoided, but once or twice local reactions of a rather severe type occurred when large doses of bacillary emulsion were given. On two occasions cold abscesses formed, which had to be aspirated.

China Medical Journal, Shanghai

January, 1921

Health of Missionary Families in China. Wm. G. Lennox, Peking, China.—p. 9.

Dublin Journal of Medical Science

March, 1921, **4**, No. 13

Carcinoma of Liver. J. Moore.—p. 97.
Nasal Catarrh. T. O. Graham.—p. 102.
*Case of Sporotrichosis. W. Beatty.—p. 116.
Stone in Female Bladder. F. J. Dunne.—p. 118.

Sporotrichosis.—A boy, aged 12, fell and hurt the palmar aspect of the right hand near the wrist; suppuration followed, and later the skin of the affected part of the hand became dry and rough. Some months after this lesion occurred, a small circular abscess developed on the extensor aspect of the right forearm and two minute elevations, pea sized, at the inner surface of the right arm. The boy had also ringworm of the scalp. From the pus pressed out of the abscess, Beatty succeeded in obtaining a pure growth of sporothrix.

Glasgow Medical Journal

March, 1921, **95**, No. 13

Psychology of Vision. A. F. Fergus.—p. 161.
1840 Versus 1920. W. R. Jack.—p. 179.
Appetite Juice. E. P. Cathcart.—p. 194.

Indian Medical Gazette, Calcutta

February, 1921, **56**, No. 2

Effect of Control and Rationing of Rice on Beri-Beri. A. J. McClosky.—p. 41.
Use of Clamps in Restraining Hemorrhage During Operation for Elephantiasis of Scrotum. J. W. Porter.—p. 41.
Methods of Securing Dressings to Operation Wounds. J. W. Porter.—p. 42.
Infant Mortality in Khulna District. S. L. Sarkar.—p. 43.
Suggestion to Increase Utility of Medical College Journals. P. S. Gupte.—p. 47.
Barbaric Method of Circumcision Among Some Arab Tribes of Yemen. Y. V. Chabukswar.—p. 48.
*Use of Tincture Iodin Intravenously. S. R. Bhattacharjee.—p. 49.
Recent Outbreak of Influenza. H. R. Dutton.—p. 56.
Case of Malignant Malaria of an Unusual Type. R. K. Basu.—p. 56.
Case of Myiasis of Frontal and Ethmoidal Sinuses and Orbit. R. E. Wright and W. S. Patton.—p. 58.
Case of Venereal Papilloma. A. Visuvalingam.—p. 59.

Tincture Iodin Intravenously in Septic Conditions.—Good results have been obtained by Bhattacharjee in various septic conditions with intravenous injections of tincture of iodin. The effect of the drug, administered as above, has so far been observed in eighteen different cases, viz., three of mauling by

leopards, one of cellulitis, ten of syphilis, and four of malaria. From 3 to 8 minims, in water, have been injected, the dose being repeated as often as was necessary.

Journal of Neurology and Psychopathology, Bristol

February, 1921, **1**, No. 4

Hydrocephalus Complicating Cerebrospinal Fever, and Its Treatment. C. Worster-Drought.—p. 309.
Case of Melancholia. A. Carver.—p. 320.
Intelligence Tests. W. Johnson.—p. 325.
Localization of Function in Central Nervous System. C. P. Symonds.—p. 329.

Journal of State Medicine, London

March, 1921, **29**, No. 3

Standardization in Bacteriology. J. G. Adami.—p. 65.
*Detoxicated Vaccines. D. Thomson.—p. 74.
Bacteriology of Cerebrospinal Fever. M. H. Gordon.—p. 83.
Intestinal Disinfection. J. T. A. Walker.—p. 89.

Detoxicated Vaccine.—The detoxicated vaccines which Thomson has prepared contain not only the metaprotein but also the proteoses and acid soluble parts of the germs as well as the alcohol soluble lipoid or waxy substance. They contain practically every constituent except the endotoxic material which is removed with the supernatant alcohol after precipitation of the proteoses. These vaccines Thomson claims are better than the original type which consisted of the alkali soluble metaprotein only. They are even less toxic and very satisfactory and beneficial results have been obtained by their use in quite a variety of diseases, including gonorrhea, rheumatism, coryza, influenza, acne, otitis media, etc. Doses equal to 30,000 million gonococci have been given without any marked reaction, and in some cases 20,000 million mixed coryza organisms can be administered with little inconvenience. Thomson has noted that subcutaneous injections of the proteose constituent of the gonococcus have a marked provocative effect on the gonorrheal discharge for the first twenty-four or forty hours following the injection, in fact, this fraction of the germ has proved to be very valuable as a provocative test of cure. Subsequent injections of the proteose produce a diminishing provocative result showing that immunity toward the proteose is gradually established. The detoxicated tubercle bacillus vaccine, containing the alkali, acid, alcohol and choroform soluble constituents appears to be less toxic and less dangerous in its effects than the so-called tuberculins.

Lancet, London

March 19, 1921, **1**, No. 5090

Subphrenic Abscess. C. H. Fagge.—p. 571.
*Quasicontinuous Temperature Record. G. Woodhead and P. C. Varrier-Jones.—p. 573.
*Heliotherapy in the High Alps. A. Rollier.—p. 582.
Chemical Estimation of Gastric Function by Test Meals of Ewald and Boas.—p. 586.

Quasicontinuous Temperature Record.—Woodhead and Jones maintain that the quasicontinuous temperature record of a reaction is a valuable diagnostic indication as to (1) the tuberculous nature of the disease; (2) the activity of the process; and (3) the prognosis. As to the type of the disease, however, "acute miliary," "caseous pneumonia," "chronic fibroid," etc., though, the temperature may give some indication, the physician will find that physical signs afford considerably more specific information. The temperature indications as to the resistance, or lack of resistance of the tissues of the patient are of extreme interest, especially in regard to prognosis. Instability of the temperature affords evidence of (*a*) a high toxic absorption; (*b*) ready reaction of the tissues to the toxic stimulation and (*c*) marked interference with the rest function of the patient. A restless night is reflected in the temperature curve, and it appears that the inverse temperature is, to a large extent, the result of a continued autoinoculation, during which a minimum stimulus produces a maximum reaction both as to amount and duration. The night sweats are evidence of some interference with the automatic nerve centers.

Heliotherapy.—Rollier states that heliotherapy may be carried out in any place where the sun shines; but different points on the earth's surface show great variation in the quality of the sunlight which reaches them and also in other factors affecting the cure. The secret of the sun's action on pathologic processes is that while highly toxic to microorganisms in general (and to the tubercle bacillus in particular), the solar radiations are not only harmless, but actually beneficial to the cells of higher animals. This specific action of sunlight was of great assistance to the treatment of suppurating war wounds. The sun appears to increase the rate of disintegration of cells damaged beyond repair, while stimulating the activity of the undamaged cells. A torpid lesion (such as varicose ulcer) demonstrates particularly well this cicatrizing action of the sun. Anemia and rickets, essentially diseases of deficient sunlight, are similarly amenable to heliotherapeutic treatment.

March 26, 1921, **1**, No. 5091

Importance of the Infinitely Little. W. D. Halliburton.—p. 627.
Congenital Syphilis. H. M. Fletcher.—p. 630.
Cases of Postarsphenamin Jaundice. A. T. Todd.—p. 632.
Louse Problem at Western Front. A. D. Peacock.—p. 634.
*Acute Puerperal Salpingoperitonitis. A. W. Bourne.—p. 637.
Two Cases of Gangrene of Lung. J. D. Mather and F. B. Smith.—p. 642.
*Splenectomy for Torsion of Spleen in Child. A. H. Southam.—p. 642.

Acute Puerperal Salpingoperitonitis.—Acute salpingitis, occurring in a previously healthy tube, which Bourne claims to be more common than is generally supposed, gives rise to the characteristic clinical picture he describes. The disease is due either to extension of organisms along the tube from the infected uterus or to an exacerbation of previons salpingo-oophoritis which must of necessity have been only slight in degree or unilateral. Bourne believes that the disease is sometimes caused by organisms that have lain dormant for a long time in otherwise perfectly normal tubes. He believes further, that the tube can exercise an inhibitory effect on microbes within its lumen at ordinary times for he has succeeded in growing streptococci from the peritoneal abscess cavity around the tube and from the uterus, but failed to cultivate a microbe from the pus within the tube in the same patient. The symptoms are those commonly complained of in an acute lower abdominal peritonitis. As in acute appendicitis, pain precedes everything and is rapidly followed by a slow rise of temperature to reach 102 or 103 F. on the third or fourth day, with a pulse following suit. Vomiting is not a feature in the early cases. An interesting and indicative symptom occassionally is retention of urine or painful micturition, and is specially seen in cases in which a cellulitus has developed secondarily to the salpingitis involving the upper part of the broad ligament and extending forward beneath the round ligament to the neighborhood of the bladder. If the patient is not operated on there is a persistent fever with chronic pain and waisting; she slowly goes down hill, develops cardiac weakness, and is bedridden. In the great majority of these patients operation is necessary, for the condition is essentially one of suppurative peritonitis, which unless relieved, will show no tendency to undergo spontaneous resolution. The time at which operation should be performed is the point which admits of difference of opinion. Bourne's view is that in cases of puerperal salpingoperitonitis operation should be done as early as the diagnosis is established. The general principles are to employ conservative measures on structures in an acute condition in order, firstly, to save them, and secondly, to prevent chronic changes developing in them, but to deal radically with acutely inflamed and seriously damaged appendages in spite of dense adhesions which may be present. In this way much can be done to conserve function, to prevent chronic disease, and to provide for a reasonably quick recovery to normal health.

Splenectomy for Torsion of Wandering Spleen Pedicle.—Southam cites a case of torsion of a wandering spleen in a child aged 6 years. The spleen was removed. It weighed 14 ounces.

Medical Journal of South Africa, Johannesburg

December, 1920, **16**, No. 5

Fifteen Cases of Suffocation by Foreign Substance in Trachea and Bronchi. J. J. Levin.—p. 85.
Bacillus Unna-Ducrey. C. Pijper.—p. 89.

South African Medical Record, Cape Town

Feb. 26, 1921, **19**, No. 4

Treatment of Acute Gonococcal Urethritis in Male. A. R. Fraser.—p. 62.

Bulletin de l'Académie de Médecine, Paris

March 1, 1921, 85, No. 9

*Nomenclature of Diseases. Committee Report.—p. 254.
*Remote Results of Laryngectomy. E. J. Moure.—p. 257.
Fatal Enteritis from Morgan's Bacillus. Besson and De Laverne.—p. 260.
*Fasting in Treatment of Diabetes. F. Rathery.—p. 262.
*Hemostatic Drugs. P. Émile-Weil.—p. 265.
*Extensive Resection for Colonic Cancer. V. Pauchet.—p. 267.

Nomenclature of Diseases.—The International Committee for Revision of Nosologic Nomenclature recently appealed to the Académie to use its influence in favor of adopting the termination "osis" to express all diseases caused by a microbe or a fungus, reserving the termination "asis" for diseases caused by an animal parasite, such as trichiniasis, elephantiasis, etc. The committee appointed by the Académie has reported adversely to the proposition, saying that spirochetosis, for example, might mean any one of ten different diseases, from relapsing fever to phagedenic ulcer. Mycosis also might mean any one of several. "And," the chairman asks, "does elephantiasis mean caused by an elephant?" The committee advocated refraining from rash changes in the names of diseases, pointing to the way in which zoology has been hampered by the too rigorous application of a nomenclature.

Remote Results of Laryngectomy for Cancer.—Moure's experience with thirty-one cases has demonstrated that laryngectomy with modern technic may be regarded as a relatively benign operation. Of his thirty-one patients, eleven seem to be permanently cured, two for over nine years, one for seven, one for four and the others from one to three years. He now turns back a single flap; this gives better access than the two flaps with a median incision, while the suture is less visible. He operates at a single sitting, and urges intervention before the cancer has extended beyond the larynx. Neither radium nor the roentgen rays seem to act favorably on epitheliomas in the larynx. The patients learn to speak afterward by means of a simple apparatus.

Fasting Treatment of Diabetes.—Rathery has obtained better results with brief fasting plus the Guelpa purgation (see abstract on page 345 of the current volume), than with the Allen fasting technic. Fasting treatment does not cure the disease, and in one of his cases it seemed to be responsible for the fatal outcome. It should be regarded as only exceptionally indicated.

Hemostasis.—Weil comments that the hemostatic action of emetin can be estimated by the bleeding time, but that it does not act by influencing the vasomotors or coagulation. The effect of hemostatic drugs is most instructively studied in persons with a bleeding time of ten or fifteen minutes, normal biology and pathologic biology supplementing each other.

Resection for Cancer of Colon.—Pauchet resected the entire large intestine and 30 cm. of the ileum in the woman of 57. Bowel functioning has been apparently normal during the eighteen months to date since the ileum was sutured to the anus. The mesentery had to be cut to allow the bowel to be brought low enough for this. Rectoscopy now shows a large cavity, the walls of which present the physical characteristics of a normal rectal mucosa. The retracted mesocolon was not resected as extensively as contemplated, and this was probably responsible for the metastasis in the liver now apparent.

March 8, 1921, 85, No. 10

*Epidemic Encephalitis. Committee Report.—p. 278.
*Morgan's Bacillus and Castellani's Bacillus. Dopter.—p. 301.
*Supernumerary Teeth. F. de Lapersonne, Velter and Prélat.—p. 308.
Extraction of Projectile in the Pericardium. J. Boeckel.—p. 315.
*Acid-Resisting Bacillus Infection. E. Marchoux.—p. 317.
*Helminthiasis and Painful Dysmenorrhea. G. Léo.—p. 319.

Epidemic Encephalitis.—This committee report fills twenty pages and traces the history of epidemic encephalitis. It seemed to develop simultaneously in France and in Austria in 1916, although the war had interrupted all communication between them. It appeared in Australia also at the same time. It also prevailed in epidemic form in 1890 and in 1713, and probably existed in the middle ages and in antiquity. It is contagious but not violently so. The resistance of the virus is demonstrated by the long duration of the disease, the frequency of relapses, and the evidence that certain persons may transmit the disease several months or years after its first onset, and that healthy persons may be carriers. The secretions of the mouth and nose seem to be the vehicle of contagion, which suggests the possibility of infection by clothing, etc. Isolation should be maintained during convalescence but it is impossible to fix any date for the length of the isolation. Owing to the rarity of contagion, it is not necessary to be too anxious. Disinfection of the room, the linen, and clothing is advised, and compulsory declaration of the disease and even of the dubious cases.

Pathogenic Power of Morgan's Bacillus and Castellani's Bacillus.—Dopter reports a case of fatal choleriform diarrhea in which Morgan's bacillus was cultivated from the intestines. In two other cases of choleriform enteritis Castellani's bacillus was found.

Supernumerary Teeth in the Orbit.—De Lapersonne and his co-workers report that the exophthalmos in the girl of 15 was explained by radioscopy as due to the development of twelve or more supernumerary teeth in the face and orbit. The difficulties of operative removal of the teeth in the orbit have made them refrain from any intervention for the present, under roentgen-ray control.

Acid-Resisting Bacillus Infection.—Marchoux describes what he says is a new disease, due to an acid-resisting bacillus which is neither that of tuberculosis or leprosy. The diagnosis during life had been leprosy, but necropsy and the bacteriologic findings disproved this. The man succumbed to intercurrent streptococcus pleurisy.

Helminthiasis and Painful Dysmenorrhea.—Léo warns that if the tongue shows visible hypertrophy of the papillae at the tip and sides, the ova of parasites should be sought in the stools, as this is a very reliable sign of helminthiasis. This tongue sign in addition to painful dysmenorrhea is sufficient, he thinks, to call for treatment of helminthiasis. He has thus treated eight women and the pains at menstruation have been entirely abolished. One of them had suffered in this way from puberty to the age of 36. The first month after the vermifuge treatment was the first menstrual period which had not been accompanied by severe pains. Suggestion could be excluded. He gives some details of the other cases saying that the whole are to be published in full. Others less carefully studied have given the same favorable outcome, the disappearance of the menstrual pain in the pelvis as the ascarids and oxyurids were cleared out. They were all pure cases of painful dysmenorrhea, free from complications.

Bulletin Médical, Paris

Feb. 26, 1921, 35, No. 9

Endonasal Treatment of Frontal Sinusitis. Dufourmentel.—p. 165.
Chronic Laryngitis. R. Miégeville.—p. 167.
Chronic Nasopharyngeal Catarrh. H. Flurin.—p. 171.
Acute Otitis Media. F. Bonnet-Roy.—p. 174.

March 19, 1921, 35, No. 12

*Jaundice After Arsenical Treatment. L. Brocq.—p. 235.
The Blood Pressure with Pure Mitral Stenosis. Amblard.—p. 236.

Jaundice After Arsenical Treatment.—Brocq admits that neo-arsphenamin injected in rather large doses by the vein passes directly to the liver through the hepatic artery, and is liable to induce toxic injury, with resulting jaundice. This subsides if the drug is suspended. On the other hand, the toxic injury of the liver reduces its resisting power, and thus the spirochetes are enabled to settle in the liver and thus damage the liver further. This damage is arrested by giving more arsphenamin. Subcutaneous injection of the drug does not reach the liver so directly, and hence does not entail these paradoxic effects on the liver. The toxic injury from the arsenical may be slight and transient, but, he adds, it is only with grave apprehensions that he resumes intravenous injections of neo-arsphenamin in a case in which there have already been disturbances on the part of the liver after its administration. He says that he prefers to change to mercury or to give the arsenical subcutaneously, acknowledging, *Je sais que je suis un timoré.* If the toxic symptoms predominate, the further use of the arsenical will aggravate them. If the syphilis element predominates, it will cure. He adds, "When we think of the long time it took before we learned

of all the possible misdeeds of such common drugs as the salicylates, antipyrin, orthoform, etc., we feel more respect for the toxic substances which at present we are injecting by the vein in large doses, chasing the microbe without worrying as to the possible injurious action on the tissues."

Bulletins de la Société Médicale des Hôpitaux, Paris

Feb. 25, 1921, **45**, No. 7

*Fatal Puerperal Endocarditis. M. Renaud and Gayet.—p. 240.
*Stenosis of Pylorus in the Newborn. Péhu.—p. 245.
*Epidemic Encephalitis. P. Marie and Bouttier.—p. 252.
*Serum Sickness. B. Weill-Hallé and P.-P. Lévy.—p. 260.
Primary Pneumococcus Septicemia. Lafforgue.—p. 264.
"Rat-Bite Fever" from Dog Bite. P. Cazamian.—p. 268.
*Rabies after Pasteur Treatment. R. Mallet.—p. 273.
Tardy Serum Sickness. C. Lian.—p. 275.
Case of Myoclonia-Epilepsy. Crouzon and Bouttier.—p. 278.
Nonfollicular Tuberculosis of the Spleen. O. Crouzon.—p. 281.
Miliary Tuberculosis after Antityphoid Vaccination. Bourges.—p. 283.
Alimentary Hemolysis in Epileptics. P. Pagniez and J. de Léobardy. —p. 286.
*Scurvy in Infants. J. Comby.—p. 288.

Fatal Puerperal Endocarditis.—The woman had succumbed to what seemed to be streptococcus septicemia after an abortion. The necropsy findings however revealed an unsuspected mild endocarditis. This had entailed thrombosis and the emboli swarmed with streptococci. This embolism was responsible for the streptococci in the blood; there was no true septicemia. Two plates show the findings, and they suggest the possibility that the curetting of the uterus might have been responsible for the streptococci getting into the blood stream and reaching the heart.

Stenosis of the Pylorus in the Newly Born.—Péhu summarizes six cases and states that, of his total eight cases, the six infants all recovered that had been given medical treatment only, while both died of the two treated by gastroenterostomy. In none of the medical cases has there been any disturbance from the pylorus since, the intervals up to twelve years. He adds that twenty-six cases have been published in France. His experience shows that even in grave cases a cure may be realized under persevering medical measures alone.

Treatment of Epidemic Encephalitis.—Marie and Bouttier reasoned that curare and cicutin would probably modify the "terminal motor area," and have been trying the last mentioned in treatment of epidemic encephalitis and of paramyoclonus. The effect was favorable on the myoclonus but the choreiform movements were not modified. Sicard reported that the fixation abscess had not proved as successful in his experience as others have reported; several patients died from two to six weeks after the well defined abscess had developed. A vaccine made from the tissues of the peduncles and striated body, from cases of "legitimate neuraxitis," seemed to have a certain efficacy in intramuscular or subcutaneous injection of 1 or 2 c.c. repeated every day or second day to a total of twelve or fifteen injections, in the protracted course of the disease, when insomnia and parkinsonian symptoms predominated. He added that these persisting symptoms are refractory to all other measures to date, but the results with this vaccine therapy justify further research.

Serum Sickness Taking the Form of Arrhythmia.—The boy of 6 had apparently recovered from a mild, two-day attack of diphtheria, under antitoxin. Then came—five days later—an eruption, arrhythmia and modification of the second sound, with pains in the joints as the heart returned to normal. The writers interpret all this as manifestations of serum sickness. This assumption is confirmed by Lian's case in which the urticaria of serum sickness was accompanied by abnormally low blood pressure. In still another case there was, besides, a state of lipothymia for twelve hours.

Case of Rabies.—Mallet reports a case which warns of the necessity for keeping the patient under supervision after Pasteur treatment, and giving another course of injections when the slightest signs of anything abnormal develop. Particularly instructive in this line is pain at the point where the subject had been bitten, also periods of unusual depression or gaity or of each in turn. This patient had been bitten in the face and three days had elapsed before treatment was applied.

Scurvy in Infants.—Comby reports twelve new cases and says that of the seventy-two cases of infantile scurvy that he has encountered, 90 per cent. had been erroneously diagnosed by the attending physician. There was no hemorrhagic gingivitis in 22 per cent., but in every case the children cried when they were moved, the bones evidently being tender and painful.

Lyon Médical, Lyons

March 10, 1921, **130**, No. 5

Thoracentesis without Aspiration. J. Mollard.—p. 197.

Paris Médical

March 12, 1921, **11**, No. 11

*Peritonsillar Phlegmon. Chabrol, Dufourmentel and Michel.—p. 209.
*Spa Test of Recovery from Tuberculosis. J. Galup.—p. 213.
*Spinal Fluid and Blood in Hysteria. R. Bénard and A. Rouquier.—p. 217.

Peritonsillar Phlegmon.—This communication reports the case of a man of 47 with paralysis of the four last cranial nerves without participation of the sympathetic. The whole was traceable to a peritonsillar phlegmon. This had induced neuritis, and the disturbances in swallowing were so severe that the man died soon from inanition. Only one case like this is known, and the diagnosis of neuritis by extension was confirmed in the latter case by the improvement under strychnin and electricity.

The Spa Test of Recovery from Tuberculosis.—Galup practices at a watering place, and he describes the instructive findings in regard to pulmonary tuberculosis when the suspect or the convalescent is taking the regular course of mineral water. The reaction shows exactly the state of the tuberculosis.

The Spinal Fluid and Blood Findings in Hysteria.—Rouquier has recently reported discovery of an abnormally high albumin content in the spinal fluid in eight of fifteen patients with convulsions or hysteric motor disturbances. In thirteen cases the sugar content was abnormally high. In a young man with severe pithiatic narcolepsy whose case is here described, urea was found in the spinal fluid also and 0.8 per thousand in the blood. Two days later the urea in the blood had dropped to 0.44 per thousand but the Ambard constant was 0.15. The laboratory findings thus suggested epidemic encephalitis but complete recovery under "moral revulsion" testified to the pithiatic origin.

Presse Médicale, Paris

March 9, 1921, **29**, No. 20

*Surgical Treatment of Angina Pectoris. T. Jonnesco.—p. 193.
*The Liver and Anesthesia. E. Desmarest and Lascombes.—p. 194.
*Anisosphygmia. M. Loeper and A. Mougeot.—p. 196.

Surgical Treatment of Angina Pectoris.—Jonnesco here describes in detail the case already mentioned in these columns (vol. 75, p. 1525), in which he cured angina pectoris in a man of 38 by resection of the cervicothoracic sympathetic nerve on one side. The man was syphilitic and inclined to abuse of tobacco and alcohol. There has been no recurrence of the angina pectoris during the four years to date, although the aortic lesions still persist. Jonnesco has applied this operation in treatment of epilepsy, of exophthalmic goiter, of glaucoma and of migraine, and has thus established, he says, its relative facility and absolute harmlessness.

Nitrous Oxid and Cholemia.—Examination for cholemia before and after general anesthesia by various means has shown that ether and chloroform induce pronounced cholemia which takes five or six days to disappear. On the other hand, a combination of nitrous oxid and oxygen never induced cholemia in the tests related, and this seems to be evidence that this anesthetic alone spares the liver completely.

Anomalies in the Regular Pulse.—Loeper and Mougeot have coined the term anisosphygmia to express changes in the pulse in amplitude and force while the rhythm keeps regular. They discuss its significance on the basis of study of 500 tracings and 250 oscillograms.

March 12, 1921, **29**, No. **21**

Radio-Active Therapeutics. G. Petit.—p. 201.
*Sudden Death in Heart Disease. R. Lutembacher.—p. 203.
Bone Implants. L. Christophe.—p. 204.
*Basal Metabolism. J. Rouillard.—p. 205.

Sudden Death in Heart Disease.—Lutembacher emphasizes hat in many cases the sudden death after the use of a heart onic or arsenical is ascribed to the medication, when throm- osis in the heart is responsible, and the sudden death would ave occurred in any event very soon afterward. The large hrombi found in the heart cavities easily explain the mechan- sm of death. The clots are too large to pass into the irculation, but anything that helps to mobilize them, by reen- orcing the contractions of the heart or otherwise, precipi- ates the fatal outcome. We must bear in mind that in heart lisease the menace is of two kinds, mechanical and septic. The mechanical may yield to treatment, and hence it is impor- ant to detect secondary infection. This is suggested by a ebrile state, anemia, a tendency to hemolytic jaundice, and sudden modification of the asystolia. The sudden appearance of signs of insufficiency of the right ventricle is instructive. Sometimes the thrombosis in the heart is manifested by embolism, infarcts in the lungs, purpura or pain in the spleen. In such circumstances heart tonics should be managed with special prudence, warning the family of the danger of embolic accidents. In one of the various cases described the systolic pressure had fallen very low during an attack of angina pectoris but the heart was beating regularly, and at the request of the family it was decided to inject a heart tonic. The preparations were being made for this when the patient died. A few moments later and the drug would have been injected and have been regarded as responsible for the fatal- ity. This coincidence is particularly likely with certain drugs which are reserved for the last resort, when the condition really is beyond relief.

Basal Metabolism.—Rouillard describes here the work that has been done in America in this line in the last five years.

Progrès Médical, Paris

Feb. 12, 1921, **36**, No. 7

*Uremia with Pulsus Alternans. J. Heitz.—p. 67.
Notes from the Clinics of the Week.—p. 68.
Medicolegal Aspect of Abortion. Balthazard.—p. 70.
Dystocia from Retraction or Defective Development of Lower Segment of Uterus. S. Bermann.—p. 71.
Chauffeur's Fracture. Duméry.—p. 74.

Uremia with Pulsus Alternans.—Heitz recalls that in 24 of his 25 cases of pulsus alternans there was uremia. Chalier and Contamin also found uremia in 7 of their 10 cases of pulsus alternans. But the pulse was normal in 2 cases of extreme uremia with acute nephritis, and in one with jaun- dice. The pulsus alternans may be intermittent with uremia, or it may escape detection. It seems to be due to both the hypertension and the uremic poisoning, and by reducing the nitrogen in the diet the toxic factor may be reduced. In Heitz' cases this alone often reduced or banished the alter- nans in a few days. He reiterates that the discovery of the slightest tendency to pulsus alternans in a case of heart and kidney disease calls for immediate suppression of nitrogen in the diet, and this restriction must be kept up until there is no longer alternation of weak and strong beats.

Schweizerische medizinische Wochenschrift, Basel

Feb. 24, 1921, **51**, No. 8

Placenta Hormone Responsible for Pregnancy Changes in Uterus and Vagina. H. Guggisberg.—p. 169.
*Heliotherapy and Phototherapy. A. Rollier and A. Rosselet.—p. 172.
*Occult Bleeding in Diagnosis of Gastric Cancer. E. Fricker.—p. 174.
Relations of Psychiatry to Medicine. H. Christoffel.—p. 177.
Isolated Miliary Tuberculosis of Liver. M. Massini.—p. 181.
Treatment of Spontaneous Pneumothorax. M. Landolt.—p. 183.

The Scientific Study of Heliotherapy and Phototherapy.—Rollier and Rosselet relate that twelve years of experience have confirmed their previous statements in regard to the mechanism of the curative action of heliotherapy. They have found that those patients recover better and more rapidly who tan well: the pigmentation may possibly transform the short waves into longer waves. They decry the exaggerated importance placed on the ultraviolet rays from the biologic and medical points of view. All their experiences tend to place the luminous rays in the place of honor, but all the rays in sunlight have some action on our organism.

Occult Bleeding in Diagnosis of Gastric Cancer.—Fricker analyzes recent literature on this subject, and states that he found occult blood in 170 of his 176 cases of gastric cancer and probably longer observation would have revealed it in the six negative cases. The constant appearance of occult blood in some cases of apparently benign achylia or other vague stomach disturbances, gave the signal for operative measures. That mistakes in diagnosis are still possible with all the means at our command are shown by two cases of benign achylia in which all the clinical tests pointed to malignant disease.

March 10, 1921, **51**, No. 10

Formation of New Cells in Adult Organism. C. Wegelin.—p. 217.
*Calcium and Tuberculosis in Rabbits. R. Massini.—p. 223.
*Treatment of Whooping-Cough. E. Döbeli. p. 224.
Butter-Flour Mixture in Infant Feeding. Rhonheimer.—p. 229.
Tattooing from Medicolegal Standpoint. P. Cattani.—p. 231.

Calcium and Tuberculosis in Rabbits.—Massini injected young rabbits with calcium chlorid after they had been inocu- lated with tuberculosis, and found that they lived a little longer than the controls.

Treatment of Whooping Cough.—Döbeli argues that if we can check the expectoration in whooping cough we can con- trol the cough, his experience having always demonstrated that the paroxysms grew less severe and less frequent as the profuse secretion decreased. Others have reported less secre- tion of urine and increase in elimination of uric acid as long as the expectoration was profuse, but both returned to normal as this latter declined. By dieting to reduce production of uric acid, and copious drinking, the urine and uric acid elimination can be kept normal, and this modifies favorably also the secretion in the air passages. Seven years of expe- rience have demonstrated, he says, that as soon as he could get the tongue cleared off and the appetite restored, the expectoration became less and the children rapidly improved. Then under almost any of the previously ineffectual measures, the paroxysmal cough was aborted and the pertussis con- quered. This occurred regularly in several hundred cases and no grave complications followed. The disease occurs mainly in overfed children, with overexcitable nervous system, and laxatives and measures to tranquilize the nerves must supplement the abstention from protein and fat. When the children have no appetite, he orders that food should not be forced on them, especially milk. Abundance of some weak decoction with only a trace of milk, light soups skimmed of fat, vegetables and bread should be the diet; for infants, the milk should be reduced to one fourth, with gruel. Every fifth to eighth day he cuts off all food for half a day and gives a mild saline or calomel purge, mainly to get rid of the masses of swallowed sputum, but also to stimulate the liver. The supper is given at 4:30 p. m. and after this meal nothing but a light soup or tea with softened zwieback is allowed. By this means vomiting at night is usually warded off. He has always found a useful adjuvant in some harm- less bitter or sweet drug with pungent odor, given always at the same hour, for its effect by suggestion.

Archivio Italiano di Chirurgia, Bologna

March 5, 1920, **3**, No. 1-2

*Pain in Iliac Fossa with Chronic Constipation. M. Donati and F. Alzona.—p. 1.
*Gastric Ulcer and Fat Tissue Necrosis. F. De Gironcoli.—p. 105.
*Diagnosis of Surgical Tuberculosis. T. M. Biancheri.—p. 129.
Cancer of Rectum. V. Pauchet.—p. 136.
*Double Femoral Hernia. L. Cevario.—p. 145.
*Bone Implant for Ulnar Pseudarthrosis. F. Putzu.—p. 154.
*Decompressive Operation with Fracture. V. Luccarelli.—p. 165.
*Gastro-Intestinal Hemorrhage after Herniotomy. V. Aloi.—p. 171.
*Primary Sarcoma of Small Intestine. G. Perez.—p. 181.

Pain in Iliac Fossa with Chronic Constipation.—Donati and Alzona devote over 100 pages to a study of relative stenosis in the ileum or colon. Eleven cases illustrated, traced to a kink, pericolic membrane or adhesions of inflammatory origin, all presented the identical clinical picture, ileocecal pain and chronic constipation. Appendectomy does not cure this relative stenosis from malposition of the bowel. The right flexure of the colon may sag independently of ptosis of the kidney, but fixation of the flexure in its proper place aids in keeping a movable kidney in place. Donati describes the lumbar method of nephrocolopexy he has applied in three cases with fine results. The kidney is suspended with a

hammock operation and then the colon is drawn up and fastened in much the same way, with silk passed through the last or next to the last intercostal space. The sagging of the kidney was evidently responsible in these cases for the severe pains and rebellious constipation. In another case he short-circuited the bowel by suturing the kinked loop in gun-barrel style, with an anastomosis at the base, thus excluding the kinked loop, and the functional results were perfect. Fixation of the ascending colon often has a favorable influence on ptosis of the stomach, but he warns against fixation of the transverse colon, as this is normally essentially mobile. In one case ileum-transversostomy answered conditions better, and there were no disturbances from the excluded segment of the bowel. He emphasizes the necessity for peritonization of the raw surfaces after breaking up adhesions, and ligation of the small pedicles. In two other cases all symptoms subsided after breaking up the adhesions kinking the ileum, which had developed after appendicitis. A physiologic insufficiency of the tissues may be responsible for persistence of symptoms when all mechanical obstacles to functioning have been done away with. It is wise to advise an abdominal support, and medical and dietetic measures after the operation.

Perforated Gastric Ulcer and Necrosis of Fat Tissue.—Gironcoli summarizes from the records eight cases of fat tissue necrosis in the pancreas after perforation of a gastric ulcer, and adds a case personally observed. His patient was a robust woman of 30 and after suture of the perforation and expulsion through the incision of scraps of necrotic fat tissue, recovery was complete in two months.

Diagnosis of Surgical Tuberculosis.—Biancheri obtained conflicting results in attempting to diagnose tuberculous bone and joint disease by the local reaction in sensitized guinea-pigs injected intradermally with the secretion from the pathologic process. In the very toxic cases it sometimes proved possible by this means to certify the tuberculous nature of the process in twenty-four or forty-eight hours. If the patient is elaborating antibodies at the time, this may neutralize the toxin and entail a negative response, so that only a three plus reaction is decisive, and this was obtained only in one of the fifteen cases tested.

Double Femoral Hernia.—In Cevario's case, one hernia was intravaginal, and the other in the lymphatic space, both on the right side. Five of the eight members of the family have hernia.

Pseudarthrosis of the Ulna.—After resection of all cicatricial tissue, Putzu slit the proximal stump and cut off one half, sliding it down to bridge the gap. It was held in place with silver wire. Roentgenoscopy three years later confirmed the complete physiobiologic activity of the stumps and implant, while the half left of the proximal stump has grown to nearly the normal size. This and another case cited testify to the advantages of apposition of like tissues in stump and implant, instead of embedding one inside the other. The implant is now solidly fused with the distal stump, but not with the proximal stump; the implant is not quite so wide here as it was at first, tapering upward.

Decompressive Operation with Fracture of the Skull.—Luccarelli passed a curved needle through scalp and periosteum of the fragment of bone that had been fractured and pressed down on the brain. Several silk threads were thus passed through the depressed fragment, and with them it was lifted up. This relieved the pressure on the brain without incising the skin of the scalp. He gives an illustration of a device to facilitate the passage of the needles.

Gastro-Intestinal Hemorrhage After Herniotomy.—In one of Aloi's three cases the hematemesis proved fatal. Probably various factors contribute, but he is inclined to accept some latent constitutional cause roused by the anesthesia and the comparatively insignificant operation. In Busse's compilation of ninety-six cases, fifty-three terminated fatally. The hemorrhages in Aloi's fatal case did not begin till the seventh day, coming on in the midst of the apparent complete cure, with profuse epistaxis and the fatal hematemesis.

Primary Sarcoma of Small Intestine.—Perez resected the loop of small intestine, the seat of a primary round-cell sarcoma. The man of 37 has been in good health during the seven years since. He had had gastritis for nearly ten years before and had been addicted to alcohol. In a month after the small tumor had been discovered it had grown to the size of two fists, and the loop was then resected with the adjoining glands.

Policlinico, Rome

Feb. 21, 1921, **28**, No. 8

*Ptosis as Cause of Gallstone Colic. L. Losio.—p. 253.
Abscess in Frontal Lobe after War Wound. T. Lucri.—p. 259.
*Colostrorrhea in Pregnancy. P. Del Vecchio.—p. 262.
*Thoracopagus. G. Merolillo.—p. 263.

Ptosis of the Pylorus as Cause of Gallstone Colic.—Losio opened the abdomen in a case of supposed gallstone colic in a woman of 34, and found that the symptoms had developed from traction on the neck of the gallbladder from the sagging pylorus which had dropped below the umbilicus. The neck of the gallbladder was so much irritated from the traction that he removed the organ. The gallbladder was found microscopically normal above the neck. In a second case the diagnosis of gallstone colic seemed beyond question, but the memory of the other case made Losio hesitate, and the operation revealed the stomach almost vertical as in the other case. Posterior gastro-enterostomy in both cases was followed by complete recovery. He explains the mechanism of this secondary injury of the gallbladder, and the necessity for its removal in severe cases, in which recuperation of the neck is scarcely probable. This relieves the bile ducts from traction as well.

Colostrorrhea in Pregnancy.—Del Vecchio adds another to the rare cases on record of profuse colostrorrhea during pregnancy. In this case the flow was profuse from the fifth to the seventh month of the pregnancy and then it spontaneously stopped.

Thoracopagus.—The two trunks were fused at the thorax but there was only one head and one neck. Two illustrations are given.

March 7, 1921, **28**, No. 10

*Action of Spinal Anesthesia on Liver and Kidney. Ranucci.—p. 323.
Epidemic Encephalitis. O. Rossi.—p. 324.
Quinin in Treatment of Heart Disease. G. Meldolesi.—p. 330.

Action of Spinal Anesthesia on the Liver and Kidney.—Ranucci was unable to find anything indicating injury of the liver and kidney from spinal anesthesia in his sixty-seven cases. Injury from this method of anesthesia is very slight and transient, compared to general anesthesia by inhalation. The nitrogen content of the blood was always increased slightly after the spinal anesthesia; the urine showed a marked increase but he never found glucose, acetone, bile pigment, urobilin or acetic acid in the urine; in 34 per cent. of the cases albumin was discovered, but never more than 1 per thousand. He thinks that this albuminuria is probably due to the action of the anesthetic on the nerve centers rather than on the renal epithelium. The albuminuria developed within five or ten hours after the injection. In all cases of kidney or liver disease, spinal anesthesia is evidently less risky than other technics.

Feb. 15, 1921, **28**, Surgical Section No. 2

*Ventrifixation and Pregnancy. E. Bussa Lay.—p. 45.
*Parenteral Injection of Milk in Surgical Diseases. C. Chiaudano.—p. 50.
Relations Between Hernia and the Deep Vessels. G. B. Macaggi.—p. 56.
*Transplants of Fat Tissue. A. Pennisi.—p. 62.

Ventrifixation and Pregnancy.—Bussa Lay reports the case of a woman of 29 with smooth delivery of twins ten years after abdominal hysteropexy. It had not seemed to interfere with gestation or delivery in any way.

Injections of Milk in Surgical Affections.—Chiaudano was unable to detect any influence on adnexitis and adenophlegmons, and the benefit in salpingitis was slight. In the single case of erysipelas, considerable improvement was realized, but the results were negative in cases of consolidation of fracture. In mastitis the process seemed to be hastened to a cure; the distention was relieved from the first injection.

Fat Implants.—Pennisi remarks that the shrinking in size of the flap of fat tissue must be allowed for in cutting the flap. Even if the flap is slowly absorbed, the cicatricial tissue

which develops will support the skin in the region in the new position imposed on it by the fat flap.

Riforma Medica, Naples

Feb. 19, 1921, **37**, No. 8

Teaching of Medical Pathology. G. Boeri.—p. 169.
Temperature of the Tonsil. A. Azzi.—p. 175.
*Protein Therapy. T. Silvestri.—p. 176.
*Craniotomy for Pituitary Symptoms. N. Giannettasio.—p. 177.
*The Calcaneum Reflex. G. Ravà.—p. 179.
Rectal Cancer. A. Jappelli.—p. 180.

Parenteral Injections of Milk.—Silvestri found that the protein therapy had no apparent effect in nine cases of pneumonia or influenza. In twelve typhoid cases the injections seemed to aggravate conditions, inducing shock and intestinal hemorrhage. No effect was apparent further in chronic tuberculosis of any form, nor in two cases of athrepsia. In two cases of ozena the results were very fine at first, but transient. He warns that there may be congenital as well as acquired intolerance for milk, and that this should be borne in mind in protein therapy. In the acquired form, marked benefit is liable to follow the antianaphylaxis by parenteral injection of milk.

Decompressive Craniotomy for Pituitary Symptoms.—The woman of 33 had been presenting for some time disturbances of the type of adiposogenital dystrophia, and other symptoms such as we are accustomed to see with tumor of the pituitary gland. A palliative decompressive craniotomy was followed by notable improvement, all the symptoms subsiding except the amenorrhea and hemianopsia; the latter was improved but still persists to some extent. Radiography shows the sella turcica with better defined outlines now, evidently due to recalcification.

The Calcaneum Reflex.—The reflex is elicited by tapping the posterior inferior angle of the heel-bone which induces contraction of the semitendinosus, semimembranosus and the biceps. The patient lies on the same side, the thigh flexed on the pelvis and the leg flexed, to relax the muscles. The calcaneum is tapped without raising the foot from the plane of the bed. Ravà tabulates the findings with this reflex in cases of different nervous disturbances and in the healthy. In pseudobulbar disturbances, the reflex was present on both sides; in hemiplegia only on the diseased side. It should be tested on both sides, and he regards it as liable to prove an addition to our array of periosteum reflexes.

Brazil-Medico, Rio de Janeiro

Jan. 22, 1921, **35**, No. 4

*Eczema of the Ear. A. de Carvalho.—p. 49.
*Anguish Neurosis. Areobaldo Lellis.—p. 51.
*Contralateral Eyelid Sign. A. L. Pimenta Bueno.—p. 53.

Eczema of the Ear.—De Carvalho agrees with those who advise keeping the ear dry, not only during the eczema but to prevent recurrence afterward. A good powder for the purpose is a mixture of 25 parts talcum with 5 parts zinc oxid and 100 parts starch.

Neurasthenia and Anguish Neuroses.—Lellis emphasizes the predominance of the subconscious in neurasthenia, and of anxiety, worry and dread, while this triad is not found in hysteria. The Freud conception of anguish neurosis is merely a badly interpreted neurasthenia, acute, with almost continuous attacks, or subacute, with intervals between attacks. He describes a case in a young woman who presented all the symptoms of the Freud anguish neurosis, and as her physician had told her it was time for her to get married, the condition seemed to bear the Freud sexual stamp. A recent attack of influenza had probably saturated her with toxins and the physician's words had diverted her morbid ideas in this direction. Lellis decried the idea that marriage was absolutely indispensable for her; he combated the intoxication and anemia, and as the physical condition improved, the trio, anguish, anxiety and fear gradually subsided and normal conditions were restored.

Oculopalpebral Sign.—Pimenta Bueno states that in cases of blepharospasm or blepharorrhaphy, or when there is hypertonus or hypercontracture of the orbicularis on one side, the anterior pole of the cornea on the sound side will be higher. He calls this the contralateral eyelid-eyeball sign.

Semana Médica, Buenos Aires

Jan. 6, 1921, **28**, No. 1

*Syphilitic Disease of the Aorta. L. Jorge Facio.—p. 1.
*Hygiene in the Medical Curriculum. C. E. Paz Soldán.—p. 11.
*Hemorrhagic Purpura. Dardo García Díaz.—p. 17.
*Factors in Defective Development. J. A. López.—p. 18.

Syphilitic Disease of the Aorta.—This is a chapter of a work now in press.

Hygiene in the Medical Curriculum.—Paz Soldán explains that practical hygiene has five overlapping departments which together embrace the care of the sick and poor, sanitation in general, and sanitary prophylaxis and administration. Students must be trained along all these five lines, the whole forming what might be called biosocial progress.

Hemorrhagic Purpura.—García Díaz describes a case in a woman of 22 in which hemorrhagic purpura was the first manifestation of liver derangement. It had developed at the fourth month of a pregnancy, but subsided under treatment.

Factors in Defective Development.—López protests against the prevailing tendency to attribute to inherited syphilitic taint the malformations and anomalies found in the offspring. The possibility of tuberculosis should not be overlooked, and tuberculin or similar treatment should be applied as indicated.

Jan. 13, 1921, **28**, No. 2

*Anthrax. A. A. Rissotto.—p. 25.
*Tubercle Bacilli in Bile. A. C. Marchisotti.—p. 37.
Local Anesthesia in General Surgery. B. N. Calcagno.—p. 40.
Medical Ethics. B. González Alvarez.—p. 52.

Anthrax.—Rissotto found the bacilli in the blood in 7.23 per cent. of 235 persons with anthrax, and in 3.82 per cent. a malignant pustule had developed in the bowel. In 11.91 per cent. of the cases the blood cultures were positive for several days. Injection of normal horse serum in the healthy caused progressive leukocytosis, as also in five anthrax patients, but the anthrax itself seems capable of inducing leukocytosis.

Excretion of Tubercle Bacilli in Bile.—Marchisotti found the liver often affected in tuberculous cattle. Healthy milk can thus become readily contaminated by droppings from tuberculous cattle, or the apparently healthy cow herself may be voiding tubercle bacilli in bile by way of the stools. His research was done on cattle slaughtered for the market and thus supposedly healthy, the tuberculous lesions being a necropsy surprise. Human urine and stools are liable to transmit the tubercle bacilli as readily as sputum. Tuberculosis of the liver should be classed as "open tuberculosis" on this account. Tuberculin tests do not reveal the involvement of the liver in particular.

Archiv für Gynaekologie, Berlin

1920, **113**, No. 3

Physiologic and Chemical Action of Juice Expressed from Ovarian Follicles. H. Wintz.—p. 457.
*The Endocrine Glands During Pregnancy. A. Mahnert.—p. 472.
*Tuberculosis of Fallopian Tubes. V. Kafka.—p. 490.
*Failures with Tubal Sterilization. G. Kalliwoda.—p. 565.
*Outcome with Collifixatio Uteri. P. Schäfer.—p. 588.
*Eclampsia and Stupor. Heinrichsdorff.—p. 596.
Pregnancy in Accessory Tube. R. Ekler.—p. 605.
*Sedimentation Rate of Erythrocytes. G. Linzenmeier.—p. 608.

Abnormal Functioning of Ductless Glands During Pregnancy.—Mahnert discovered that there was specific digestion of hypophysis albumin in 60 per cent. of the twenty-five pregnant women tested with the Abderhalden technic. These frequent positive findings seem to indicate abnormal functioning of this gland during gestation. Similar findings and conclusions are reported for the pineal gland in 40 per cent. of twenty women, while the proportion was 75 and 70 per cent. in twelve for the ovaries and suprarenals, and 57 per cent. for the thyroid. He argues that these ductless glands and certain organs are evidently suffering from some injury affecting them all more or less alike. The substance originating the disturbances and dysfunction may be generated in the placenta. Or the organs of internal secretion may be constitutionally inferior, and thus unable to stand the stress of the pregnancy. The pineal gland, on the other hand, seems to retrogress during a pregnancy.

Tubal Tuberculous Processes.—Kafka concludes from study of forty-eight cases of this kind that the infection may be of

blood borne origin or may spread from the peritoneum. No instance is known of primary tuberculosis of a fallopian tube, and he never found a case of probable lymph-borne origin, nor by propagation from the uterus or other adjoining organ.

Tubal Sterilization.—Kalliwoda discusses the possibility of conception after ligation of both tubes. She also reports a case in which a pregnancy developed after an operation, for genital prolapse, with interposition of the bladder and uterus, and tabulates fourteen cases of the kind on record. The unbearable disturbances in her case compelled interruption of the pregnancy. The article issues from Döderlein's clinic. In the seven years ending 1915, tubal sterilization had been applied in thirty-five cases with complete success. Since then, there have been four failures in thirty-two cases. This brings to twenty-one the number of cases on record in which conception occurred after supposed obliteration of the lumen of both tubes. In one case the tube had ruptured below the ligature. No instance is known in which pregnancy occurred more than once after ligation of the tubes. No method of tubal sterilization seems reliable, she reiterates, except wedge excision of the tubes or else embedding and suturing the tubes in the inguinal canal. Temporary roentgen-ray sterilization is still on trial.

Collifixation of the Uterus.—Schäfer mentions as the great advantage of this method of treating prolapse of the uterus, that it does not prevent a pregnancy later. It has been applied in ninety cases at Bumm's clinic to date.

Stupor and Eclampsia.—Heinrichsdorff has found at necropsies that focal thrombonecrosis is characteristic of eclampsia, while zones of degeneration are found in cases in which somnolency or stupor had been the predominant symptom.

Sedimentation Rate of Red Corpuscles.—Linzenmeier's experience and clinical observation have shown that the difference in sedimentation rate of the erythrocytes may serve to differentiate a myoma from a pregnancy, but it does not distinguish between an extra-uterine pregnancy and adnexitis. The sedimentation rate is higher in all inflammatory processes. Narcotics and heating check sedimentation, while mucilaginous substances hasten it.

Archiv für Kinderheilkunde, Stuttgart

Dec. 28, 1920, **68**, No. 4-5

*Curvature of the Spine. E. Schlesinger.—p. 289.
*Stenosis in Children. F. Schäfer.—p. 314.
Acute Poisoning with Digitalis. A. Eckstein.—p. 322.
*Idiosyncrasy to Cow's Milk. H. Schricker.—p. 332.
*Ossification of the Hand. E. Stettner.—p. 342.

Curvature of the Spine.—Schlesinger presents his conclusions from study of 12,860 children, including 1,400 boys and 2,000 girls of grade school age. The others were older. He found rachitic curvature of the spine in 1.9 per cent. of the total, and congenital curvature in 10.1. It is important to differentiate these two types, as different treatment is required for them. Orthopedic measures are required for the rachitic, and institutional care is imperative. With the constitutional form, exercise under guidance, school antiscoliosis exercises, and similar measures should be kept up during the entire school life.

Dyspnea from Stenosis in Children.—In three of the four cases described, diphtheria was responsible for the stenosis. Tracheotomy was necessary in all. The tracheotomy relieved the suffocation and the heart, and allowed aspiration of the tenacious secretion, but two of the children died as the heart was too seriously damaged to recuperate.

Idiosyncrasy to Cow's Milk.—The year old, breast fed child had always thrived until weaned, but then the casein of cow's milk seemed to act like a poison, the general health suffering and urticarial edema developing at first. But the child soon became accustomed to the milk, and in twelve days was completely free from this so-called idiosyncrasy. Such cases teach the wisdom of giving very small amounts of cow's milk in changing from breast to cow's milk, allowing the child's digestive apparatus to learn gradually to cope with it. The case teaches further that the milk can be continued, with confidence that the healthy child will soon adapt itself to it. The different elements of the milk may be responsible for the disturbance in different cases, the fat, casein or whey. By separating the milk into its elements, we can learn which to incriminate, and perhaps reduce this temporarily.

Ossification of the Hand.—Stettner discusses the relations between the ossification of the hand and the growth and age of healthy and sick children from birth to puberty. He tabulates the findings in groups from the working classes, the well to do, city children and country children—a total of 250 normal children. The ossification processes in the hand may be regarded as an index of ossification in general.

Deutsche medizinische Wochenschrift, Berlin

Dec. 16, 1920, **46**, No. 51

Friedmann Treatment in Experimental Tuberculosis. W. Kolle and H. Schlossberger.—p. 1405.
Immunization Trials with Friedmann's Turtle Tubercle Bacilli in Guinea-Pigs and Rabbits. P. Uhlenhuth and L. Lange.—p. 1407.
Clinical Value of Friedmann Treatment. J. Schwalbe.—p. 1410.
Specific Treatment of Tuberculosis by Practitioner. Knopf.—p. 1414.
Substitute for Nutrose in Culture Mediums. J. Leuchs.—p. 1415.
*Postgonorrheal Prostatitis. T. Messerschmidt and Walther.—p. 1416.
Physiology and Pathology of Muscle Tonus. K. Landauer.—p. 1416.
Radialis Phenomenon in Brachialgia. Boeckh.—p. 1418.
*Rejuvenation Operations on Man. L. Drüner.—p. 1419.
*Baths and Quinin in Chronic Malaria. R. Lurz.—p. 1420.
Recovery from Pregnancy Psychosis without Interruption of Pregnancy. F. Bierende.—p. 1421.
Mixed-Cell Lung Sarcoma with Giant Cells. E. Glass.—p. 1421.
"Treatment of Puerperal Sepsis." E. Hartwig.—p. 1422.
Theory of Protein Hypersensitiveness. W. Weichardt.—p. 1422
Strabismus. Abelsdorff.—p. 1423.

The Bacteriologic Aspects of Chronic Prostatitis Following Gonorrhea; Effect of Autogenous Vaccines.—Messerschmidt and Walther state that in the secretions of chronic prostatitis cases the types of bacteria are numerous and varied. In post-gonorrheal conditions gonococci are not usually present, although diplococci closely resembling gonococci are often found. Autogenous vaccines containing all the types of bacteria found in the secretion exert a favorable influence on the disease process, without the use of further therapeutic measures.

Rejuvenation Operations.—Drüner reports two cases in which enucleation of the much enlarged prostate in men of 70 and 72 was followed by harmonious general invigoration as after the Steinach operation in the younger man. In the older man the improvement was only along a few lines while the memory continued to decline and the high blood pressure to rise. Payr has suggested that prostatectomy may sometimes represent a modified Steinach operation.

Baths to Enhance Action of Quinin.—Lurz reports favorable experiences in treatment of chronic malaria with cool and cold baths, seeking to drive the blood away from the skin so that it will accumulate in the interior. He argues that this helps in driving malaria parasites out from their lurking places into the blood where they can be acted on by the quinin given with the course of baths.

Dec. 28, 1920, **46**, No. 52

Significance of Suprarenals in Epilepsy. H. Fischer.—p. 1437.
*Treatment of Rachitic Curvatures. Brüning.—p. 1438.
Demonstration of Acetone in Urine. H. Citron.—p. 1439.
Examination of Sputum. Warnecke.—p. 1439.
Transmission of Trichophytosis. Veilchenblau.—p. 1440.
Diseases of the Cornea. Steindorff.—p. 1440.

The Treatment of Rachitic Curvatures.—Brüning states that at the Orthopedic Congress in Dresden, Springer proposed a radical cure for curvature of the extremities, by slicing the bone. For this purpose he takes the whole diaphysis out of the periosteal covering, clamps it in a small vise, and saws it into disks, 1 cm. thick. The pieces are then restored to the periosteum. In this manner the most complicated curvature can be easily straightened. Putting back the pieces of bone in place often causes difficulty, and Brüning has tried a simpler technic. For the leg, he makes a skin incision 5 cm. long, above and below, on the inner side of the leg, or sometimes he makes only one incision in the middle over the principal curvature. By shifting the skin opening upward and downward he cuts through the periosteum, and with the Gigli saw he encircles the bone where, after examining the roentgenogram, he wishes to saw through the bone. Through each of the skin openings he can thus saw the tibia through in two or three places. The advantage of his method over

ringer's lies in the fact that the pieces of bone remain in eir natural place and are not unnecessarily taken out of eir periosteum. The periosteum is easily sutured together er the portions of bone. The fibula, after the skin wound is been closed, can usually be bent or fractured without fficulty by manual force, as it is generally less curved than e tibia. He remarks incidentally that in dealing with usually hard bones, the saw blade must not be allowed to t hot, as this favors necrosis. He keeps it constantly wet hile he is sawing, to prevent this.

Deutsche Zeitschrift für Chirurgie, Leipzig

February, 1921, **161**, No. 1-2

To Bridge Gap in Mucosa-Lined Tube. W. Budde.—p. 1.
Ossifying Myositis. A. Manuwald.—p. 39.
Cholin Infusion in Surgical Tuberculosis. H. Fischer.—p. 52.
Growth Disturbances in Bones. A. Schubert.—p. 80.
Multiple Gastric Ulcers. O. Orth.—p. 124.
Luxatio Pedis Sub Talo. E. Boerner.—p. 135.
Resection of Ribs for Pleural Empyema. E. Hollenbach.—p. 140.

Plastic Reconstruction of Urethra and Esophagus.—Budde xpatiates on the better conditions for healing when a flap as a wide instead of a narrow pedicle, and this pedicle consists of subcutaneous tissue, thus sparing the skin. The reconstruction of a tube can be concluded at one sitting when these principles are followed, as he explains with examples and illustrations. In one case the posterior urethra had to be esected through the perineum, leaving an 8 cm. gap. A ectangular flap was cut in the under side of the scrotum but t was not detached along the center from the septum below. The mobilized sides of the flap were drawn up over a catheter and sutured to form a tube, and the connected soft parts were mobilized until they could be stretched well. The tube was then implanted in the gap in the urethra, bringing it into place through a subcutaneous tunnel. The result was a complete success in the two cases described although the wound suppurated in both. A similar technic has been worked out on the cadaver for a gap in the esophagus, rolling up the skin in the back of the shoulder to form the tube, its axis corresponding to the fibers of the muscle below which form part of the pedicle. The esophagus is resected and reconstructed through a posterior mediastinotomy. Other technics for reconstructing mucosa-lined tubes are compared with these.

Multiple Progressive Ossifying Myositis.—The patient is a girl of 4, healthy until her third year. No treatment seems to have done any permanent good in such cases except roentgen irradiation. In twenty-two cases on record this is said to have been successful, and Manuwald has already given two exposures in this case, but no effect is apparent to date. Horand has reported remarkable benefit in one case from twenty-six exposures, although the old foci of calcification were not modified.

Growth Anomalies and Atrophy in the Skeleton.—Schubert cites among other laws of growth that irritation of a long bone during the period of growth makes it grow unduly long. Eighteen months after an Albee bone graft had been taken from the right tibia of a girl of 12, that leg was found 0.5 cm. longer than its mate. This lengthening of the shaft is common in chronic bone disease. Congestion in a limb has a causal connection with local increased growth. The same cause that induces a growth anomaly in a child, induces atrophy of bone in an adult. Vasomotor disturbances are probably the causal factor in both, and these affect the capillary circulation rather than the large vessels. A bibliography of 145 titles is appended.

Münchener medizinische Wochenschrift, Munich

Dec. 17, 1920, **67**, No. 51

Effect of Diseases on Ossification. E. Stettner.—p. 1459.
Hand-Forearm Reflex and First Phalanx Reflex. M. Goldstein.—p. 1460.
Artificial Aid in Impregnation of Ovum. M. Nassauer.—p. 1463.
Micromethod for Demonstration of Acidosis. H. Rohonyi.—p. 1465.
Is Sour Milk Injurious to Infants? H. Perger.—p. 1467.
Blood Picture of the Healthy Since the War. Lämpe and Saupe.—p. 1468.
Early Diagnosis of Pulmonary Tuberculosis. Litzner.—p. 1469.
Telangiectatic Granulomas. Luchs.—p. 1470.
Relations Between Gastric Ulcer and Cancer. H. v. Bombard.—p. 1471.
Hemorrhagic Encephalitis with Dysentery. S. Buttenwieser.—p. 1472.
Heredity of Diseases Associated with Vagotonia. F. Lenz.—p. 1473.
"Diagnostic Tuberculin." A. Wolff-Eisner.—p. 1473.
*Beethoven's Disease. W. Schweisheimer.—p. 1473.

Beethoven's Disease.—As Dec. 17, 1920, was the one hundred and fiftieth anniversary of Beethoven's birthday. Schweisheimer discusses the causes of his deafness and the necropsy findings, confirming the chronic liver disease. When Beethoven was tapped, he remarked that the surgeon was another Moses, smiting the rock and the fluid gushed forth.

Wiener klinische Wochenschrift, Vienna

Nov. 25, 1920, **33**, No. 48

*Treatment of Tuberculosis of the Kidney. J. Winiwarter.—p. 1043.
*Allergic Reaction in Morphin Addicts. H. Kogerer.—p. 1045.
*Toe Symptom in Meningitis and Brain Edema. A. Edelmann.—p. 1045.
*Treatment of Pertussis with Silver Nitrate. R. Lederer.—p. 1049.
Tuberculosis in Austria in War Conditions. H. Hayek.—p. 1051.
Further Light on the "Nem" System. S. Rosenfeld.—p. 1051.

Treatment of Tuberculosis of the Kidney.—Winiwarter reports four cases of tuberculosis of the kidney in which catheterization of the ureters, to determine which kidney was affected, was impossible. He recommends in such cases sectio alta under anesthesia. Before opening the bladder he injects phlorizin and indigocarmin; he then catheterizes both ureters, passing the catheters out through the urethra. The tuberculous changes in the bladder are curetted and cauterized, and then the bladder and the abdominal wound are closed. In the meantime the urine from each kidney is collected and examined for albumin, blue staining and sugar. The functional tests should be completed by the time the preparations for nephrectomy have been made, so that no time is lost. The ureter catheters are then drawn out, a retention catheter is inserted in the bladder, and the tuberculous kidney is removed.

Allergic Reaction in Morphin Addicts.—Kogerer reports that the majority of morphin addicts present an easily perceptible hyposusceptibility of the skin to the intracutaneous injection of morphin solutions. In a number of the patients it was observed that the susceptibility increased during periods of abstinence. This reaction may clear up the diagnosis in a dubious case with denial on the patient's part.

Toe Sign in Meningitis and Brain Edema.—Edelmann states that if the leg, completely extended, is flexed at the hip joint, a dorsal extension of the big toe occurs in the presence of meningitis, in much the same manner as in the Babinski phenomenon. It seems to be an early symptom of meningitis. It appears also in senile meningitis in which rigidity of the neck and not infrequently the Kernig sign are absent. The symptom was observed not only with meningitis but also with brain edema.

Treatment of Pertussis with Silver Nitrate.—Lederer has treated twenty-five cases of pertussis with local applications of silver nitrate. The spastic stage was shortened, the night attacks were lessened and in cases of long standing the attacks no longer recurred. The method is contraindicated for timid, nervous children as the treatment is somewhat painful. During the first two weeks the pharynx is painted every two days with a 2 per cent. watery solution of silver nitrate. Then the treatment is interrupted for a few days to note the effect. If the paroxysmal attacks do not decrease, the nitrate is continued for another week. In the case of infants, Lederer recommends that the treatment be given daily. On the day following the treatment the attacks may be aggravated. The treatment did not prevent contagion of others in the family, and he ascribes its effect mainly to suggestion. Ochsenius has reported application of the method in 447 cases.

Zeitschrift für klinische Medizin, Berlin

1920, **90**, No. 3-4

*Pathogenesis of Gout. Gudzent, Wille and Keeser.—p. 147.
*The Heart and the Internal Secretions. H. Zondek.—p. 171.
Orthodiagraphy of the War Heart. L. Kenéz.—p. 202.
*Dependence of Leukocyte Count on Posture. G. Jörgensen.—p. 216.
Plethysmography in Heart Disease. H. Schirokauer.—p. 253.
*Reaction to Parenteral Injection of Milk. E. Wetzel.—p. 253.
Changes in Suprarenals in Five Cases of Addison's Disease. W. Löffler.—p. 265.

Gout.—Gudzent found that the uric acid content of the blood varied within a wide range in the healthy and in the tuberculous, tabetic and other patients systematically tested on a purin-poor diet. In 45 cases of kidney disease, the range was from 1 to 5 mg. per hundred c.c. of blood, and in five others

from 5 to 8 mg. In 109 cases of gout, without typical attacks, the range was from 1 to 5 in all but 5, and in these it was never above 7 mg. Injection by the vein of 1 gm. monosodium urate in 200 c.c. of distilled water showed that the tissues in gout retain the urate, while in the healthy and with other diseases, the urate is nearly or completely eliminated. This retention of the urate by the tissues explains the oversaturation and formation of deposits of urates. The research reported supplies further bases for treatment of gout with dieting, mechanotherapy, balneotherapy and radium, and it throws light also on the action of colchicum.

The Heart and the Internal Secretions.—Zondek describes typical cases to show the changes in the heart with acromegaly, with giant growth, the thymicolymphatic status, chondrodystrophia, congenital myotonia, and thyroid anomalies. Each of these has its characteristic endocrine basis and its characteristic imprint on the heart.

The Leukocyte Count and the Attitude.—Jörgensen relates that the leukocyte count when reclining is much higher than in the erect position. The difference may amount to 100 per cent., but the count keeps at about the same level as long as the position is maintained, and the change occurs the same whether the position is altered rapidly or slowly. The number of erythrocytes does not fluctuate with the leukocytes, and the Arneth blood picture is not modified. He tabulates the findings in a number of persons in repeated tests, and emphasizes the importance of noting the position in taking the leukocyte count.

Febrile Reaction to Injection of Milk.—Wetzel declares that the absence of a febrile reaction to parenteral injection of milk is not constant enough to aid in diagnosis, although it is occasionally conspicuous in diabetes and cancer.

Zentralblatt für Chirurgie, Leipzig

Dec. 4, 1920, **47**, No. 49

*Spiral Suturing for Varicose Veins. E. O. P. Schultze.—p. 1482.
*Improved Technic for Wiring Fractures. M. zur Verth.—p. 1483.
Outcome of Pneumatosis Cystoides. A. Neudörfer.—p. 1486.
Foreign Body in Hernial Sac. W. Haas.—p. 1488.
"Nephrotomy and Fixation of Movable Kidney."—E. Rehn.—p. 1490.

Spiral Sutures Without Incision for Varicose Veins.—Schultze states that in varicose veins with a positive Trendelenburg symptom he has achieved good results with various procedures, but of late he has employed another method which he thinks marks a distinct advance. He follows somewhat the plan of Rindfleisch's spiral excision. After ligation of the saphenous vein in the usual manner, he begins at the ankle, and using moist iodized catgut, he applies a spiral continuous suture (a running backstitch suture, *fortlaufende hinterstichnaht*), placing the stitches close together where they grasp veins, and making the winding turns of the spiral about 3 inches apart. Then, about 1½ cm. above the first spiral line of sutures he applies a second line parallel to it, in exactly the same manner. The stitches are pulled rather tight so as to grasp the tissues firmly close down to the fascia. If veins are pierced, there is no harm done, as the thrombogenic effect will be favorable; the next stitch is then taken just back of this point, grasps the whole vessel and stays the hemorrhage. The upward limit of the continuous spiral suture should be at least a hand's breadth beyond the highest visible varicose veins. If the skin is atrophic, the stitches should be closer together and should be drawn less taut to ward off necrosis. He has seen no disturbances. The sutures are left to absorb. Patients are confined to bed for about two weeks.

Improved Technic for Wiring Fractures.—Zur Verth discusses the method of soldering wire sutures, in surgery of the bones, as recommended by Neff and O'Malley (Chicago). He has found the method efficacious but thinks the technic is too long and complicated. He describes his modifications with a view to simplifying the procedure.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 12, 1921, **1**, No. 7

Dynamometer Tests. J. H. O. Reijs.—p. 817.
Stain for Capsule of Bacteria. M. van Riemsdijk.—p. 823.
Ileus from Constriction by Appendix. L. L. Posthuma.—p. 835.
Transfusion of Blood. G. F. Gaarenstroom.—p. 836.

Norsk Magazin for Lægevidenskaben, Christiania

February, 1921, **82**, No. 2

*Entero-Anastomosis in Treatment of Ileus. R. Ingebrigtsen.—p. 81
*Changes in Blood on Different Diets. K. Utheim.—p. 96.
*The Loss of Weight in the Newborn. K. Utheim.—p. 104.
*Transplantation Cancers. G. Schaanning.—p. 109.
*Treatment of Poliomyelitis. H. Sæthre.—p. 122.

Entero-Anastomosis in Treatment of Ileus.—Ingebrigtsen pleads that in all cases of acute intestinal obstructions from adhesions, unless the adhesions can be easily broken up, it is better to leave them unmolested. The distended loop above and the flattened loop below the obstruction should be joined by side-to-side anastomosis. He describes seven cases in which he did this, leaving the excluded loop of unknown length unmolested. The interval since has been from three to eighteen months, and the outcome has been perfect in all except that two have had slight colic pains for a brief period. His attention was attracted to the necessity for this by the case of a man over 61 whose bowel ruptured while the operator was trying to detach it from the adhesions binding the loop down in the small pelvis. This compelled the resection of 12 cm. of the small intestine, but the patient's condition did not improve and a fistula was made in the small intestine. So much chyme was lost through this fistula that the patient died of debility as attempts to close the fistula had failed. He adds that if it is considered best to resect the excluded segment, this can be done later after the general condition has improved. The great argument in favor of leaving the adhesions unmolested is that the intestine may be twisted when bound down by bands, and hence the circulation is so impaired that the slightest traction causes rupture.

Changes in the Blood with the Diet.—Utheim describes experiments on seventeen grown rabbits and four young ones, to ascertain the changes in the composition of the blood, the circulation, and the volume with different conditions of nutrition.

The Loss of Weight in the Newly Born.—Utheim has been examining the records of 400 newly born infants in respect to the loss of weight, the fever and the concentration of the blood in the first week after birth, compared with the child's condition afterward. The loss in weight, he states, is a physiologic necessity, and is not accompanied by concentration of the blood.

Transplantation Cancers.—Schaanning reports five cases of transplantation metastasis of cancer after operation. He argues to show that the blood or lymph can scarcely be responsible for the spread of the cancer in these cases. In four the secondary cancer developed soon after the operation, but in one case over two years elapsed before the hypernephroma developed in the operative wound. In four of the cases laparotomy had been done—twice for gastric cancer and twice for uterine cancer, and in the fifth case nephrectomy.

Treatment of Poliomyelitis.—Saethre emphasizes the importance of warding off deformity from the very first of the disease. He shows by some instances that the backward curve at the knee, saber leg, is the result of neglect of proper precautions. Faulty or neglect of treatment he declares is responsible for nearly as much permanent functional loss after poliomyelitis as is the actual destruction of the cells of the anterior horns. Several illustrations are given showing improvised apparatus which will ward off the grave danger of allowing the muscles to be overstretched. These measures he advocates can be applied in the home with simple improvised appliances especially those to keep the feet at a right angle and the knees in the proper position. At first all the muscles must be kept in a completely relaxed condition, a passive repose. Not until all pains and hyperesthesia and Kernig's sign have disappeared should any exercise be undertaken supplemented by massage and electric treatment. A tendency to abnormal attitudes must be counteracted with artificial means, celluloid and flannel bandages, plaster, etc. These artificial aids must be regarded as only provisional but he adds that the best functional results are obtained in the hands of specialists as in the neurologic ward at the Rikshospital of which he is assistant. He describes his experience and the lessons therefrom, stressing in conclusion anew the importance of preventing any overstretching of muscles.

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DIAGNOSIS OF CHRONIC VALVULAR DISEASE *

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A long life of accurate and painstaking study of the symptoms and signs of heart disease correlated with a wealth of postmortem observations might entitle a man to discuss with assurance the subject of the diagnosis of chronic valvular disease. Our inexperience we must counteract so far as possible by the experience of others. A desire to arrive at a common understanding of the present-day diagnosis of chronic valvular disease is the reason for the discussion of this subject this evening.

In the recent years of concentration on the functional pathology of the circulation, there has been a tendency at times to neglect structural pathology. The one helps our understanding of the other, and it is wise now and then to pause and to take account of stock. As the result of this marked advance of knowledge in disordered cardiac function in the last ten to fifteen years there has been also an increase in our knowledge of the diagnosis of chronic valvular disease. It is not quite such a cut and dried subject as some believe.

I shall summarize the symptoms and signs of disease of each of the four heart valves in turn—mitral, tricuspid, aortic and pulmonary—taking up first the pathognomonic signs, if there are any, and then those that indicate but do not prove the presence of a definite valve lesion. So far as I know, there are no symptoms pathognomonic of an individual valve lesion. It is only when heart failure begins or when a cardiac infection is in progress that special symptoms begin to develop. Mackenzie says:

> Generally speaking, the symptoms of heart failure show little that is distinctive of the particular valves affected. In the aortic cases, the reflex sensory phenomena are more prominent, and the ashen color of the face is sometimes characteristic. Where there is a mitral lesion, the pulmonary symptoms are usually more prominent, and the face may be ruddy with a dark tinge [cyanotic flush]. Apart from such differences, there is a great similarity in the symptoms of heart failure produced by all kinds of lesions.

MITRAL LESIONS

Mitral valve damage is proved by the presence at the apex of a diastolic murmur, with or without a thrill, which begins a brief interval after the second heart sound in the absence of an early diastolic murmur heard along the left border of the sternum. There may or may not be a presystolic crescendo murmur at the end of it. This is the only positive evidence of mitral valve lesion that I believe we possess. There are many signs that indicate the probability of mitral lesions but do not prove them. A very loud blowing or rough systolic murmur masking the first sound, heard best at the apex and transmitted well to the axilla and perhaps to the back, is good evidence of mitral damage with regurgitation, particularly if there is also a systolic thrill palpable at the apex. With a rheumatic history and some enlargement of the heart, such a murmur is practically pathognomonic of mitral damage with regurgitation. If there is much cardiac enlargement, as in cardiorenal disease, such a murmur may result from functional regurgitation, though there is less likelihood of a thrill or of as much intensity of the murmur as goes with a valve lesion. At times this organic regurgitant murmur is present with the diastolic murmur of mitral stenosis. Roentgenologic evidence of a heart enlarged transversely, with prominence in the region of the left auricle, is also good evidence of mitral valve disease. The electrocardiographic finding of pronounced right ventricular preponderance with prominent auricular complexes (P waves) in Lead II is excellent evidence of mitral damage. Both of these findings come with advanced mitral stenosis, as a rule, and are corroborative evidence, the apical diastolic murmur proving the condition. Marked accentuation of the second sound at the second left interspace near the sternum (P_2++) usually occurs in chronic mitral disease. Auricular fibrillation existing in a young adult—under the age of 40 years—almost always means rheumatic heart disease with mitral involvement—usually stenosis. There is, as a matter of fact, rarely organic mitral regurgitation without some stenosis, and also rarely mitral stenosis without some regurgitation. It is better to speak generally of mitral involvement, the high grades of which always mean mitral stenosis.

Other signs that suggest the possibility of mitral disease are the sharp first sound at apex, with or without a very brief thrill in a heart not beating violently. This short, so-called presystolic murmur and thrill may be found in nervous, overactive hearts as well as in mitral stenosis. A reduplication of the first sound at the apex, and a prominence of the third heart sound should also cause one to search for mitral stenosis, these findings and the sharpness of the apical first sound indicating the need of trying exercise (or amyl nitrite inhalation) to increase the speed and force of

* Read before the Association of Cardiac Clinics, New York Academy of Medicine, Jan. 26, 1921.

the heart to bring out the mitral diastolic murmur, especially with its presystolic accentuation, in early or slight grades of mitral stenosis. Recently a loud third heart sound close to the sternum in the fourth space has attracted my attention, the mitral diastolic murmur being found at the apex immediately following the third heart sound in several such cases. A pronounced presystolic murmur alone without the mid-diastolic murmur I have rarely heard, and unless the presystolic murmur is quite definite it should not, I think, be intrepreted as meaning mitral stenosis Moreover, it should be remembered that when auricular fibrillation sets in, the auricles cease coordinate action, so that the presystolic phase of the diastolic murmur of mitral stenosis disappears, leaving the tell-tale mid-diastolic murmur behind it. Since auricular fibrillation is a very common condition, especially in hearts with mitral stenosis, this is a very important point to remember.[1] It shows the greater need of relying on the diastolic rather than on the presystolic murmur in the diagnosis of mitral stenosis. However, Mackenzie said, "In the very early stages—some years before the appearance of a murmur—I have detected a slight presystolic thrill. The first murmur to appear precedes or runs up to, and seems to terminate in the first sound, and is audible over a small area around the apex." I believe that it is unsafe for the average physician to interpret such a slight "presystolic" thrill as probable early mitral stenosis. I should not dare to do it myself. I should like expressions of opinion on this point concerning presystolic murmurs and thrills in the absence of the diastolic murmur of mitral stenosis.

The diastolic murmur of which I have spoken so much is of a characteristic type. As I said, it begins at an appreciable interval after the second sound and is often diminuendo in character—low pitched and rumbling if the heart rate is slow. It is best heard in my experience with the patient recumbent and by the use of the bell stethoscope. The murmur is very localized at or just inside the maximal apex impulse. It is accentuated by exercise. With well marked aortic regurgitation the apical diastolic murmur, with or without presystolic accentuation, may mean simply the functional mitral stenosis described by Austin Flint. How often this difficulty may arise I do not know. I believe that the finding of aortic regurgitation with a mitral diastolic murmur in a rheumatic heart should generally be considered as a combination of aortic regurgitation and organic mitral stenosis, in a syphilitic heart as aortic regurgitation and functional mitral stenosis. Thayer, in 1901, reported a mitral diastolic murmur in forty-five out of seventy-four cases of aortic regurgitation which came to necropsy at the Johns Hopkins Hospital. There was stenosis or other abnormality of the mitral valve in twenty-eight of these seventy-four cases, so that by subtracting this number from the total figures we have a probable ratio of 17 : 46, or about half or less of the pure aortic regurgitation cases exhibiting a functional stenosis. In several recent cases of marked aortic regurgitation —syphilitic in origin—I have failed to find the Austin Flint murmur. I should like very much an expression of opinion on this point.

Other conditions suggesting the possibility of mitral valve damage are the history of rheumatic fever, especially if repeated attacks have occurred, cerebral embolism (from left auricular thrombosis) in a young person, generally of the female sex, hemoptysis in a young person without tuberculosis, left recurrent laryngeal nerve paralysis, and the mitral facies with pulmonary congestion in various stages of heart failure. The pulse is often stated to be small and the systolic pressure low in mitral stenosis; this is not infrequently so in cases of auricular fibrillation, but it is certainly not always the case.

TRICUSPID LESIONS

Damage to the tricuspid valve is relatively rare, and is usually difficult to diagnose. The frequency of functional tricuspid regurgitation is great as compared with organic changes in the valve to produce regurgitation or stenosis. Marked tricuspid stenosis should be represented by a mid-diastolic murmur with or without a presystolic phase and localized over the lower half of the sternum or just to the left, but care must be taken that this is not a widely heard mitral diastolic murmur; also it must not be confused with the early diastolic murmur of aortic regurgitation which is heard in the same place and also higher. Mackenzie states that he has heard the tricuspid presystolic murmur only three times. Possibly this is because most cases are likely to have auricular fibrillation associated. Tricuspid stenosis is found in advanced rheumatic heart disease almost always with mitral stenosis. Osler and Gibson state that in a group of 173 cases of tricuspid stenosis, this lesion occurred alone in only twelve; it was associated with a mitral lesion in ninety-seven, with mitral and aortic lesions in fifty-eight, with mitral and pulmonary in three, and with pulmonary stenosis in three.

There are other helpful signs of organic tricuspid disease. A large liver may be present, although Osler and Gibson say that it is not always enlarged with tricuspid stenosis. Mackenzie looked "upon pulsation of the liver with a marked wave due to the auricle as an evidence of possible tricuspid stenosis." But, of course, the auricles may fibrillate and so the auricular wave may disappear. Levine tells me that he has recently seen three cases of tricuspid stenosis proved at necropsy, two of them diagnosed antemortem, all with auricular fibrillation and mitral stenosis associated. One of the striking features of these cases was the enlarged nonpulsating liver when there was no evidence either of cardiac failure or of alcoholic cirrhosis.

Cyanosis, marked in some cases and with a jaundiced tinge to the skin, polycythemia (even to 8 or 9 million red cells per cubic millimeter), clubbed fingers, dilated cervical veins, increased dulness to percussion to the right of the sternum, particularly in the third and fourth interspaces, and a rather high abnormal prominence of the right auricular shadow by roentgen ray all support the diagnosis of tricuspid valve disease. There has to be a fairly marked stenosis to

1. Gerhardt (Herzklappenfehler, Vienna and Leipzig, 1913) and others claim that an important factor in the production of the presystolic murmur of mitral stenosis is the increasing stenosis in each heart cycle when ventricular systole begins just preceding the actual closure of the mitral valve and the first sound of the heart. If the rate is rapid so that there is still a good sized stream of blood entering the left ventricle from the left auricle when the ventricle begins to contract, the increasing narrowness of the stiffened mitral valve may conceivably contribute largely to the crescendo quality of the presystolic murmur. This particular crescendo quality may not be produced by the auricular contraction, although the general accentuation of the diastolic murmur in presystole is so accounted for. The reported finding of occasional crescendo accentuation of the diastolic murmur just preceding the first sound in auricular fibrillation when the diastolic interval is short may be explained as outlined above, but certainly the chief cause for the presystolic (though perhaps not crescendo) accentuation of the mitral diastolic murmur is auricular contraction.

bring out some of these findings, but it is said that a superficial, high pitched, long, rough systolic murmur maximal over the sternum at about the level of the fourth space and to the left rather than to the right, accompanied by a thrill, means organic tricuspid regurgitation. The heart is enlarged transversely in tricuspid disease. Electrocardiograms have shown right ventricular preponderance, partly at least because mitral stenosis is almost always associated. Also in the absence of aricular fibrillation, the auricular complex (P wave) should be increased in size. The venous blood pressure should be increased. Except for the frequency of auricular fibrillation the arterial pulse is, I believe, not normal.

AORTIC LESIONS

The aortic valve may be the only valve damaged, as in syphilis, or it may be often associated with mitral lesions, as in the rheumatic heart. Regurgitation and stenosis are much less grades of one disease process than is the case with the mitral valve; aortic regurgitation may occur with practically no stenosis, although stenosis is rare without some regurgitation. Aortic regurgitation is about ten times more common than aortic stenosis.

A diastolic murmur beginning early and best heard down the left border of the sternum, associated with the waterhammer pulse, is pathognomonic of aortic regurgitation. This murmur may also be heard along the left border of the heart and at the apex, but it should not be confused with the mitral diastolic at the apex, which is later in time and more rumbling in character. Whether or not the cusp or cusps involved have anything to do with the variable transmission of the murmur I do not know. A musical diastolic murmur suddenly appearing after trauma or exertion usually means a valve rupture.

The marked waterhammer quality of the pulse described by Corrigan is also pathognomonic of aortic regurgitation, although a full pulse and capillary pulsation may be found in other conditions as well. Various phenomena, such as the pistol shot, the to-and-fro murmur on pressure over the great vessels (Duroziez' sign) and the visible pulsation or throbbing of the arteries of the head and extremities are dependent on the markedly increased pulse pressure due chiefly to the very low diastolic blood pressure. This wide pulse pressure with very low diastolic reading is pathognomonic of aortic regurgitation. The symptoms of ringing in the ears and vertigo sometimes complained of by aortic patients probably have their origin in the waterhammer type of pulse. An interesting phenomenon observed by Hill and Rowlands in aortic regurgitation is the much higher systolic pressure found in the femoral artery than in the brachial artery. A patient in the Massachusetts General Hospital with marked aortic regurgitation only the other day showed a brachial systolic blood pressure of from 132 to 136 mm. of mercury, and a femoral systolic blood pressure of 270 mm. The diastolic pressure was not clearly determinable in either artery, but apparently lay between 10 and 20 mm. This preponderance of femoral pressure is due, it is said, to an arterial tonus maintained to support properly the cerebral circulation in such cases.

Absence or weakness of the aortic second sound may be found in aortic regurgitation. The heart is always enlarged if there is much regurgitation, and it is in such a case with marked regurgitation that the largest heart (cor bovinum) is found. The apex impulse is often found in the sixth or seventh space and out close to the anterior axillary line. The roentgen ray disclosed a large heart increased in size downward and to the left, with a rounded apex. Increased excursion of the pulsation of the aortic arch is common in aortic regurgitation. The aortic shadow is increased in size if there is associated a syphilitic aortitis. In uncomplicated cases the electrocardiogram reveals marked left ventricular preponderance—the most marked that we observe. Krehl, however, has shown that a slight amount of aortic regurgitation may be present without any obvious enlargement of the heart.

Functional regurgitation through the aortic valve was described by Corrigan and has been spoken of since by others, but it is probably very rare. I have not observed it, to my knowledge. About this point I should like a further expression of opinion.

Confusion with pulmonary regurgitation should be avoided by failure to find signs of increased pulse pressure in pulmonary regurgitation. A diastolic murmur heard over the sternum has been recorded as of venous origin, and it has been encountered in exophthalmic goiter; but such cases should present but little difficulty. Recently in a case previously diagnosed by myself as slight aortic regurgitation because of the finding of an early diastolic murmur heard along the left border of the sternum, from the second intercostal space downward, the roentgen ray showed marked prominence in the region of the pulmonary artery, with marked pulsation in the region of the hilum of the right lung. The roentgenologic diagnosis of the condition was "probable patent ductus arteriosus," following Groedel. The electrocardiogram revealed marked preponderance of the right ventricle, certainly not supporting aortic regurgitation. The patient was a young woman, without a history of rheumatic fever, and in whom some cardiac symptoms had developed following influenza one year previously. There was no waterhammer quality to the pulse and no systolic murmur at the base of the heart. The diagnosis must rest in doubt, though pulmonary regurgitation of unknown cause would best explain all the signs.

Aortic stenosis may be definitely diagnosed on the discovery of a rough systolic murmur, with a systolic thrill over the aortic area to the right of the sternum in the second interspace and transmitted to the vessels of the neck in the absence of signs of an aneurysm. Stokes noted that this murmur may be audible at some distance from the chest wall. The pulse is anacrotic or plateau in type or both, a very important confirmatory finding. Also the bisferiens pulse has been recorded in aortic stenosis. The blood pressure is not remarkable, as a rule; if there is considerable regurgitation so that the stenotic effect is overbalanced, there may be an increased pulse pressure and absence of the anacrotic and plateau pulse characteristics. The heart is usually enlarged downward and to the left, as shown by palpation, percussion and the roentgen ray, but never to the degree found in uncomplicated aortic regurgitation. In aortic stenosis the aortic second sound is usually absent or much diminished. The electrocardiogram shows left ventricular preponderance. Mitral stenosis may be associated with aortic stenosis and thus may neutralize the left ventricular preponderance.

Slight degrees of aortic stenosis may be suspected when there is rheumatic heart disease with aortic regurgitation and a blowing systolic murmur at the aortic area transmitted to the neck, but without great loudness or a thrill. Aortic stenosis is frequently diagnosed, however, when it does not exist, hemic and other conditions being common causes of the systolic murmurs at the aortic area. Aneurysm and aortic dilatation may also be confused with aortic stenosis of slight to moderate degree. Pulmonary stenosis should not be confused because its systolic murmur, though also loud and accompanied by a thrill, is heard best to the left of the sternum and is not transmitted to the neck.

PULMONARY VALVE LESIONS

Chronic valvular disease involving the pulmonary valve is very rare. Endocarditis of the pulmonary valve is almost invariably associated with mitral, aortic or tricuspid lesions alone or combined. Pulmonary regurgitation may be suspected by the finding of a murmur beginning early in diastole with or immediately following the second sound and extending down the left border of the sternum in the absence of the waterhammer pulse; but the murmur of a slight degree of regurgitation through the pulmonary valve may be indistinguishable from that of slight aortic regurgitation, since the position and character of the murmurs are identical, and in view of the small amount of aortic regurgitation there may be no waterhammer character to the pulse. In such cases, roentgenographic and electrocardiographic evidence should be helpful in indicating which ventricle shows the greater hypertrophy. Organic pulmonary regurgitation may not be distinguishable from functional pulmonary regurgitation. The functional type occurs in cases of advanced mitral disease with much pulmonary engorgement, but it is conceivable that the organic regurgitation may also occur in such cases. The murmur of functional pulmonary regurgitation—due to the stretching of the pulmonary ring—is that described by Graham Steell. Its frequency is a matter of some discussion. It is said to appear and disappear with changes in the condition of the patient. It may be difficult to distinguish from slight functional aortic regurgitation. I feel very doubtful about calling a slight early diastolic murmur heard along the left border of the sternum a Graham Steell murmur. Graham Steell himself found the pulmonary regurgitant murmur rarely. Osler and Gibson say: "From the clinical standpoint, so much that has been said about pulmonary regurgitation is either unproved or as yet incapable of proof that the subject should be approached with the greatest caution. . . . Pulmonary regurgitation is more often diagnosed than existent. In several cases in which we thought it to be present in young persons the lesion proved to be aortic." I should like an expression of opinion on this point.

Pulmonary stenosis is a fairly common congenital heart abnormality, but as the result of disease after birth is exceedingly rare. I have seen it only in congenital hearts. A loud systolic murmur in the second interspace just to the left of the sternum with a systolic thrill and not transmitted to the vessels of the neck is pathognomonic of pulmonary stenosis in the absence of signs of an aneurysm. Two types of congenital stenosis are described: that occurring low and involving the infundibulum of the right ventricle, and that involving the valve itself. The former variety is said to show the maximal murmur and thrill in the third left interspace, and the latter in the second left space. With any pronounced degree of stenosis there is considerable cyanosis, though other congenital abnormalities, such as patency of the ductus arteriosus or an interventricular foramen so commonly found with pulmonary stenosis, tend to decrease the degree of cyanosis. Polycythemia and clubbing of the fingers may occur. Enlargement of the heart to the left with the apex tilted up is shown by the roentgen ray. Vaquez and Bordet call this the "wooden shoe" (sabot) shape. Also the roentgen ray shows prominence in the region of the pulmonary artery. The electrocardiogram indicates right ventricular preponderance, and it is in these cases of congenital pulmonary stenosis that I have found the highest grades of right ventricular preponderance. Stenosis of the pulmonary valve acquired after birth should be distinguishable from the congenital type by the history of the case and by the evidence of other endocarditic lesions.

COMBINED VALVE LESIONS

Finally, a few words should be said about combined valve lesions. The combination of valve lesions presents a combination or a neutralization of the signs of the individual valve changes. For example, stenosis of the aortic valve cuts down and may completely neutralize the Corrigan pulse of aortic regurgitation. Aortic regurgitation will balance the right ventricular hypertrophy of mitral stenosis so that the whole heart may be symmetrically enlarged. The characteristic murmurs of both lesions will be present in such a heart—the early diastolic murmur of aortic regurgitation along the left border of the sternum and the later rumbling diastolic murmur of mitral stenosis at the apex. Sometimes an apparent difficulty may arise as to whether these murmurs represent the diastolic murmur of true mitral stenosis with the functional pulmonary regurgitant murmur of Graham Steell, or the diastolic murmur of aortic regurgitation with the functional mitral stenotic murmur of Austin Flint. Other data, such as the type of ventricular enlargement (left or right sided) determined by electrocardiogram and the roentgen ray, and the presence or absence of the Corrigan pulse or of pulmonary congestion, should clear up such doubts quickly. Probably in rheumatic heart disease these two diastolic murmurs most often mean both organic aortic regurgitation and organic mitral stenosis. More likelihood of error arises when one attempts to diagnose damage to three valves. Osler and Gibson write:

> As a rule the physician is in a safer position if he limits his diagnostic ambition to two valves. Clinically, when lesions of three or four valves are determined with accuracy, mortifying postmortem disclosures are not unlikely to follow.

Function of Public Health Nurse.—The primary function of the public health nurse is to rehabilitate families along health lines. No matter what her introduction to a home may be, whether it is a birth registration, the discovery of a physical defect in a school child, or a problem case reported from a hospital, her job in the home is the same—to get the family to do the healthy thing. This involves not only instruction but also assistance. It is necessary that the family should know what to do and want to do it, but it is also necessary, in many cases, that obstacles standing in the way should be removed. In the removal of these obstacles the public health nurse functions as a social worker.—R. E. Mills, *Hospital Social Service* **3**:57, 1921.

ETIOLOGY OF THE CARDIOVASCULAR AFFECTIONS*

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PITTSBURGH

Diseases occur as the result of predisposing and xciting factors. To trace the predisposing factors of disease with any degree of exclusiveness is a large roblem. It leads to a consideration of racial tendency, ereditary familial qualities, health of the parent dur- ig the period of gestation, nutrition during infancy, and i later life, hygienic environment, social and economic tatus, and hereditary as well as acquired immunity to ie infections.

The broader our point of view, the more we consider iese predisposing factors in the evaluation of the atient to his disease. That the importance of this is ppreciated is well shown in the activities of cardiac

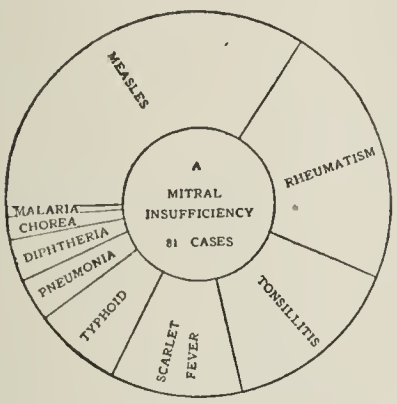


Chart 1

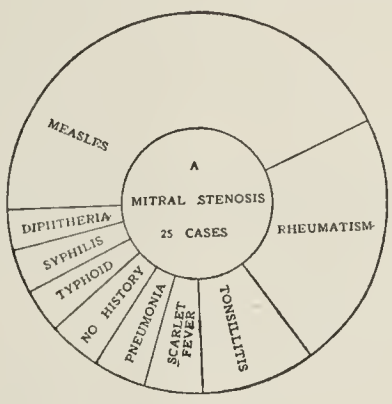


Chart 2

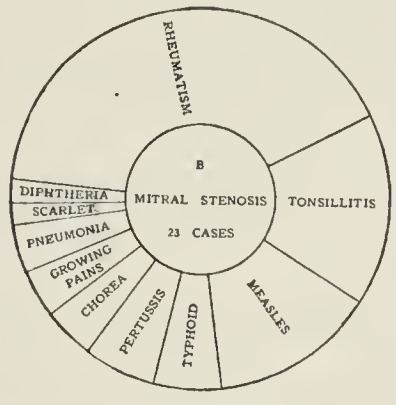


Chart 3

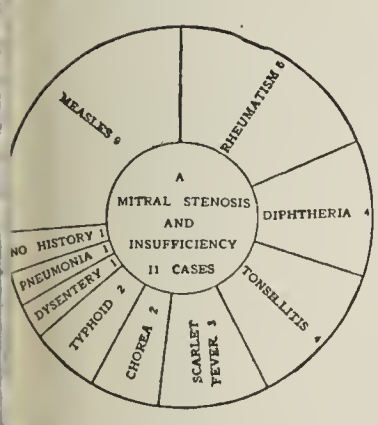


Chart 4

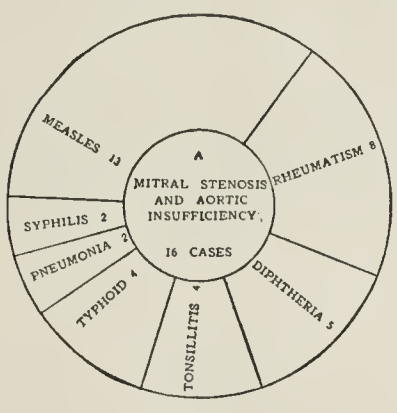


Chart 5



Chart 6

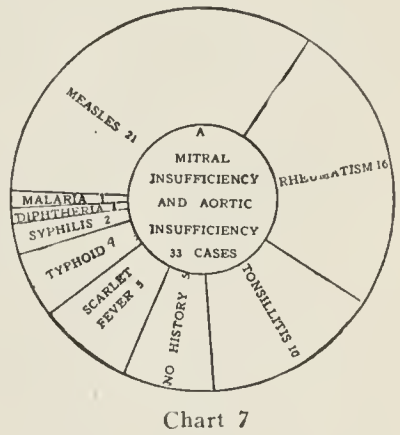


Chart 7

Charts 1-7.—Previous history in individual valvular types.

linics in large medical centers of the country, especially n the city of New York.

In eliciting the history of a cardiovascular case, the mportance of predisposing factors occupies the mental ackground of the physician; while in the foreground ie is considering the more obvious and palpable cause f the disease, the exciting factor. We need not stress he point as to whether the exciting or the predis- osing factor is more potent in the production of ardiovascular disease; no doubt the two are equally ctive.

From the first day of postnatal life to the last one, our existence as healthy and living individuals is con- tantly endangered by bacterial poisoning. The early onflicts of the human organism with pathogenic acteria are usually more or less violent. If one studies he life history of the infant from the day of its birth, ie will note that the early sick-spells, such as tonsillitis, come on with great disturbance. There is high fever, rapid pulse, rapid respiration, nausea, vomiting, etc.

We say that infants develop fever readily, and that a high temperature in childhood means less than when it occurs in adult life. What we should say is that an infant unused to the pathogenic bacteria of our earthly habitation is shaken violently during its early conflicts with bacterial invasion. The battleground for many of these struggles in the lives of children is in the pharynx and within the tonsils. This danger field is the vestibule of the respiratory and gastro-intestinal tract.

In the present analysis of 476 cardiovascular cases, after rheumatic fever, tonsillitis occurred more frequently than any other infection.

It is generally agreed that aside from certain predisposing factors, the important cause of cardiovascular disease is to be found in the infections. Osler says that endocarditis occurs with rheumatic fever, tonsillitis, scarlet fever, pneumonia, chorea and rarely in measles and varioloid, and that acute myocarditis occurs in diphtheria and typhoid. The causes of acute myocarditis degenerations are given [1] as diphtheria, typhus, typhoid; also rheumatic fever, scarlatina, variola and influenza. Chronic myocardial degenerations are said to be produced by valvular lesions and the chronic infections.

It would be of no advantage to quote other recognized authorities, as the subject is generally presented in a similar way. My criticism is that such statements are too general and that a more detailed consideration of the preceding history of cardiovascular patients is of the utmost importance.

The classification that I present is based on the disease manifestations as we meet them in our consulting rooms and at the bedside. The present analysis is based on 476 cases. In this series a special effort was made to investigate the antecedent disease history. Only well substantiated statements were accepted as to the nature of the disease recorded. "Rheumatism" includes only the well marked cases of rheumatic fever and multiple arthritis with fever which confined patients to their bed for a variable time. "Growing pains" designated sub-

* Read before the Association of Cardiac Clinics, New York Academy of Medicine, Jan. 26, 1921.

1. Osler's System of Medicine, 4.

acute arthritis or myositis of childhood, in most cases continuing for some time. "Previous disease" included measles; chickenpox; scarlet fever; diphtheria; pertussis; chorea; rhinitis; pharyngitis; tonsillitis; quinsy; growing pains; rheumatic fever; typhoid fever; influenza; pneumonia, R. L.; syphilis and other diseases.

The history having been obtained, these patients were examined, and the points in the diagnosis determined, thus:

Cardiovascular Examination.—Cardiac measurements: Right border apex, left border; total measurement.

Apex impulse: Space; thrill.

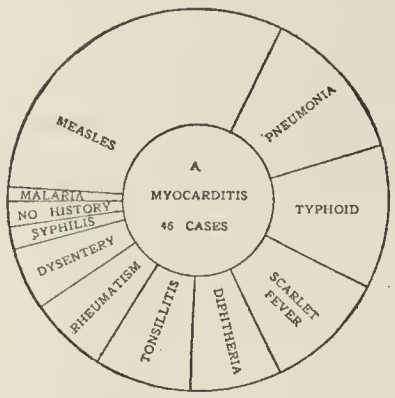


Chart 8

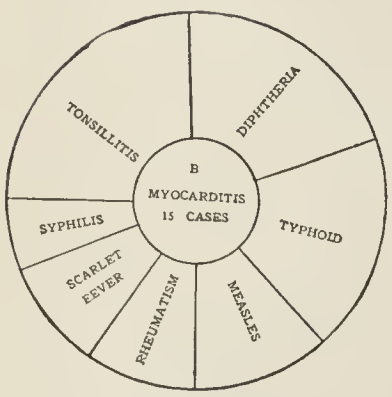


Chart 9

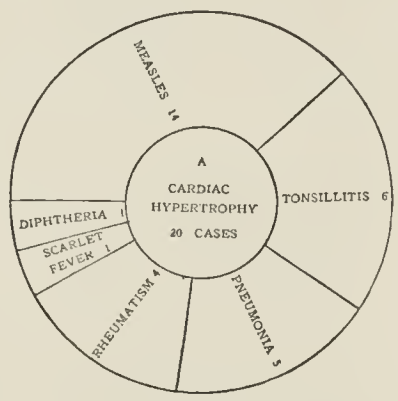


Chart 10

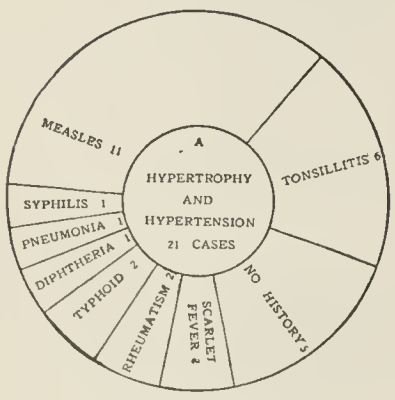


Chart 11

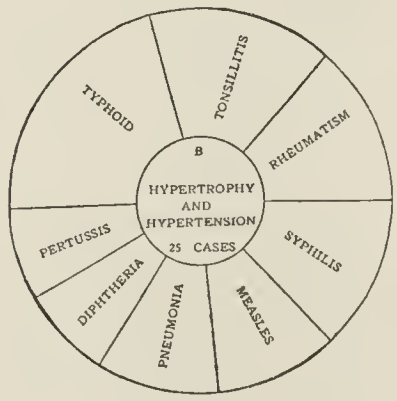


Chart 12

Charts 8-12.—Previous history in individual myocardial types.

Sounds: Aortic; pulmonic; apex.

Murmurs: Aortic; pulmonic; apex; organic, functional, arrhythmias. Pallor. Cyanosis.

Exercise test: Pulse erect; horizontal; horizontal after exercise (100 X); 2 minutes later; dyspnea immediately after exercise; 2 minutes later.

Blood pressure: Maximum, minimum, pulse rate; alternans. Other findings.

Diagnosis.

COMMENT

The measles of infancy and the measles of adult life affect the individual with different degrees of severity. Children may be very ill with measles but generally they make a comparatively prompt recovery. With adults this is not the case. An adult may be less ill during the actual course of the disease, but his recovery is more protracted. The circulatory disturbance as well as disturbances of the nervous system are very marked. Many adult patients show marked cardiovascular and vasomotor disturbances from which they recover slowly. Tachycardia, arrhythmia, cyanosis of the hands, cold sweats and poor response to effort are common sequelae.

In 500 cases of typhoid fever that I studied in 1904 I encountered endocarditis only once: typhoid bacilli were recovered in the blood stream. This leads me to believe that when a patient dates his endocarditis from an attack of typhoid, his disease probably was not typhoid, but a blood stream infection of another type.

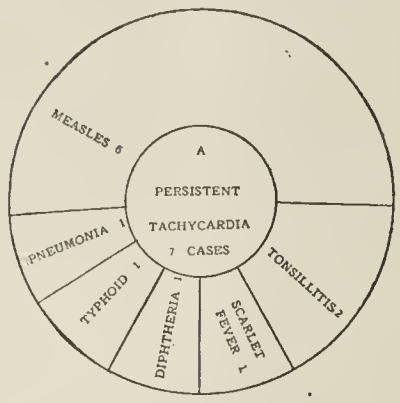


Chart 13

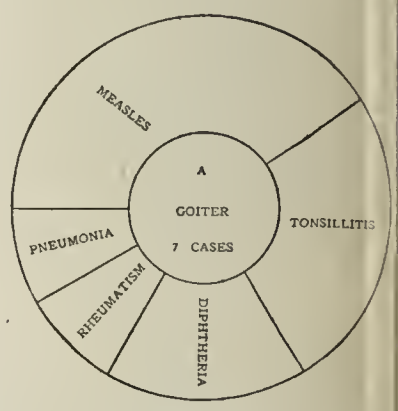


Chart 14

Charts 13 and 14.—Previous history in special types.

Recent tendencies have been toward considering all cases of aortic insufficiency under great suspicion of being syphilitic. While this may be true after middle life, it is not generally the case in children and young adults. Intimate observation in many cases in which the family history as well as the patient's history is known to me personally leads me to that belief. In congenital heart disease, syphilis probably is an important factor. Syphilis engrafted on a cardiovascular system already injured by rheumatic fever is ruinous.



Chart 15

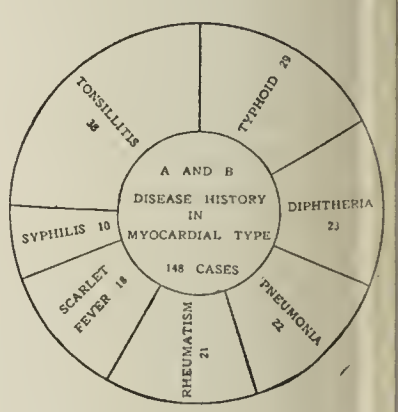


Chart 16

Charts 15 and 16.—Previous history in the two groups.

When the diagnosis of mitral stenosis and aortic insufficientcy was recorded, a special effort was made not to confuse Flint's murmur with the lesion of a true mitral stenosis.

There is much that is unknown about the streptococcus family. The streptococcus is found in measles, in scarlet fever and in pneumonia, and extended observations show that endocarditis is not a direct complication in these diseases. It is found in tonsillitis, in chorea and in rheumatic fever, and these diseases, as we know, show the greatest tendency to endocardial involvement. Many theories have been proposed, but proof is not yet available. Even if an endocarditis or myocarditis is not in evidence at the time of some of these infections, it is easy to believe that a patient may harbor strep-

ococci for a long time thereafter, and suffer from a ecurrence of their activity later on. While the evolu- on of some diseases is a matter of weeks, in others is a matter of decades.

The variety of cases and their relative proportions in his series are shown in Table 1. Based on the per- entage of usual disease incidence, this number of ases would occur in a population of 142,800 persons.

TABLE 1.—VARIETY AND RELATIVE PROPORTIONS OF CASES

	Number
Mitral insufficiency	99
Aortic insufficiency	80
Myocardial deficiency	61
Mitral stenosis	48
Hypertrophy and hypertension	46
Unclassified	37
Mitral and aortic insufficiency	35
Cardiac hypertrophy	27
Mitral stenosis and aortic insufficiency	18
Mitral stenosis and insufficiency	11
Persistent tachycardia	7
Goiter	7
Total	476

Table 2 gives the frequency with which endocarditis s diagnosed during and immediately after some of the cute infectious diseases. It should be recalled here hat frequently a murmur may not be discovered until ome time after a disease has run its course.

TABLE 2.—FREQUENCY WITH WHICH ENDOCARDITIS IS DIAGNOSED DURING AND IMMEDIATELY AFTER SOME ACUTE INFECTIOUS DISEASES*

	Endocarditis Cases		
	Number	Per Cent.	
Rheumatic fever	1,750	53.3	Cowan (N. & L.)
Chorea	829	31	Cowan (N. & L.)
Lobar pneumonia	558	0.72	Abrahams, Lancet, Sept. 11, 1920
Scarlet fever	1,770	0.22	Rosenbaum, A. I. M.
Typhoid fever	500	0.20	Barach, Internat. Clin. 3, Series 19

* In 291 cases of endocarditis observed by the author, 35 per cent. gave a history of tonsillitis.

Considered as a whole from the clinical point of view, the present series as shown in Table 1 may be subdivided into two groups: (1) those belonging essentially to the valvular type of disease, and (2) those belonging to the myocardial type. This division is a

TABLE 3.—CLINICAL DIAGNOSES

Group 1. Valvular Type	
Mitral insufficiency	99
Aortic insufficiency	80
Mitral stenosis	48
Mitral and aortic insufficiency	35
Mitral stenosis and aortic insufficiency	18
Mitral stenosis and insufficiency	11
Group 2. Myocardial Group	
"Myocarditis"	61
Hypertrophy and hypertension	46
Cardiac hypertrophy	27
Persistent tachycardia	7
Goiter heart	7

purely clinical one, and it is fully realized that in the endocardial group many of the patients had myocardial involvement, and vice versa. Nevertheless, we must all admit that in our daily work the classification given in Table 3 is perfectly logical. Cases diagnosed as "myocarditis" were in reality cases of cardiac deficiency without evidences of valvular disease. The diagnosis was based on the size of the heart, poor response to effort, breathlessness, tachycardia, etc. Persistent tachycardia and goiter heart are classed with the latter group as a matter of convenience, and not because of their etiologic basis.

This brings us to the main point of this discussion, which I wish thus to summarize:

The heart patient whose clinical picture was that of a previous endocarditis gave a history of having had one or more of the following diseases: rheumatic fever, tonsillitis and scarlet fever.

The patient in whom a diagnosis of myocardial involvement was made gave a history of having had quite another group of diseases. In order of frequency they were: tonsillitis, typhoid fever, diphtheria, pneumonia and rheumatism.

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THE EQUIVALENT OF ORDINARY EXERTION*

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At the meeting of the Association of Cardiac Clinics in 1917, this classification of patients in the cardiac clinics was adopted:

Class 1.—Patients with organic heart disease who have never had symptoms of cardiac insufficiency under ordinary conditions of activity.

Class 2.—Patients with organic heart disease who have had such symptoms previously, but who do not have them at present under ordinary conditions of activity.

Class 3.—Patients with organic heart disease who at the time of observation have symptoms of cardiac insufficiency following ordinary exertion.

Class 4.—Patients with possible heart disease. Patients who have abnormal physical signs in the heart, but in whom the general picture or the character of the physical sign leads us to believe that it does not originate from cardiac disease.

Class 5.—Patients with potential heart disease. Patients who do not have any suggestion of cardiac disease, but who are suffering from any infectious condition which may be accompanied by such disease; or who have suffered from such diseases; e. g., rheumatic fever, tonsillitis, chorea, syphilis.

This classification is based on a functional diagnosis of the cardiac condition, that is, on the presence or absence of symptoms of cardiac insufficiency (dyspnea, fatigue), following ordinary exertion, without any further definition of the trem. What is "ordinary exertion"? In children, is it walking on the level, or running, or jumping rope? In adults, is it the carrying on of one's daily occupation, and if so, what occupation, that of a stenographer, or a scrub-woman, or a longshoreman?

On inquiry, I find, as may well be expected, that individual clinics have made arbitrary and different interpretations or standards for the term "ordinary exertion." For this reason, one of the prime aims of the classification—standardization of cardiac diagnosis—is lost.

The practical need of a definition, or an equivalent for "ordinary exertion," has been felt by those of us who have charge of the special cardiac classes in the public schools, as a correct classification of the child is necessary for purposes of adequate care and study. When any term is open to varied interpretation, is it

* Read before the Association of Cardiac Clinics, New York Academy of Medicine, Jan. 26, 1921.

not desirable and advisable to change it? Would not the term "exercise tolerance for ——," stating definitely the type of exercise, be more accurate? It will then be an easy matter to adopt some standard exercise, or state definitely the character of the work performed within a given time.

In estimating the exercise tolerance for any type of exercise in cardiacs, it is absolutely essential to know the reaction of the normal individual to that particular type of exercise. Therefore, a working table of standard test exercises of normal groups is necessary, and, to this end, the accompanying tentative working table has been formulated. This table was standardized according to age, weight and height from observations made on a normal group of children from 6 to 14 years of age. It consists of standard test exercises which are followed by normal circulatory reactions and are not associated with clinical symptoms of dyspnea and fatigue. The degree of distress and type

STANDARDIZED TEST EXERCISES

Test Exercises	Age in Years for Standard Weight and Height	Normal Range: Simple or Mild — No. of D.-B.	Simple or Mild — Weight, Lbs.	Simple or Mild — Swings, Times	Average — No. of D.-B.	Average — Weight, Lbs.	Average — Swings, Times	Severe or Strenuous — No. of D.-B.	Severe or Strenuous — Weight, Lbs.	Severe or Strenuous — Swings, Times
Dumb-Bell Test:										
Swinging two iron dumb-bells from the floor to full stretch of arms overhead and back again between the legs at a constant rate of two seconds for each swing	6-8	2	3	10	2	3	20	2	3	30
		2	4	10	2	4	20	2	4	30
	8-12	2	4	10	2	4	20	2	4	30
		2	5	10	2	5	20	2	5	30
	12-15	2	5	10	2	5	20	2	5	30
		2	7	10	2	7	20	2	7	30
		2	10	10	2	10	20	2	20	30

Staircase Test:	Age, Yrs.	No. of Flights	Rise, Ft.	Time, Sec.	No. of Flights	Rise, Ft.	Time, Sec.	No. of Flights	Rise, Ft	Time,
Stairs taken at a steady climb without rest	6–14	2	15	40	4	30	40	4	30	20

	Reaction of Average Normal Children Following Test Exercises: To the Mild Test Exercise	To the Average Test Exercise	To the Severe Test Exercise
Color of face (flushed)	.....	+	++
Degree of dyspnea	.....	+	++
Degree of fatigue	.....	.....	+
Rise of systolic blood pressure	10-15 mm.	20-30 mm.	30-40 mm.
Type of systolic curve	Normal	Normal	Normal

of systolic blood pressure curve following these standard test exercises may be used as a gage in estimating the exercise tolerance of children with heart disease.

The utility of such a working table was demonstrated in the results obtained in the study of the exercise tolerance of a cardiac group to these standard test exercises. A comparative study of these results with an analysis of the case histories of the group is interesting. While exercise tolerance tests show two thirds to have a normal exercise tolerance for these standard test exercises, an analysis of the case histories showed that, in 75 per cent., free play had been interdicted by the physician, and 90 per cent. had been excused from school exercises.

Pulmonary Atelectasis.—It is important to observe that in the clinical collapse of the lung in induced pneumothorax the lung is probably completely quiescent only for brief periods. With progressive absorption of the gas introduced the affected lung must indulge in more and more ample respiratory excursions, so that structural changes within it may be indefinitely postponed.—H. Sewell, *Am. Rev. Tubec.* **4**:814, 1921.

INJURIES OF THE FEET

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The injuries to the feet do not vary in type from injuries to other parts. We have observed a decided difference in the reaction of feet to various traumatisms. Unfortunately, little consideration is given to this important subject, perhaps because we expect every reaction to a certain type of trauma to be identical in similar tissues, no matter what the location or function. In industrial accidents a comparatively large percentage, about one fifth, of all injuries are to feet. There are very few activities of a laboring man that do not require some use of the feet, and because of inherent clumsiness they are particularly liable to injury. Any accident to the foot is a greater disability than to almost any other part of the body; for when the means of locomotion and support is interfered with, the worker stops, no matter what his vocation. It is quite necessary for us, in our professional and scientific activities, to pay particular regard to the economic situation and status of each individual or group. Though we usually look on foot injuries as of "minor importance," they actually deserve greater study. An effort to shorten periods of convalescence and to lessen disability preventing loss of time to employer and employee is an essential economic consideration.

We have observed that with all foot injuries the reaction to injury is different from what it is in other parts in that there results an unusually long period of disability quite out of proportion to the type or severity of traumatism. It is advisable to study the reasons for this variance and to apply our observations in treatment. It is our intention, not to take up each type of injury individually or to outline new procedures of treatment, but to take up a general consideration of certain points that must be understood and appreciated to develop an effective method of treatment.

CONDITION OF THE FOOT

Anatomically, the foot may be compared to the hand. There is considerable structural similarity, yet functionally there is little in common. The finer movements of the hand and fingers are developed, through our evolution and training, into elaborate members of precision, wonderfully coordinated with higher centers. We become progressively dexterous with hands and fingers, while the foot and toes undergo retrogressive changes. The feet are becoming simply supports. Functionally, therefore, we find the foot having little similarity to a structurally almost identical part. We understand that it is very necessary to have a thorough knowledge of anatomic structures for successful treatment of injuries, yet just as necessary is a thorough conception of normal function. Loss or delay of normal function causing disability may not always be the result of actual loss or derangement of anatomic structures; in fact, it is usual for some disability to exist after the anatomic relationships are apparently normal. Because of the very peculiar and individual function of the foot, we may expect and do find that the reaction to injury is unusual. Consider that the feet are in constant use and receive all of the shocks of locomotion, while bearing the body weight and being propelled by the largest muscles of the body. They are at right

angles to the body axis, and the leverage is at the approximate center of an arch. We encase feet in shoes, which act as splints to encourage disuse and atrophy. Necessarily there is accumulation of dust, grime and desquamated epithelium which, with natural or excessive moisture of the skin, keeps the part in a sodden and unwholesome condition that no doubt encourages bacterial growth. Constant pressure and friction produce formation of callus and continual erosion, with constant repair and derangement of anatomic relationships.

The location of the feet at the base of the body column with the action of gravity has a tendency to encourage fluid sedimentation. The veins are unable to cope with this situation, and the constant new supply from the arterial stream results in a certain greater amount of stasis than elsewhere. The venous system lacks the support and propulsion of muscle bodies having only bone, fascia tendon and fatty pads of no great elasticity to assist. All of these conditions enumerated produce a continuous sort of passive congestion in the feet which, in turn, causes low power of resistance and repair.

The bony arches, supported by tendon and fascia, are fortunately elastic; yet surprisingly moderate trauma may fracture or displace bone or injure the ligament and fascial supports. Especially is this true when some deformity already exists, and this state is the rule rather than the exception. The arches are so constructed that all structures are interdependent; an injury or derangement to one unit reacts adversely to others. We find at once a serious interference with function and disability in locomotion. The ankle joint does not enter into the structure of the arches, but is a sort of hinge and supports the whole weight of the body, and acts in one plane of flexion and extension. Any disturbance of the ankle joint causes limitation of this hinge action, and new angles for the body support to which the foot must become accommodated. The phalanges are almost functionless, even atrophic. They do not enter into the real supporting arches and because of lack of fine coordination with the higher centers, and because of their location at the very extremity of the body, are unable to protect themselves when bearing the body weight.

NATURE OF TREATMENT

To overcome this natural anatomic handicap and to encourage nature to bring about theoretical normal conditions following injury, the foot must be relieved of the action of gravity in the circulation and the weight of the body. Our only means to this end and to hasten repair and normal return of function is to place the injured foot at complete rest. This not only includes various methods of splinting and bandaging but also should include rest in bed with elevation at once, and for even very minor injuries. It is difficult for the average patient to understand this necessity; but when fully explained that the convalescence will be materially shortened, his cooperation can be expected. We have observed that there is a prolonged period of swelling following every foot injury, and that this swelling is in itself a great disability. The cause of this we have attributed to the disturbance of an inadequate circulation; in other words, the part is "decompensated." By rest in elevation the normal state of passive congestion is prevented, and the circulation given the only support possible. We have found that hot bathing also encourages this passive congestion by relaxation of blood vessels and counterirritation; therefore we are learning to avoid heat, as it prolongs the disability unless properly given and the part at once elevated.

Roentgenograms should be made as a routine in the examination of every case with the remotest possibility of fracture or dislocation. The result of such practice is surprising in the number of bone injuries found when unsuspected. Simple contusions and sprains are now the exception; in fact, we question the entity of a "sprain." We recall many cases diagnosed and treated as contusions or sprains that proved to have a longer period of disability than was anticipated and which were overlooked bone injuries. Fractures of the tips of the phalanges, the shafts of the metatarsals and phalanges, or of the tip of the fibular malleolus are common and not easily diagnosed except by roentgenography, as frequently crepitus and deformity are absent. The tarsals are not easily injured, except by severe crushing injuries or falls on the feet from heights, as they are well protected by their elastic arches. However, when tarsals are injured by fractures or dislocation, there is considerable derangement of neighboring structures, and deformity results. Fractures about the ankle joint are not often overlooked, except the frequent fracture of the tip of the styloid of the fibula. This injury is usually caused by turning the ankle, and is due to tearing away of periosteum or bone by the external lateral ligament and is usually called a "sprain." In the Pott's fractures it must be remembered that there is always involvement of the subastragaloid joint, resulting in difficulty after bony union is firmly established.

In any fracture, especially when joints are involved, we find it advisable to begin early passive motion as soon as the pain will permit. Swelling should in no way interfere. By early passive motion it is possible to prevent a great amount of limitation of motion and to cut down a protracted period during which the patient is otherwise actively endeavoring to obtain normal function. Considerable of the delayed function and disability of a splinted part is due to disuse and atrophy of muscle. This fact is often overlooked, and the limitation is considered only in the light of the injured bone. Passive motion with massage keeps muscle tone about normal so that when active motion is required the parts can react without difficulty.

The treatment of infections in no way differs from the treatment in other locations. Every wound of the foot should be looked on as infected. We must remember the exceptionally low resistance of the fatty pads, fascia and tendons along which infection travels, and the interosseous spaces that may be the site of abscess formation. Puncture wounds, especially, carry infection into these deeper layers of tissue. Infection and the extension of infection are preventable. Surgical cleansing of wounds means not only the usual generous use of so-called germicides or antiseptics but includes the removal of all foreign material, tissue débris and devitalized tissue, with the institution of proper drainage. Drainage may not be necessary, but it is well to err on the side of drainage rather than to take a chance and fail. There is a usual tendency to leave drainage material in situ longer than is necessary. Once drainage is complete and a sinus established there is no necessity further to traumatize tissue with introduction of foreign material. Before or when infection is established, the part must be at rest in bed and elevated. We must not wait for signs and symptoms that

cause the patient, of his own accord for his own comfort and to protect himself, to institute this measure.

When making incisions in the foot for whatever purpose, one must have a wholesome respect for normal structure and avoid needless destruction when removing tissue. For conditions existing under the fascia, a lateral incision at the level of the fascia plane or even through the interosseous spaces on the dorsum is best. A very unfortunate result of lacerations or incisions is the formation of troublesome scars. Scars on the plantar surface are a continual discomfort and decided disability. The friction of the shoe causes callus to form along the line of scar which results in great pain and difficulty in walking, and the condition cannot be corrected. No incision should be made on the plantar surface. On the dorsum, lacerations over tendons may become adherent at the distal ends of the metatarsals and cause contractures, pulling the toes upward in extension. This may be avoided by proper selection of site for incisions, and carefully suturing underlying tissues when lacerated, and by early motion of injured tendons.

Often there is injury involving the toe-nail. We consider the nail as a source of infection and as a foreign body. Its early removal is advisable, and there is no inconvenience from its loss. Usually there is regeneration from the matrix and, even should there be none, no disability results. A hematoma under the toe-nail lifts the nail so that the removal is simply and easily done. The finger-nail usually regenerates by new growth under the injured nail and without its immediate loss; but we find that the toe-nail separates early and "in toto" because of poor circulation. The underlying tissue is soon covered by a hard protective shell before the development of a real nail.

With simple contusions of the feet we always expect short disability and are always disappointed. There is more involvement than is appreciated. Fractures are not an uncommon accompaniment of apparently simple contusions. Even if fracture is not present there is injury to periosteum, tendon sheaths, or a hematoma formed in the fatty pads or about the joints. Hematomas are slow to absorb and interfere with the functioning of the joints or interosseus muscles. Perhaps hot bathing may hasten this absorption when properly instituted.

IMPORTANT POINTS

One might continue at length to cite numerous case histories illustrative of the extent and character of foot injuries that we have been accustomed to classify as minor but which have produced great disability with some degree of permanence. It is our purpose here, not to develop an exhaustive treatise but to stimulate a better plan of treatment of foot injuries based on a better conception of physiologic functioning and reaction. We therefore draw attention to certain facts:

1. The structure of the foot is complex, and there is a difference in the reaction of the tissues.
2. Injury to an integral part has a large incapacitating influence on the whole member and the individual.
3. The integral part affected must be accurately determined, and roentgenograms made a routine procedure in examination.
4. The site of injury should not be treated exclusively. The whole part and its anatomic and physiologic relationship should be considered.
5. Rest in elevation should be instituted at the beginning of treatment.
6. Improper hot bathing is more productive of harm than of benefit.
7. We are always dealing with infected areas.
8. Incisions should be made at sites of election, never on plantar surfaces, and all wounds must be carefully debrided and coapted.
9. Anatomically correct adjustment of footwear merits greater attention and frequently accomplishes the complete eradication of the final results of traumatism.

RESISTANCE TO TUBERCULOSIS

A NONIMMUNOLOGIC CHEMICAL FACTOR WORTHY OF CONSIDERATION *

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In an effort to solve the intricate mechanism of resistance to tuberculosis, investigators have utilized the knowledge obtained from all the available fields of immunology and cellular pathology, but without entire satisfaction. There still seems to be something in resistance to tuberculosis which requires further elucidation. There are certain facts that will not entirely comform to our present explanation. Humoral antibodies do not seem to be significant in the resistance of the body to tuberculosis, since such agents as will readily influence antibodies in the economy of the experimental animal [1] have no visible effect on the progress or type of tuberculosis developing in these animals.[2] The same agents have, however, a profound effect on the acute experimental infections in which antibodies are so important.[3] A decade ago we were informed that the lymphocyte, related to the round cell of the tubercle, was the all important agent in the body combat against tuberculosis; and experimentally, the Rockefeller Institute investigators, Murphy [4] and Morton [5] recently led us to believe that they could markedly hasten tuberculosis in the mouse and guinea-pig by destroying the lymphocytes (leukocytes) of the body by using the roentgen ray. Other investigators,[6] however, have failed to corroborate these observations, and so the lymphocyte has outlived its day of importance except for sporadic reports appearing from Murphy's collaborators.[7] The excellent recent histologic researches of Foot,[8] Mallory's colleague of Harvard, and Permar,[9] Klotz' colleague of Pittsburgh University, and others,[10] strongly indicate that the cell of primary significance in the tissue combat against tuberculosis is the vascular endothelial cell, and that the round cell is a relatively later comer in the tubercle whose significance is not great if it has any rôle to play.

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* From the Research Department, National Jewish Hospital for Consumptives.

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Although it is definitely recognized as a result of these researches that the endothelial cell is the phagocyte of greatest importance in tuberculosis, the exact relation of this cell to the resistance to tuberculosis still remains to be disclosed. About the only tangible and clear cut known factor in the resistance to tuberculosis up to the present time is based on the original observation made by Koch,[11] who observed that guinea-pigs injected with living tubercle bacilli responded to a second injection of virulent bacilli differently from the reaction at the primary site. This allergic response, has been the subject of elaborate investigation both in Europe and America. In America, Krause [12] has studied this reaction in great detail, and has given evidence indicating that this allergic factor is of some significance in the resistance to tuberculosis, especially considered from the standpoint of reinfection.

So far as the available medical literature would indicate, there has never been any scientific evidence obtained from laboratory investigations which was interpreted as indicating that a purely chemical non-immunologic factor might be instrumental in accounting for the differences in the individual resistance of man to tuberculosis. On entirely empiric clinical observations, which were initiated in 1889 and finally summarized in monograph form in 1906, Weber [13] was led to treat pulmonary tuberculosis first by giving, one-half hour before meals, sodium bicarbonate and hydrochloric acid to generate carbon dioxid in the stomach, believing, but not demonstrating, that this gas had a detrimental influence on the growth of the tubercle bacillus. His reasoning was empiric—the organs, for instance the muscles, having a large proportion of carbon dioxid, rarely are affected with tuberculosis; in pregnancy when the mother has an excessive amount of carbon dioxid produced by the fetus, tuberculosis becomes ameliorated or arrested; in certain cardiac conditions the lungs are surcharged with carbon dioxid; the same thing is true in emphysema. A large percentage of diabetics die of tuberculosis because the sugar of the body is excreted as such and is not burned to carbon dioxid. Reasoning that levulose is an easily combustible substance in the body, in 1901 he gave this sugar, from 50 to 100 gm. daily, to encourage carbon dioxid production in the body, and later reinforced this with subcutaneous olive oil and petrolatum or liquid petrolatum injections. He believed that the injected liquid petrolatum was oxidized to carbon dioxid in the body.

Weber seemed intent on forcing into use a therapy for which there was, as we now know, no rhyme or reason. In spite of his unscientific reasonings regarding carbon dioxid and tuberculosis and lack of reliable evidence, he seemed to have correlated in an empiric fashion some of the clinical facts in pulmonary tuberculosis. In emphysema and cardiac conditions leading to venous stasis there is a high so-called "immunity" to tuberculosis, while children with tricuspid stenosis die early of tuberculosis; in gravid consumptive women, the pulmonary condition frequently subsides until after delivery; one half of the cases of diabetes mellitus are phthisical. To him these are all correlated with a deficiency or accumulation of carbon dioxid in the lungs, the former favoring progress of the tuberculosis, and the latter a subsidence or prevention of the disease.

Weber did not even study the effect of carbon dioxid on tubercle bacilli in vitro; in fact, he manifested a sublime contempt for such observations.[14] It remained for Wherry and Ervin in 1918,[15] while studying the necessity of carbon dioxid for the growth of tubercle bacilli as a part of a general study on the effect of partial oxygen tensions on the growth of various bacteria, to discover that if the respiratory carbon dioxid evolved by a freshly planted virulent culture of the tubercle bacillus was removed, growth did not take place. The bacilli remained in a nonproductive state but viable, as shown by guinea-pig inoculation two weeks later. They found also that when oxygen and carbon dioxid reach an optimal point, growth starts. Under atmospheric carbon dioxid (7mm.) pressure, there was growth; but at higher pressures (77mm.) there was no growth of the tubercle bacillus. They called attention to the fact that, in a closed system, not only does carbon dioxid accumulate, but also the oxygen supply diminishes. Their experiments, although significant in indicating that carbon dioxid would inhibit the growth of tubercle bacilli, were not elaborate enough to give any idea as to the approximate concentrations or conditions under which this occurred.

Believing this point worthy of further elaboration and investigation, we planned a series of cultural and animal experiments. A large series of tubes of glycerin agar were inoculated with a definitely known strain of human tubercle bacilli, capable of giving a good growth on this medium within four weeks at incubator temperature. These tubes were suitably stoppered after inoculation according to the requirements of the individual experiment. From some of these tubes the carbon dioxid was entirely removed by means of an attached sodium hydroxid absorption tube. In others the carbon dioxid content was varied from that of the concentration of air to pure carbon dioxid (100 per cent.). In order to ascertain the amount of carbon dioxid present by volume, the gases were analyzed before and at the termination of the experiment. In order to determine whether carbon dioxid was inhibitory or bactericidal in action, the stoppers were removed from a certain number of these tubes and cotton plugs substituted, allowing ready diffusion of atmospheric air.[16]

Briefly, these experiments revealed that a small amount of carbon dioxid is essential for the growth of the tubercle bacillus in the test tube, corroborating Wherry and Ervin's observations. A concentration of carbon dioxid as low as 3 per cent. by volume in air distinctly inhibited the growth of human tubercle bacilli in the test tube, while an exposure to a gas of 15 per cent. or more carbon dioxid for a period of one month, so injured the bacilli that they would not grow in air subsequently. Approximately 10 per cent. carbon dioxid had no such deleterious effect.

Haggard and Henderson [17] have given us some idea of the carbon dioxid tension of the tissues by studying the gas tensions of the abdominal cavity. They state as a result of these investigations that the carbon dioxid tension of the abdominal air (normally approximately from 35 to 42 mm. of mercury) soon becomes equiva-

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lent to that of the pulmonary alveolar air and of the arterial blood, and that under abnormal conditions (experimental acidosis) the carbon dioxid tension in the abdominal air falls in close correspondence to the arterial carbon dioxid tension (as low as tension 16 to 23 mm. of mercury).

In view of these facts, actual animal experiments seemed highly desirable. Tubes of glycerin agar were inoculated with human tubercle bacilli and stoppered with paraffined cotton plugs, which allow easy ingress and egress of gases. Some of these tubes were inserted into the subcutaneous tissues of dogs with the opening of the tube exposed to atmospheric air, and some were completely buried in the tissues of the animals and in the abdominal cavity. The tubes with the external opening after from four to six weeks revealed luxuriant growth in the majority of cases, while the buried tubes were in every case negative, indicating that the gaseous constituents of the body are entirely capable of inhibiting the growth of the human tubercle bacillus in the test tube.

If we consider these facts in correlation with observations recently made by Jacobs,[18] who found that carbon dioxid had a special lipoid and cell affinity even in slightly alkaline solutions in contradistinction to sodium bicarbonate, and the observations of Webb and his colleagues,[19] of Tobiesen,[20] and of Tachau and Thilenius,[21] who found that the gas injected into the pleural cavity of consumptives for obtaining an artificial pneumothorax may after a short time contain from 6 to 8.5 per cent. of carbon dioxid, and in cases with associated empyema attain as high as from 10 to 12 per cent. of this gas, it seems reasonable to conclude that carbon dioxid may possibly play a significant rôle in resistance to tuberculosis.

SUMMARY AND CONCLUSIONS

Humoral antibodies have failed to explain resistance to tuberculosis; the lymphocyte as the important factor is rapidly being discarded; allergic phenomena require further elucidation, and the phagocytic action of the wandering endothelial cell is recognized as important. But both humoral and cellular mechanisms of resistance leave much to be explained.

Weber's (1889) empiric reasoning that the deficiency of carbon dioxid in the body favors tuberculosis, while an accumulation retards it, seems to be highly significant and appears to be substantiated by our experimental work thus far conducted.

Three per cent. carbon dioxid inhibits the growth of tubercle bacilli in the test tube, and 15 per cent. is tuberculocidal.

Cultures of tubercle bacilli buried in the tissues of animals and permitted to acquire the carbon dioxid concentration of the body are definitely inhibited in their growth, while other cultures similarily buried, except that ingress of atmospheric air is permitted, show no inhibition.

It appears to us that carbon dioxid may play a significant rôle in the resistance to tuberculosis.

This reopens the consideration of the influence of fatigue, exhaustion, exposure, metabolic diseases, etc., as probable etiologic factors in the causation of tuberculosis in view of their ability to alter the carbon dioxid content of the body.

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CHOLESTEATOMATOUS CYSTIC TUMOR OF THE PITUITARY GLAND

REPORT OF CASE, WITH DISCUSSION OF DIAGNOSIS OF PITUITARY DISEASE *

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DETROIT

This case is reported not only for its rarity, but also to call attention to some local and hormonic signs of pituitary disease which are often overlooked until grave damage is done, both locally by the tumor, and generally by the lack of or increase of the internal secretion of the gland.

Of the local or neighborhood signs, headache is a common early symptom, owing to distention of the glandular envelop. This is often very severe and described as bitemporal. When the tumor bursts its envelop, the headache may disappear; but as the growth extends more into the cranial cavity, severe headaches may again be experienced because of the increased intracranial pressure; then also other signs of brain tumor, choked disks, etc., may be present.

Ocular manifestations are probably the most common local symptoms, owing to the relation of the optic chiasm and the putuitary gland. Pressure of a tumor here first involves the fibers going to the nasal half of the retina, producing first loss of color vision, and then loss of form vision, giving blindness in the temporal fields.

Other signs present are more rare and are manifestations of any tumor at the base.

Changes in the size and shape of the sella turcica, as demonstrated by the roentgen ray, are generally present with a tumor; but owing to the fact that there is much variation in the normal sella in different individuals, very early changes are hard to interpret.

The hormonic signs may be due to a diminished or excessive secretion of the anterior or posterior lobe, or both lobes combined. While on many points the function of this gland and its lobes is yet a matter of controversy, there are certain facts which enable us with some degree of certainty to classify certain signs as being due to abnormal function of one or both lobes.

From clinical observation and experimental work it seems that the secretion of this gland has control of the growth and function of the body as follows:

Anterior lobe manifestations: (1) osseous growth and developmenut; (2) genital growth and function; (3) muscular strength and development; (4) dermal changes, such as texture of the skin and hair; (5) blood pressure, and less marked change on temperature and pulse; (6) also, to some extent, mental development.

Posterior lobe manifestations: (1) Metabolism, as judged by carbohydrate tolerance, basal metabolism, and the deposit and distribution of fat; (2) involuntary muscle tonus; (3) effect on other endocrine glands; (4) mental activity; (5) some effect on temperature and pulse.

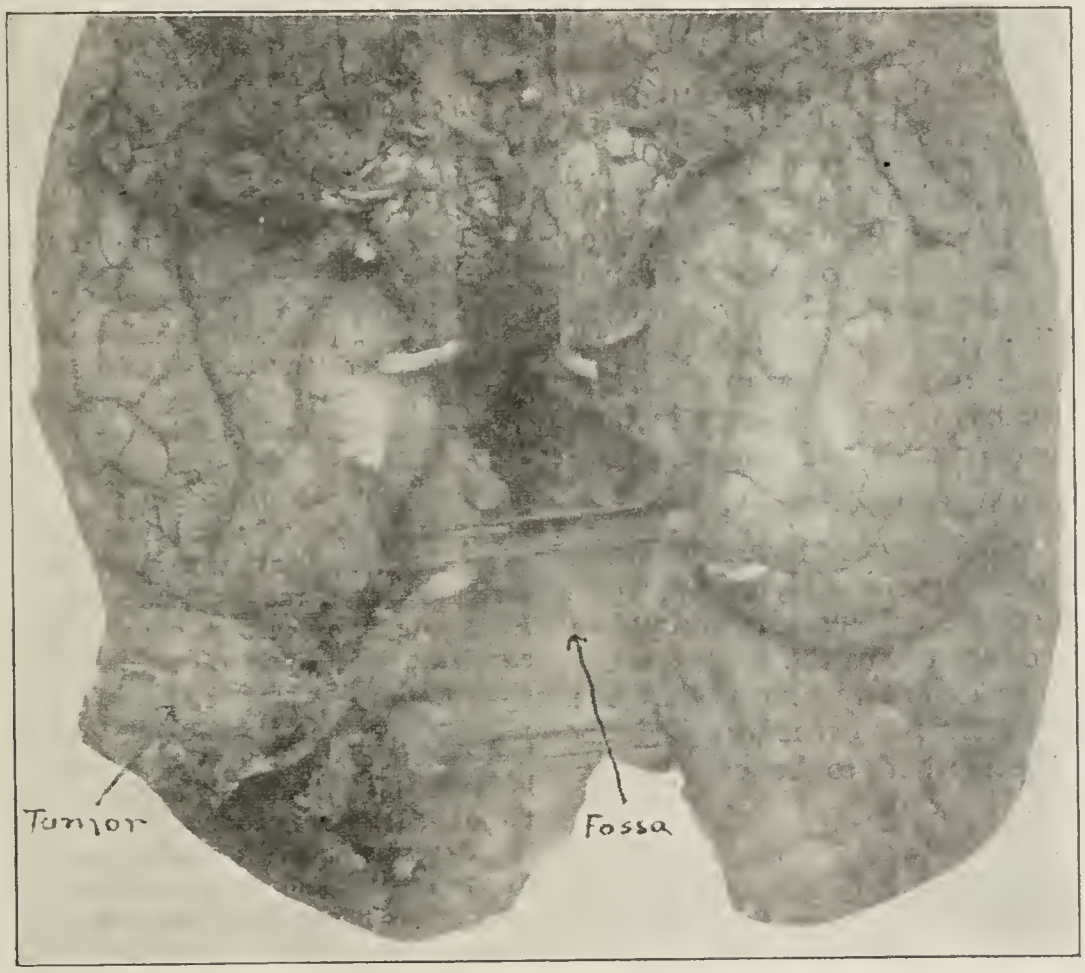
REPORT OF CASE

History.—G. P., a Polish laborer, aged 25, who entered the Receiving Hospital, July 7, 1920, and whose family and venereal history was negative, was married in 1912 to a widow, with three healthy children. No pregnancies ensued,

* From the Department of Internal Medicine, Receiving Hospital.
* Read before the Detroit Academy of Medicine, Aug. 15, 1920.

d she left him in 1916. The onset of his present trouble parently began in 1910 as constipation, which has persisted roughout his illness. In 1913, he began to lose vision in the mporal field of his left eye. The following year he lost it the nasal field and also in the temporal field of the right e. At present he could see only in the right nasal field of sion (temporal half of the retina). He had some diffuse ll pain in the head during 1913 and 1914, but since then had ad only an occasional dull headache. He also began to lose e hair on the body, face and head in 1913, and noticed that is skin was becoming more delicate and soft. The hair on ie head was mostly replaced, but was of a finer, softer char-cter and not as thick. In 1914, he lost all sexual power, and oticed that the penis and testicles were getting smaller. All f these symptoms had persisted. Throughout his illness there ad been considerable muscular weakness. He had lost about 0 pounds in the last three or four years. There had been no omiting and the rest of his history was negative.

Examination.—The patient, weighed 150 pounds. He was feet 8 inches tall. The pulse ranged between 50 and 90. he temperature was always slightly subnormal, the respira-ion, 20. The patient as well nourished. he skin had a slightly ellowish, pale appear-nce, soft and fine like hat of a woman. The air of the head was hin, fine and silky. here were only a few traggly, fine hairs on he face. There was no air on the body or in he axillae. There were few fine pubic hairs. The skull was normal. The eyes showed nor-nal extra-ocular move-nents. The left pupil as dilated and fixed; he right reacted nor-nally. The left eye as totally blind, and he right blind in the emporal half of vision. The eyegrounds showed primary optic atrophy, complete in the left and incomplete in the ight. Examination of he head was otherwise negative except for some pyorrhea and slight enlargement of the tonsils.



Cystic tumor laid aside, and the fossa in which it was embedded held open by means of two glass rods.

The lungs showed slight impairment of resonance in both upper lobes, with harsh breathing and slightly increased whis-pered voice. There were no râles. The heart was normal. The abdomen showed an abundant panniculus with a general contour suggestive of the feminine type, due to the deposit of fat with relaxation of the skin. The extremities were normal in appearance except for the skin and hair changes previously noted. The genitals showed an increased deposit of pubic fat. The penis was very small. The testes were about half the normal size.

Neurologic examination was negative regarding deep and superficial reflexes, sensory changes, coordination tests, etc. There was some loss of muscle strength; examination of motor functions was otherwise negative.

The blood pressure at various readings was between 80 and 90 systolic and between 45 and 55 diastolic.

Twenty-four hour specimens of urine ran between 500 and 1,000 c.c. The urine was normal for albumin, sugar and on microscopic examination. The total and differential blood counts were negative. The blood Wassermann test was negative. The blood sugar showed a curve, fasting, of 0.05 per cent.; forty-five minutes after ingestion of 1.75 gm. of glucose per kilogram of body weight, 0.134 per cent.; two hours after sugar feeding, 0.110 per cent.; three hours after sugar feeding, 0.08 per cent.

The urine two, four and six hours after taking sugar was negative for glucose.

Fractional stomach analysis revealed an absence of free hydrochloric acid and a low total acidity; otherwise, examination of the stomach was negative.

The Goetz epinephrin test was negative.

Roentgen report of the head showed the sella to be much enlarged, anteriorly, posteriorly and upward. Apparently there was an enormous enlargement of the pituitary gland, especially of the posterior and superior portions.

Recapitulation and Diagnosis.—These positive findings stand out: An adult with a negative past history began ten years ago to be constipated. This was followed during the next five years by some headache, bitemporal hemianopsia and optic atrophy, with loss of hair and change of skin texture, loss of sexual power and atrophy of the genitals, some redistribution of fat, and a subnormal temperature, slow pulse and low blood pressure. The positive laboratory findings revealed an increased sugar tolerance, a negative epinephrin test, a gastric hypo-acidity and roentgen-ray findings of an enormously enlarged sella turcica. In view of these findings, it seemed plain that we were dealing with a tumor of, or one pressing on, the pituitary gland, producing pressure atrophy at the optic chiasm and also so destroying the gland itself as to give marked symptoms and signs of hyposecretion. Operation was considered; but at this time we were visited by Professor Forsell of Stockholm, Sweden, who was enthusiastic regarding the roentgen-ray treatment of these tumors. His technic was started, along with whole pituitary by mouth. At first there seemed some improvement, but shortly the patient went into delirium and died.

Necropsy (performed by Dr. V. A. Van Valkenberg).—The body, hair, skin, etc., were found to be as noted before death. The left pleura was adherent throughout. There were shotty healed tubercles about the hilum and in the apex of the left lung. The pleura of the right lung was adherent at the apex, with a collection of a dozen healed tubercles in the same area. The heart was normal except for marked increase of pericardial fat and some fatty degeneration of the heart muscle. Examination of the aorta revealed a few atheromatous plaques about the coronaries. The omentum, liver, gallbladder, spleen, pancreas, kidneys, suprarenals, stomach, intestine and appendix appeared normal except for some increased deposit of fat.

The skull cap was easily removed. The dura was normally adherent except in the region of the sella turcica, where it was loosened with great difficulty. A cystic tumor the size of a pigeon's egg was found involving the pituitary gland and extending anteriorly and laterally. The sella turcica measured 1½ inches laterally by 2 inches anteroposterially. It was markedly enlarged and hollowed out, with erosion of bone. The tumor itself was egg shaped. It measured 2 by 1½ inches and consisted of one large cyst with numerous smaller cysts at

the posterior end. The tumor did not involve the brain tissue, but it had forced the cerebral peduncles widely apart. At the base of the tumor there was pituitary tissue about the size of a cherry pit and showing evidence of adenomatous changes.

Microscopic examination by Dr. P. F. Morse revealed cholesteatomatous cysts of the hypophysis, with hyperplasia (compensatory) of the parenchyma cells. There was atrophy of the tubule epithelium of the testes, absence of interstitial cells, and no evidence of spermatogenesis. The kidneys showed marked calcification of the tubules (metastatic calcification), but no other lesion. There was extreme anthracosis, fibrosis and emphysema of the lungs, acute edema and hypostatic congestion. The spleen was normal. There had been recent, active pericholangitis of the liver. There was marked hypertrophy of the heart muscle fibers, and early fibrous myocarditis. There was early arteriosclerosis of the aorta.

CHOLESTEATOMAS

Ewing describes cholesteatomas as tumors composed of lamellated waxy or scaly material enclosed in a wall of stratified squamous cells. They arise from embryonal epidermal inclusions. They occur in all parts of the brain. Some pathologists believe that most cholesteatomas of the brain arise from an inclusion of the pharyngeal wall connected with the hypophysis. Bostroem believes they originate from ectodermal rests carried in with the closure of the brain vesicles. Erdheim reports thirteen cholesteatomas at the base of the brain, none of which seemed to be connected with the pituitary and only a few of which were in the median line. In the literature he could find only one case of cholesteatoma of the infundibulum. Other tumors of the pituitary include diffuse hyperplasia, adenocarcinoma and sarcoma.

SUMMARY AND CONCLUSIONS

In such a case as this, which showed local and internal secretory signs of pituitary disease, at necropsy a rare form of cystic tumor being found involving the gland itself, the futility of the use of the roentgen ray is evident unless it can be definitely shown that the tumor is an adenoma. Operative procedure is indicated in all cases as the method to be chosen for attacking such conditions.

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CARDIAC STANDSTILL WITH SYNCOPE FOLLOWING PRESSURE ON RIGHT VAGUS NERVE*

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History.—A man, aged 54, married, with two children, complained of fainting. No one in his family had had heart disease and no one had had symptoms similar to his own. Except for the diseases common to childhood, the patient had been unusually well all his life. About thirty years ago, however, he was confined to his bed for about one month with what was said to be a "nervous breakdown." He had had no other serious illness. The patient worked as a bookkeeper, slept eight hours at night, walked about 2 miles daily, ate carefully, smoked moderately, drank one cup of coffee, and took no tea or alcohol.

One morning at his request his wife attempted to button his collar. Suddenly his vision became blurred, and he fell to the floor unconscious. His wife, in alarm, rushed out for assistance. In about three minutes, however, he regained consciousness, and feeling no ill effects went as usual to his work.

He complained of no symptoms referable to his gastro-intestinal tract, lungs or genito-urinary or nervous systems. He has had at no time palpitation, dyspnea, precardial discomfort or edema.

Physical Examination.—The patient was a stout, though rather well built and well nourished man, past middle life, who appeared well and unconcerned about himself. The pulse was 75; temperature, 98.8; systolic blood pressure, 140; diastolic, 80; weight, 200 pounds (ideal weight, 168 pounds); height, 69 inches. The skin was smooth, warm and moist. There was a recent abrasion of the left ear. The scalp was clean. The pupils were equal, regular and reacted well to light and accommodation. Vision was normal. The ears, mastoid, nose, pharynx and tonsils were normal. The teeth were in good repair. The tongue was clean and straight. There was no tremor. There were no masses or pulsation in the neck. The thyroid was not enlarged. The thorax was symmetrical and moved well on both sides during respiration. There was normal pulmonary resonance throughout the lungs, no changes in the voice or breath sounds, and no râles. The apex of the heart was felt in the fifth interspace in the midclavicular line. No impulses were seen. There was no enlargement to the right. There were no murmurs, thrills or abnormal impulses. The sounds were of good quality. The pulse was equal, regular and of good force. The abdomen was soft, with no masses, tenderness or rigidity. The liver, spleen and kidneys were not felt. The extremities and the neurologic examination were negative. The urine was acid, with no albumin or sugar. The specific gravity was 1.020. Microscopic examination detected no pus or casts. Blood count revealed: leukocytes, 8,000; polymorphonuclears, 69; lymphocytes, 31. The blood Wassermann test was negative. On fluoroscopic examination the lungs were negative, the heart and great vessels normal in size and position.

To elicit Czermak's sign, pressure was made with the finger on the right side of the neck anterior to the sternocleidomastoid muscle and just below the angle of the jaw. At the same time the heart was auscultated. With moderate pressure, slowing of the heart rate was immediate and pronounced. Firmer pressure was then exerted, and the heart came to a standstill, the patient turned pale, became suddenly limp, and exclaimed, "I am going to faint." At this point the pressure was released and the patient came round, declaring that he had felt precisely the same sensations when he fainted while his wife was fastening his collar. Pressure on the left side of the neck failed to produce these effects. On several occasions this experiment was repeated, and it was found that stoppage of the heart could be produced at will by this method. The patient has never experienced any ill effects following cessation of the heart beat as thus produced.

Electrocardiographic records were obtained of the heart action before and during vagus pressure by Dr. J. Morrison Hutcheson. These electrocardiagrams, reproduced herewith, show that:

1. There is a normal complex with the patient at rest and undisturbed.
2. With slight pressure on the vagus on the right side of the neck there is slowing of the whole heart beat, the normal complex being preserved.
3. With firmer pressure, slowing of the heart is more marked. After the long pauses, idioventricular escapes occur, followed immediately by a normal cycle. Dr. H. B. Williams[1] of New York, who was good enough to study these records, suggests that "it may be that the beat of the ventricle stimulates the auricle mechanically and brings about an activity which the vagus stimulation prevents from occurring automatically. It may be that the increase in coronary circulation due to the idioventricular beat—I mean in the auricular branches, of course—brings about a heightened irritability which enables the auricles to start a contraction despite the inhibitory action of the vagus."
4. Cessation of the heart beat for three and seven-tenths seconds follows still firmer pressure exerted over the right vagus.

1. Personal communication to the authors.

5. There is no effect from left vagus pressure.
5. No lengthening of the auriculoventricular interval is to be ade out.

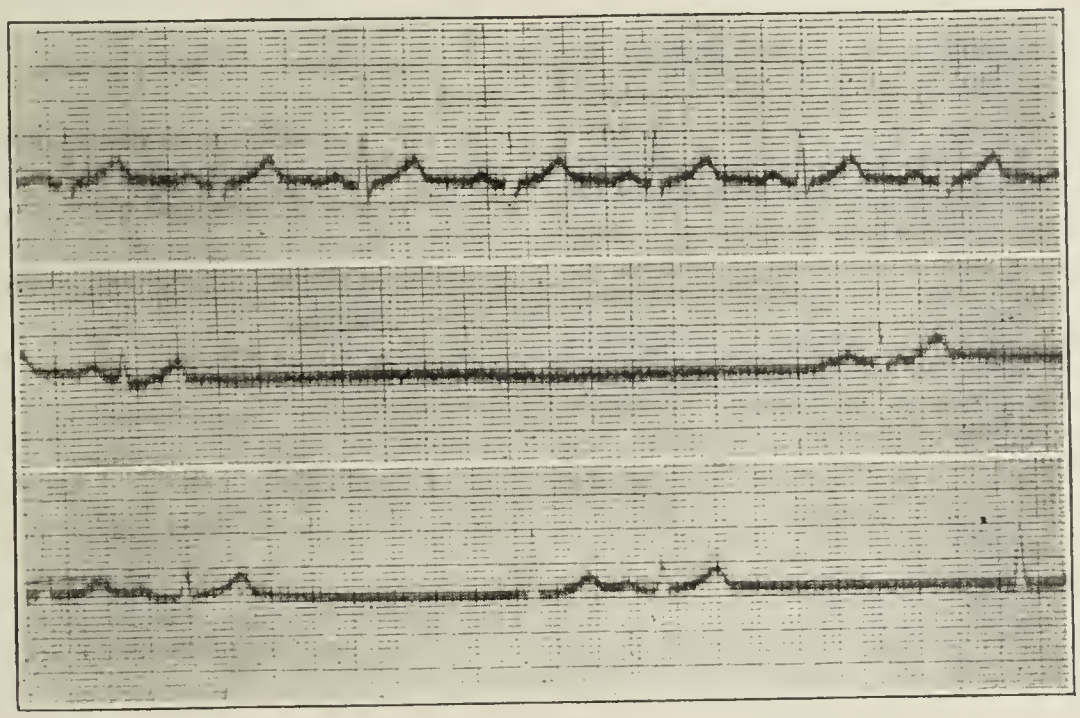
COMMENT

Syncope in a large group of cases is a cardiovascular ienomenon resulting from sudden diminution of the rebral blood supply. Vascular changes per se may duce fainting in one of several ways. Examples are e faints of hemorrhage, so-called splanchnic dilata-on,[2] and pressure over the carotids.[3]

Changes in the state of the heart itself and its echanism are likewise well recognized causes of sud-en transitory loss of consciousness. The effects in ie heart may be produced in one of two general ways. ery rapid contractions of the ventricle may produce ie same circulatory effects as very slow contractions. ı either event the blood column is not moved fast iough to meet cerebral demands, and loss of con-ciousness results.

Acceleration of the heart's action with loss of con-ciousness may follow from recurring extrasystoles, ither of ventricular or of auricular origin, or during imple paroxysmal achycardia. Auricu-lar flutter imposes a ery rapid rate on he ventricles, and yncope is the com-non accompaniment of this event. Ven-ricular fibrillation is robably the cause of most fatal syn-ope, although this ssertion naturally acks confirmation.

A heart rate of 20 or less is generally admitted to be in-compatible with con-inued consciousness. Of the bradycardias associated with syn-cope, heart block or the indefinite Stokes-Adams syndrome is the familiar type. However, not every case even of complete heart block is associated with syncope. Bachmann[4] explains the loss of consciousness as due to a temporary ventric-ular asystole preceding the assumption of the idio-ventricular rhythm. Lewis[3] has pointed out that considerable pulse slowing may be obtained from extra-systoles—only those beats, of course, which lift the cusps being effective in moving blood. Cardiac stand-still may involve the whole heart, or the ventricle alone may participate. Cessation of the heart beat from three to five seconds is sufficient to produce fainting.[3] The human heart may be brought to a temporary stand-still by vagal stimulation. Such stimulation may be either reflex or direct.



Upper tracing, normal electrocardiogram with patient undisturbed; middle tracing, standstill of the whole heart for three and seven-tenths seconds following firm pressure on the right vagus nerve in the neck; lower tracing, heart slowed by vagal pressure; following long pauses, idioventricular escapes succeeded immediately by normal cycle.

REFLEX INHIBITION OF THE HEART

Abundant experimental proof of the vagal route of inhibitory stimulation of the heart exists for animals. Goltz[5] long ago showed that the heart of frogs could be brought to a standstill by frequent abdominal taps, and that this effect was abolished when the vagi were cut. McWilliams[6] demonstrated that by irritation of the tail, gills or mucous membranes of the mouth or peritoneum the heart of fishes may be stopped. Carl-son and Luckhardt[7] have recently shown that visceral stimulation in amphibia and reptilia may arrest the heart. The mucous membrane of the nose, larynx and lungs seems particularly rich in afferent fibers to the cardio-inhibitory center. Tobacco fumes inhibit the heart beat (Halliburton). Chloroform stops the heart beat, and early deaths before absorption could take place are probably through stimulation of the vagal endings in the lung (Halliburton).

In man, acute dyspepsia, inflammation of the peri-toneum, and painful stimulation of the middle ear and testes may slow the heart.[8] Violent intestinal peristalsis, severe pain or even violent mental impressions, as alarming news or a "harrowing scene," may produce syncope through reflex vagal stimulation.[2] Cotton and Lewis[9] have recently reported fainting attacks in nine soldiers with irritable hearts. The attacks occurred while standing in line awaiting physical ex-amination or when blood was withdrawn from the arm for ex-amination. Marked bradycardia and vas-cular hypotension were discovered dur-ing syncope in each case.

EFFECTS OF DIRECT VAGAL STIMU-LATION

Well established physiologic facts are that: 1. Cutting the vagi results in quick-ening the heart beat. 2. Stimulation of the peripheral ends of the cut nerves produces, according to the strength of the stimulus, slowing or stoppage in diastole of the whole heart. 3. In animals, both auricles and ventricles are stopped by such stimulation. 4. In most animals, both vagi carry inhibitory fibers. 5. In the dog, the right vagus affects chiefly the sino-auricular node. It also inhibits the auriculoventricular node and bundle. The left vagus inhibits only the auriculoventricular node and bundle.[3] 6. The heart eventually "escapes" a contin-uous inhibition, varying in capacity according to species.

In man, as in animals, slowing or stoppage of the whole heart may follow vagus stimulation. We know of no experiments with the isolated human vagus. Indirect pressure on the vagus through the carotid sheath, nevertheless, can readily be accomplished in

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3. Lewis, Thomas: Mechanism and Graphic Registration of the Heart Beat, New York, Paul B. Hoeber, 1920; Osler and Macrea's Modern Medicine 4: 78.
4. Bachmann, G.: Am. J. M. Sc., May, 1919.
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8. Howell: Textbook of Physiology, 1911, p. 579.
9. Cotton, T. F., and Lewis, Thomas: Observations upon Fainting Attacks Due to Inhibitory Cardiac Impulses, Heart 7: 23.

man on both sides the neck.[10] That such pressure (Czermak's sign) in man slows the heart is well known. Kleeman [11] investigated 127 patients to determine pressure effects on the vagus. Of 150 tests with the right vagus, eighty, or 53 per cent., were without effect. Of 149 tests with the right vagus, ninety, or 60 per cent., were without effect. He points out that, as a rule, pronounced effects occur only in diseased hearts. He believes that diseased hearts always respond to this pressure with slowing, but that not all slowing effects are confined to diseased hearts. Mays [12] also has extensively investigated this phenomenon. Sicard and Meara [13] report two cases of tachycardia arrested by pressure over the right vagus in one case and over the left in the other. Slowing of the human heart by pressure in the neck appears to be not an uncommon occurrence.

Various investigators have studied the relative effects of pressure on the right and left vagus. Robertson and Draper [14] conclude that the right vagus affects chiefly the rate of the heart, while the left affects the junctional tissues. Ritchie [15] maintains that both nerves affect rate and junctional tissues, but that more marked effects are obtained on the right side. Cohn and Lewis [16] conclude from studies on the dog that the right nerve controls impulse formation, while the left controls impulse conduction. These effects, however, are quantitative and not qualitative. Laslett [17] obtained venous and radial tracings of 108 patients showing the effect of vagus pressure. The right nerve was more sensitive than the left, in the proportion of 50 to 39. The influence of the vagus on the junctional tissues was demonstrated by partial heart block in twenty-nine cases and by prolonged A-C interval in five cases.

Cardiac standstill with syncope from vagal pressure, on the other hand, is a comparatively rare occurrence in man. Thanhoffer,[18] in 1875, while investigating the effects of pressure on the vagus, produced in a student of his sudden and unexpected syncope. Synchronous pulse tracings disclosed complete cessation of the whole heart beat.

Neuberger and Edinger,[19] in 1898, reported a case of repeated syncope occurring during defecation. After death a medullary aneurysm was discovered. The rise in the blood pressure associated with defecation was thought to have produced medullary pressure and inhibition of the heart.

Mackenzie,[20] in 1908, reported a case of cardiac standstill of two and one-half seconds following digitalis administration. Wenchebach [21] described a somewhat similar case.

Laslett [22] has described syncopal attacks associated with the arrest of the whole heart of from four to eight seconds. In another study [17] of 108 patients, one case showed a standstill of eight seconds. There is no mention of syncope.

Lewis thinks that cardiac standstill from vagal pressure is not an uncommon phenomenon. He classifies thus the forms of cardiac syncope:

1. From standstill of the whole heart.
2. Slowing of whole heart with lowering of blood pressure.
3. Ventricular standstill only.
4. Ventricular fibrillation.
5. Accelerated heart action (auricular flutter).

SUMMARY

1. From the study of a case of syncope following pressure on the right vagus nerve it appears that the right vagus nerve in man can be stimulated by pressure in the neck.

2. The effect of mild pressure may be slowing of the whole heart.

3. The effect of strong pressure may result in cardiac standstill.

4. Both auricles and ventricles share in this effect.

5. This effect is probably most marked on the auricles; and through them the ventricles are inhibited.

6. Ventricular escapes may occur while the auricles are still inhibited. Such an event in this case initiates a normal cycle.

300 West Grace Street.

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2. Stenbeck: Mitt. a. d. Grenzgeb. d. Med. u. Chir. **6**: 347, 1900.

ROENTGEN-RAY TREATMENT OF CUTANEOUS CANCER

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I shall attempt to show exactly what can be expected of the roentgen ray in the treatment of cutaneous cancer. The value of this therapeutic agent has been much overstated by some of its friends, whether from a lack of proper observation continued over a sufficiently long space of time or from a sheer desire to advertise. On the other hand, many surgeons do not properly appreciate its real value, possibly because they have seen the results of badly handled cases. Many of the authors who have written on this subject have totally ignored the distinction between basal-cell cancer and prickle-cell lesions. My series of cases is entirely from private practice; the vast majority of cases have been followed, and in more than half a pathologic examination has disclosed the definite nature of the growth.

HISTORICAL

Although cancer of the breast had been treated by the roentgen ray as far back as 1897 by Gocht,[1] it was not until 1899 that Stenbeck [2] presented the first case of skin cancer healed by this therapeutic agent. In

America, Merrill and Johnson [3] of Washington were the first to apply the roentgen ray in cases of cutaneous malignancy. Their paper is still a classic and should be read by every one who is interested in this subject. Beginning with 1901, many papers on the subject appeared, the more important of which are mentioned in Pusey and Caldwell.[4]

In regard to the technic of administration there has been a great change. In the old days, exposures were given from two to five times a week, until the lesions were healed. In the face of many odds, Pusey [5] developed a successful technic and consistently showed that radiation would cure a high percentage of superficial cancers. In 1912, MacKee [6] introduced into America the treatment by large measured doses, which method enabled him to give treatments but once in three or four weeks. MacKee [7] has further modified the method of accurate measurement by showing that an estimation of the spark gap, time, milliamperage and distance, when an interruptless transformer and Coolidge tube are used, will obviate the necessity of employing pastils. Still more recently, Kingery [8] has suggested a method by which constant saturation with the rays is possible. However, this method has not been fully tested out as yet.

VARIETIES OF EPITHELIOMA

It is now generally recognized that there are a number of different varieties of skin cancer, and that any satisfactory classification must be made on a pathologic rather than a clinical basis. Krompecher [9] and Bloodgood [10] deserve especial commendation for their efforts in this field, and I have written concerning this subject.[11]

We must recognize the malignant mole or melanoma, xeroderma pigmentosum, prickle-cell or squamous-cell cancer, the basal-cell cancer, and the carcinomas arising from the various cutaneous appendages, namely the sweat and sebaceous glands and the hair follicles. The most important varieties are the prickle-cell and basal-cell growths, and both pathologically and clinically they are totally distinct diseases, for the former always tends to form metastases, while the latter never does; in addition, the former grows more rapidly and more deeply, and is comparable to cancer of the breast in the therapeutic problems presented. Pathologically, the prickle-cell cancer consists of large cells that take acid stain with avidity, and there are always epithelial whorls present. In the basal-cell growths the infiltration is less deep, the alveoli are smaller, the cancer cells are smaller and take a basic dye; in addition, no epithelial whorls are present.

TECHNIC

The earlier cases were treated with a water-cooled gas tube, a Benoist penetrometer being utilized to measure the quality of the ray, and pastils and Holzknecht radiometer to measure the quantity; however, the vast majority were treated with a Coolidge tube and an interruptless transformer. The dosage employed was: spark gap, 7½; focal skin distance, 8 inches; time, two and one-fourth minutes, milliamperage, 4. This gives about two skin units. In none of the superficial cases was a filter employed, but, when there was a deep infiltration, 1 mm. of aluminum was generally used. As time has progressed there has been a tendency to make the first treatment, at least, rather heavier; for instance, in the early cases one and three-fourths minutes was practically the standard time, but for the last three years two and one-fourth minutes has been universally employed. Of course, when a filter was used the time was much increased. The interval between treatments depends on the amount of reaction. A second treatment is not given in the presence of a marked erythema; however, the average interval is three weeks. None of the cases were treated by a preliminary curettage.

SARCOMA

One case of rapidly growing sarcoma of the subcutaneous tissue of the face of an old man was treated. However, as the result of two intensive treatments the condition was considerably worse than at the beginning. MacKee reports that he has successfully treated a number of cases of various types of sarcoma.

MALIGNANT MOLES

One case of malignant mole of the temple was treated with the roentgen ray. In this case the original growth was cured by one intensive treatment, but within the year metastases appeared in the lymph nodes, viscera and skin, and the patient speedily succumbed.

MacKee [12] reports two cases of this condition successfully treated by the roentgen ray; in these cases, metastases had not developed. I know of one case of malignant mole of the cheek with metastases in the cervical lymph nodes successfully treated by Groover.

XERODERMA PIGMENTOSUM

One interesting case of xeroderma pigmentosum was followed from the time the child was 3 months old until his death at 4 years of age. At the early age of 2 years, malignant tumors began to appear on the face and neck. More than twenty of these were entirely dissipated by the roentgen ray, but eventually two rapidly growing lesions developed which were absolutely not influenced by the ray, and death resulted from these.

BASAL-CELL CANCER

The types of basal-cell cancer that may be recognized are: (1) very superficial types which resemble psoriasis,[13] the chief difference being that a few early nodules can be seen at the edge of the lesions; (2) the common superficial rolled edge type, usually with a superficial central ulceration, but occasionally with a fungus growth in the center; (3) deep ulcers; (4) the superficial nodular type; (5) deep nodules, which frequently take the form of infiltrated plaques; (6) the morphea-like type, which is really an indurated plaque, and (7) the cicatrizing type, in which there is a spontaneous healing in the center, while there are nodules or even ulcers at the edge.

One hundred and four persons were affected, and 147 basal-cell cancers were treated. Of these patients, sixty-one were men and forty-three were women. The ages are given in Table 1.

In seventy-seven instances the cancer sprang from keratoses; in eleven instances, from congenital warts or

3. Merrill and Johnson: Philadelphia M. J. **6**: 1089, 1900.
4. Pusey and Caldwell: The Roentgen Rays in Therapeutics and Diagnoses, Philadelphia, 1904.
5. Pusey: Tr. Sixth Internat. Dermat. Cong., New York **1**: 498, 1907.
6. MacKee and Remer: New York M. J., March 29, 1913.
7. MacKee: Am. J. Roentgenol. **6**: 602, 1919.
8. Kingery, L. B.: Saturation in Roentgen Therapy, Arch. Dermat. & Syph. **1**: 423 (April) 1920.
9. Krompecher: Der Basalzellenkrebs, Jena, 1903.
10. Bloodgood: Progr. Med., December, 1904, p. 134.
11. Hazen, H. H.: Skin Cancer, St. Louis, 1916; Prickle-Cell and Basal-Cell Skin Cancers, J. A. M. A. **64**: 958 (March 20) 1913; South. M. J. **10**: 241 (March) 1917.
12. MacKee, G. M.: J. Cutan. Dis. **37**: 179 (March) 1919.
13. Ketron, L. W.: J. Cutan. Dis. **37**: 22 (Jan.) 1919.

fibro-epitheliomas; in three instances, from pigmented moles, and in six instances from constant slight trauma, almost invariably that produced by tightly fitting glasses.

TABLE 1.—AGES OF PATIENTS

	Number of Cases
From 20–29	3
From 30–39	4
From 40–49	18
From 50–59	33
From 60–69	24
From 70–79	16
From 80–89	6

As regards previous treatment, it should be noted that eleven cases had been treated by the roentgen ray, eight by radium, six by caustics, four by the knife, and one by the electric needle.

There were eleven relapses in this series. In all instances the relapse occurred within one year from the last treatment. MacKee reports that of his twenty-four relapses, eighteen occurred in the first year, four in the second year and two in the third year. In my experience relapses appear much earlier in superficial growths than they do in the deeper ones.

The results of treatment are given in Table 2. I have listed as healed cases that have been followed less than one year. It should specifically be mentioned that not one of these cases shows any suspicion of relapse at the present time.

TABLE 2.—RESULTS OF TREATMENT

	Number of Cases
Well 3 years	16
Well 2 years	17
Well 1 year	39
	72
Relapses cured	4
Relapses healed	2
Healed	41
	119
Not cured	16

From the standpoint of the roentgenologist, the majority of these cases should not be classed as failures, as practically all of the cases were really unsuitable for treatment. These failures will be discussed more fully a little later.

A study of the cases shows that neither the age nor the sex had any bearing on the result. The result of treatment on the various types of lesion is shown in Table 3.

TABLE 3.—RESULT OF TREATMENT ON VARIOUS TYPES OF LESION

Type of Lesion	Total	Well	Healed	Recurrence Healed	Failed
Superficial plaque	5	5	..	..	..
Rolled edge	80	44	22	2	7
Deep ulcer	9	1	..	1	4
Superficial nodule	28	12	12	1	..
Deep plaque or nodule	22	9	5	2	5
Morphea-like	1	1	..	..	..
Cicatrizing	2	..	2	..	..
	147	72	41	6	16

As regards the results of treatment, the location of the lesions has proved important. Basal-cell cancers situated on the eyelids and the ears, where cartilage is involved, have notably resisted treatment. MacKee has noted in his study of cases that cases involving the cartilage of the eyelid were very difficult to cure. Sutton [14] and others [15] have had difficulties with cases involving cartilages of the ear. In this series of cases, seven growths on the ears were treated; of these three are healed, one is still under observation, and three were a total failure. Table 4 shows the location of the growths and the effect of treatment on them.

As regards the results of radiation, with reference to previous treatment it should be noted that the patients who had had many previous roentgen-ray or radium treatments did not do nearly so well as did the untreated patients. It would seem that cancer cells can in time acquire a definite immunity against further radiation.

Table 5 shows the results obtained in cases in which the patients had not had treatment or had been given treatment of various types. It will readily be observed that the cases in which no treatment had been given

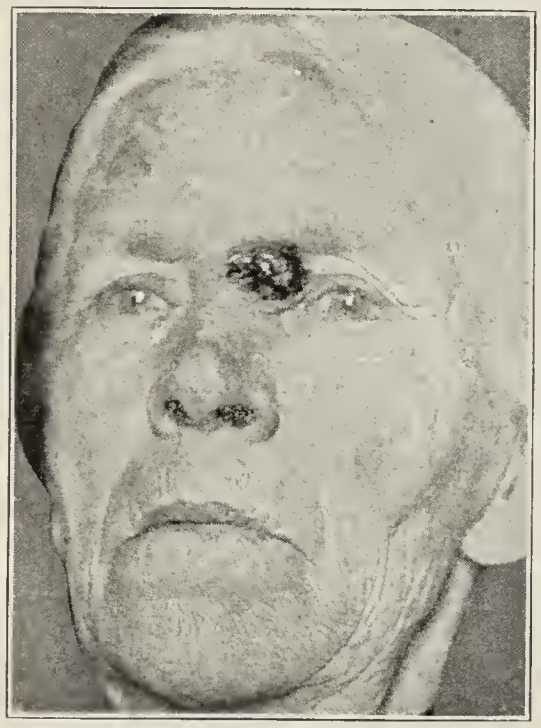


Fig. 1.—Basal-cell cancer when first seen.

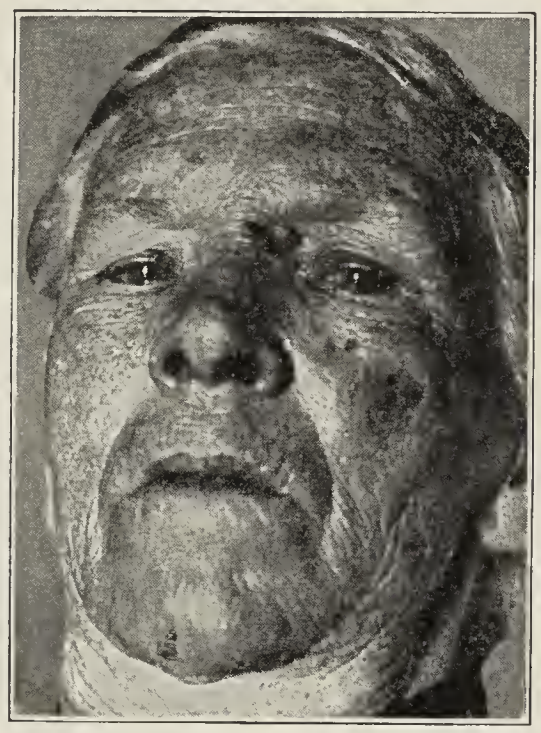


Fig. 2.—Same case three weeks later, after one treatment.

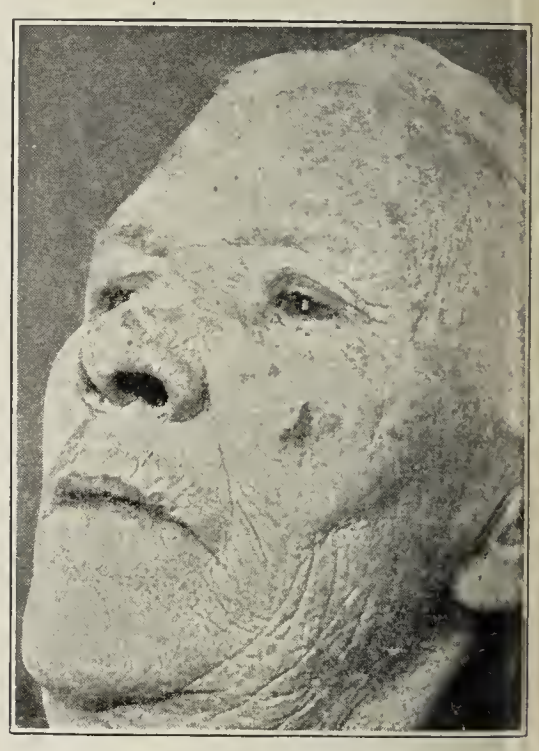


Fig. 3.—Same case five years later. Keratosis has developed on left cheek.

14. Sutton, R. L.: Carcinoma of the External Ear, J. A. M. A. **74**: 88 (Jan. 10) 1920.

15. Schultz: X-Ray Treatment of Skin Diseases, New York, Rebman Company, p. 151.

yielded much better to the roentgen ray than the cases in which either radium or the roentgen ray had been applied.

No attempt has been made to heal the lesion with one heavy dose. I am of the opinion that two or three small doses are less likely to be followed by sequelae

TABLE 4.—LOCATION OF GROWTHS AND EFFECT OF TREATMENT

Location		Recurrences Cured	Recurrences Healed	Cases Healed	Failures	Total
Scalp	1	..	..	..	..	1
Forehead	4	..	..	1	1	6
Left temple	6	..	..	2	..	9
Right temple	1	..	..	4	2	7
Right outer canthus	1	..	..	1	..	2
Left outer canthus	..	..	..	2	..	5
Right inner canthus	3	1	..	3	1	8
Left inner canthus	..	..	..	1	..	1
Nose	14	1	..	10	1	27
Right nasal facial fold	2	..	..	1	1	4
Left nasal facial fold	2	..	1	..	1	4
Right nasal labial fold	..	..	..	1	1	1
Left nasal labial fold	..	..	1	1	1	4
Upper lip	2	..	..	..	1	3
Lower lip	..	..	..	..	1	1
Right cheek	5	..	..	7	1	16
Left cheek	12	..	..	3	1	18
Chin	4	..	..	..	..	4
Right neck	4	..	..	1	..	5
Left neck	4	1	..	..	..	7
Back	2	..	..	..	..	3
Chest	1	..	..	..	..	1
Hand	3	..	..	..	..	3
Elbow	1	..	..	..	..	1
Left ear	..	..	..	2	1	4
Right ear	..	..	..	1	2	3
	72	3	2	41	16	147

than when one very heavy dose is used. Table 6 shows the number of treatments required to heal the lesions.

Analysis of the failures is particularly instructive. Sixteen cases did not respond to treatment. Six of these were hopeless at the start, hopeless because of

TABLE 5.—RESULTS WITH NO TREATMENT AND WITH VARIOUS TYPES OF TREATMENT

No. of Cases	Cures	Relapses Healed	Relapses Healed	Failures
No treatment	52	34	3	7
Excised	5	1	..	..
Cautery	3	2	..	1
Roentgen ray	3	1	2	6
Radium	4	3	1	2
Totals	67	41	6	16

their large size and deep infiltration. Three patients received but one or two treatments each. Two patients had had large amounts of roentgen-ray treatment in fractional dosage, and both totally failed to respond to intensive radiation. In three instances, the cartilage

TABLE 6.—NUMBER OF TREATMENTS REQUIRED TO HEAL LESIONS

Treatments	1	2	3	4	5	6	Many
Type of lesion:							
Superficial plaque	2	3	..	..	.	.	.
Rolled edge	3	37	17	4	2	.	2
Deep ulcer	.	..	1	1	.	.	.
Superficial nodule	2	3	15	4	.	.	.
Deep nodule	1	4	2	1	4	3	.
Morphea-like	.	1	..	..	.	.	.
Cicatrizing	.	..	2	..	.	.	.
Totals	8	48	37	10	6	3	2

of the ear was deeply invaded, and none of these patients responded to radiation, although all of these were cured by the cautery. One case deeply involved the corner of the lower eyelid. This case did clear up temporarily once, to relapse within two months. It is a fact generally observed that neoplasms which have involved the cartilage either in the ear or on the eyelid are notoriously difficult to cure either with the roentgen ray or with radium.

PRICKLE-CELL CANCER

Fifteen patients with prickle-cell cancer were treated. Eleven of these patients were men and four were women. Three cases had originated from keratoses, two from scars and two from undiagnosed dermatoses. Of these lesions, three were located on the hands, two on the lips, one on the scalp, two on the temple, one in the ear, three on the cheeks, on on the vulva and two on the body. Four cases were permanently cured; three healed under treatment, although it is still too early to say that the patients are well, and eight were not in the slightest degree influenced. The seven healed cases responded just as readily as the basal-cell cancer. One case of cancer of the lower lip is worthy of comment. The lesion was of one year duration, was nearly an inch in diam-

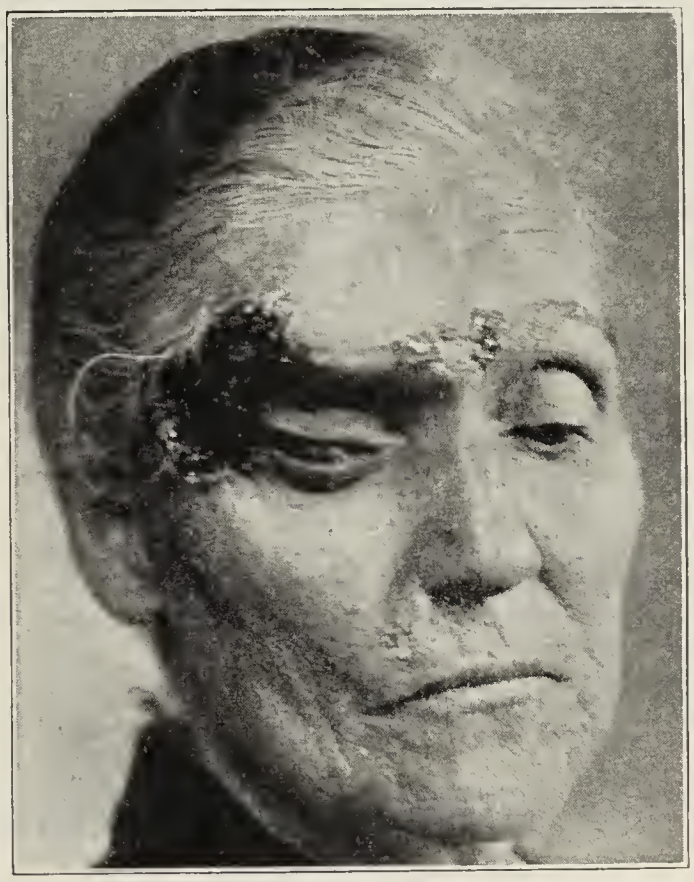


Fig. 4.—This patient had five basal-cell cancers. Four of them did not recur, but with the large one which had invaded bone when first seen, treatment was ineffective.

eter, was deep seated, and there were some shotty glands in both anterior triangles of the neck. Because of the patient's general condition, two surgeons refused to operate. The man received one heavy roentgen-ray treatment with 1 mm. of aluminum for the lip and 3 mm. for the neck. The lip totally cleared up and he remained well for five years, at which time he died from influenzal pneumonia. As opposed to this case was that of a woman who had a small, superficial lesion on the right cheek. Three usual doses failed to modify it; then a heavy treatment produced a second degree radiodermatitis, but the lesion recurred just as soon as this healed. Excision revealed a prickle-cell carcinoma. It should be observed that, in cases of prickle-cell cancer, not all of the cancer cells respond in the same manner; and they do not respond as the laboratory experiments would lead us to believe.

MODE OF ACTION OF THE ROENTGEN RAY

It is generally agreed that both the roentgen ray and radium act by inhibiting the mitotic action of the cancer

cell nuclei. The failure of the roentgen ray to cure growths which have invaded cartilage raises the interesting question whether this is a sole action. It would seem possible that the reaction of the tissues against the cancer cells might play a part. A pathologic study of invaded cartilage fails to reveal any lymphatic or fixed cell infiltration walling in the malignant issue. It



Fig. 5.—Rapidly growing prickle-cell cancer of cheek, healed by two treatments. The lymph nodes were removed by a block operation.

would seem possible that the absence of these cells may play a part in the failure of radiation to cure cancer in cartilage. As bearing on the question of the action of the roentgen ray and radium, the papers of Prime [16] and of Kimura [17] are of interest.

THE QUESTION OF DOSAGE

In exceptional instances it has been found that a 2 unit dosage will fail to benefit a basal-cell growth, but that a 2½ unit dose will accomplish this end. In practice, if the first dose does not have a very beneficial effect, the second dose is always made considerably heavier.

THE QUESTION OF FILTRATION

I am strongly convinced that superficial growths should be treated with an unfiltered ray. Time and again I have seen skin lesions, either primary skin cancers or cutaneous metastases, fail to dissipate completely under two or three heavy treatments when the rays were filtered through 2 or 3 mm. of aluminum, only to disappear like magic before one heavy unfiltered dose. It is interesting to note that MacKee is of the same opinion. Unfortunately, at present we have no statistics that really show a comparison between hard and soft rays; such a study is urgently needed.

OUTLOOK FOR THE FUTURE

The modern tendency in both roentgen-ray apparatus and technic is toward the possibility of giving heavy, thoroughly filtered treatments that will make it possible for a deeply seated neoplasm to receive what is usually considered to be a lethal dose. In view of the experience quoted in the previous paragraph, heavier apparatus will not cure a higher percentage of skin cancer than the ordinary interruptless transformer and Coolidge tube.

16. Prime, F.: J. Cancer Res. **2**: 107 (April) 1917.
17. Kimura, N.: J. Cancer Res. **4**: 95 (April) 1919.

STATISTICS FOUND IN THE LITERATURE

The more important statistics concerning the results from radiation are summarized by MacKee, so that it is hardly necessary to report them here. Suffice it to say that practically no one has considered the all important question of the pathology, nor do the majority of writers cover a large series of cases observed over a sufficiently long space of time. However, MacKee's own report is excellent. He reports 258 cases; 222 of the patients remained under observation. In this series there was 90 per cent. of cures. Of selected cases "the percentage of cures would be in the neighborhood of 96 to 98 per cent."

Again I must express my inability to accept statistics which claim more than 99 per cent. of cures, especially as authors who claim such statistics do not deal with the pathology of the lesions encountered.

COSMETIC RESULTS OF TREATMENT

In general, the cosmetic results from roentgen-ray treatment are excellent. In about fifteen of my cases a slight amount of telangiectasia resulted. As a matter of fact, it is surprising to note that if this sequela appears it is much less likely to result from three or four very intensive doses over a small area than from the same number of considerably smaller doses over a larger area. This phenomenon offers interesting grounds for speculation.

COMPARISON OF METHODS OF TREATMENT

The treatment of basal-cell cancer with carbon dioxid snow, the electric needle, superficial curettage and burning with superficial caustics is mentioned only to be condemned. In a study of the surgical results from Johns Hopkins Hospital, I reported a percentage of 86 of cures in the unselected cases and 93 in selected



Fig. 6.—Extensive prickle-cell cancer developing in the scar of a burn. This was healed by the roentgen ray, but the ultimate result is still undetermined.

cases. A really good surgeon can do excellent work both in curing the disease and in leaving an excellent cosmetic result; but a less skilled surgeon can hardly equal the results of the expert roentgenologist. Surgery has the advantage of cleaning up a lesion much more rapidly than does the roentgen ray, but only too frequently the desire of the surgeon to produce a good

osmetic result leads him to excise too little tissue so hat a recurrence is inevitable. Sherwell [18] claims 90 er cent. permanent cures in selected cases by a thor- ugh curettage followed by the vigorous use of acid itrate of mercury. Robinson claims to have cured at east 90 per cent. from an arsenical paste. I believe hat it is infinitely better to use an anesthetic and the ctual cautery in preference to any of the austics. The vast majority of patients who have once had a caustic used have o desire to repeat the experience unless hey are devotees of martyrdom. Up to he present there has appeared in the liter- ature no report of a large number of cases f skin cancer, pathologically studied and followed over a sufficient space of time, which have been treated by radium. There s every reason to believe that the action of the roent- gen ray and radium on skin cancer is practically dentical. In my series of cases, five that refused to yield to the roentgen ray also refused to yield to radium. MacKee's experiences were similar.

NOTE.—Since this article was written, a deeply indurated plaque has been excised in one case which was classed as a failure and in which many fractional roentgen-ray treatments had previously been given. Careful microscopic study has shown that no cancer cells were present, but that the mass was scar tissue. This result naturally decreases the percentage of failures.

1912 R Street.

AURICULAR FLUTTER AND FIBRILLATION IN PREGNANCY

REPORT OF CASE *

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The literature on cardiac complications of pregnancy is rich in the description of valvular lesions, and in discussions as to the advisability or inadvisability of patients with such lesions becoming pregnant. I have been unable to find, however, in a thorough search of all the literature, any mention of cardiac arrhythmias in pregnancy, or any cases of auricular flutter or fibrillation accompanying that state.

The apparent rarity of these conditions is no doubt partially due to the consensus of medical opinion that a definite mitral stenosis should contraindicate pregnancy, coupled with the fact that auricular fibrillation is most frequently found in mitral stenosis cases. Another factor may be the failure correctly to diagnose the arrhythmias encountered, because of the lack of opportunity to study the cases by means of the electrocardiograph.

The records of the Sloane Hospital for Women contain six cases of auricular fibrillation in pregnant women, but the reports of these cases have never been prepared for publication. Getman [1] reported two cases in which there was lost cardiac compensation and the patients were successfully delivered under gas-oxygen anesthesia, and mentions that the heart was very irregular in both. He does not, however, state the type of arrhythmias present.

The present case is therefore reported on account of its uniqueness and to call attention to the possibility of successful treatment of certain types of tachycardia that threaten the life of pregnant women.

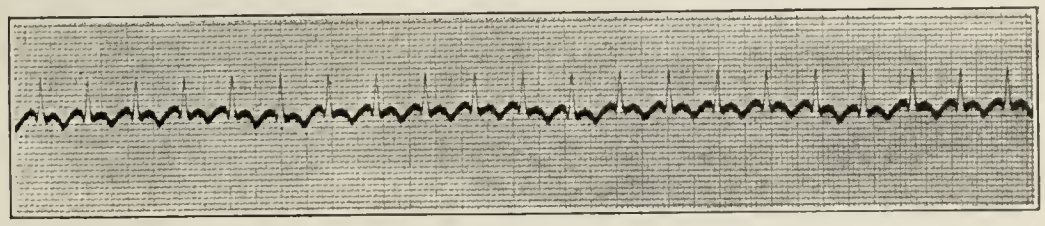


Fig. 1.—Auricular flutter at rate of 320 a minute, Oct. 9, 1919; Lead III; ventricular rate, 160.

REPORT OF CASE

History.—An American woman, aged 31, was admitted to the Presbyterian Hospital on the evening of Oct. 8, 1919, complaining of severe shortness of breath, pain over the heart, and swelling of the feet and ankles, of two weeks' duration. The family history was irrelevant. The paticnt had been married for eight years, and had two children, born six and two years before admission. Both died of influenza in the epidemic of 1918. She had one miscarriage three years before, at four months. Cardiac trouble began ten years before, when she had acute follicular tonsillitis, followed by precordial pain and dyspnea, which confined her to her bed for three weeks. Numerous attacks of tonsillitis occurred after this, but rheumatic fever and chorea were denied. She had also suffered from several subsequent attacks of precordial pain, dyspnea and bronchitis, the most severe of these appearing after the birth of her first child, six years before. There were no cardiac symptoms noticed during her second and third pregnancies. One month before admission, the patient was told at a maternity hospital that she was in the fifth month of pregnancy. Nothing was said to her regarding a cardiac condition. Two weeks before admission she began to have precordial distress, and moderate dyspnea on slight exertion. These symptoms rapidly increased in intensity, being followed, at the end of a week, by swelling of the feet and ankles. Two days before admission, she was forced to remain in bed because of extreme shortness of breath, and she had marked orthopnea at night. Other symptoms at this time were dizziness, vomiting, constipation, severe frontal headache, and scanty dark urine.

Physical Findings.—On admission, the patient was semicomatose, with marked dyspnea, orthopnea, and cyanosis of the lips. The tonsils were moderately enlarged and ragged. Therc were signs of a small collection of fluid in the right chest, and fine, moist râles were scattered over both lungs posteriorly. There was an extremely rapid pulsation of the veins of the neck, apparently synchronous with the apex beat of the heart. Pulsation was marked over the left side of the precordial area. A thrill, systolic in time, was palpable at the apex. The right border of cardiac dulness was 4 cm. to the right of the midsternal line, in the third and fourth spaces, and the apex beat was maximal 12 cm. to the left in the fifth intercostal space. The heart rate was about 180 and regular. A short, rough, systolic murmur was heard at the apex,

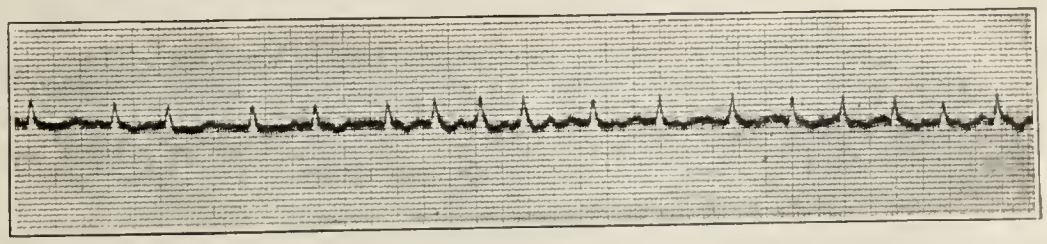


Fig. 2.—Change to fibrillation; ventricular rate, 131; October 10, Lead II.

18. Sherwell, S.: Further Observations on the Technique of an Efficient Procedure for the Removal and Cure of Superficial Malignant Growths, J. Cutan. Dis. **28**: 487, 1910.

* From the Department of Medicine, Columbia University College of Physicians and Surgeons.

1. Getman, W. T.: Delivery Under Gas and Oxygen of Two Patients with Lost Cardiac Compensation, J. A. M. A. **68**: 547 (Feb. 17) 1917.

transmitted for a short distance into the left axilla. No other murmur could be made out. The pulse was very feeble and thready, and could not be counted with accuracy, but was approximately 180 and regular. The blood pressure was not readable. The abdomen presented a firm, rounded mass, extending from the symphysis pubis to the umbilicus. Fetal parts could be made out, but fetal heart sounds were at no time heard. The liver edge was felt extending 5 cm. below the right costal margin in the midclavicular line, and palpation in this region elicited much tenderness. The extremities showed edema of the feet, pretibial regions, and hands.

Treatment and Course.—On the morning following admission, the condition of the patient was unchanged. An electrocardiogram was taken, during which procedure pressure was made on first the left, and then the right vagus, without any effect on the heart rate. The electrocardiographic diagnosis was auricular flutter, with 2:1 heart block (Fig. 1). Digitalis therapy was at once instituted, with an initial dose of 1 c.c. of a digitalis preparation intravenously, followed by the same dose given intramuscular every four hours.

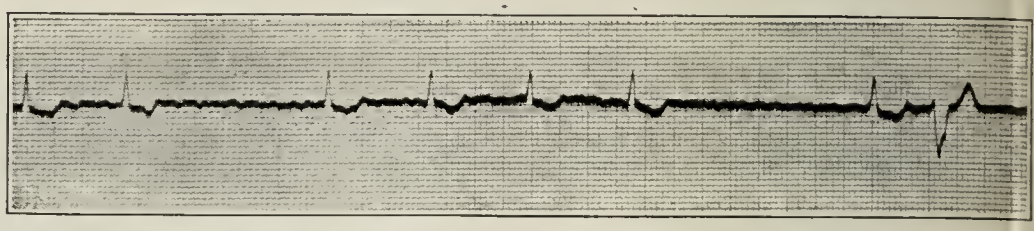


Fig. 5.—Fibrillation with slow ventricular rate and premature ventricular contraction; rate, 60; Lead II; October 30.

On the next morning, while the patient was being examined, her heart rate dropped suddenly from 165 to 112, becoming, at the same time, totally irregular. The electrocardiogram at this time showed auricular fibrillation (Fig. 2). Up to this point, she had received the equivalent of 105 minims of tincture of digitalis, or 0.7 gm. of the dried leaves, in a period of twenty-four hours. Her dyspnea was less marked, cyanosis had vanished, and she appeared much brighter.

Digitalis was continued in the form of the tincture, by mouth, as shown in the chart (Fig. 3). The chart also shows the heart and pulse rate, the shaded area denoting the pulse deficit. Definite signs of mitral stenosis became apparent after the reduction of the heart rate (Fig. 4). October 30, the electrocardiogram showed characteristic auricular fibrillation (Fig. 5).

November 2, the patient was transferred to the Manhattan Maternity Hospital, as labor had begun. On the following morning, she was delivered of a dead fetus weighing 5½ pounds. The labor was uncomplicated, and was without anesthetic. At no time did her heart rate exceed 105. On the day following labor, she showed no signs of cardiac insufficiency. She left the hospital, November 13, and for six months following reported at the outpatient department of the Presbyterian Hospital regularly every two weeks. Throughout this period she was taking 15 minims of tincture of digitalis, three times a day. When last seen, in May, 1920, her condition was excellent. She was doing light housework without discomfort, having dyspnea only after considerable exertion. The apex beat was felt 9.5 cm. to the left of the midsternal line in the fifth space. The right border was at the sternal margin. The apex rate was 100, totally irregular, and the pulse rate 76. The lungs were clear throughout, and there was no edema of the extremities.

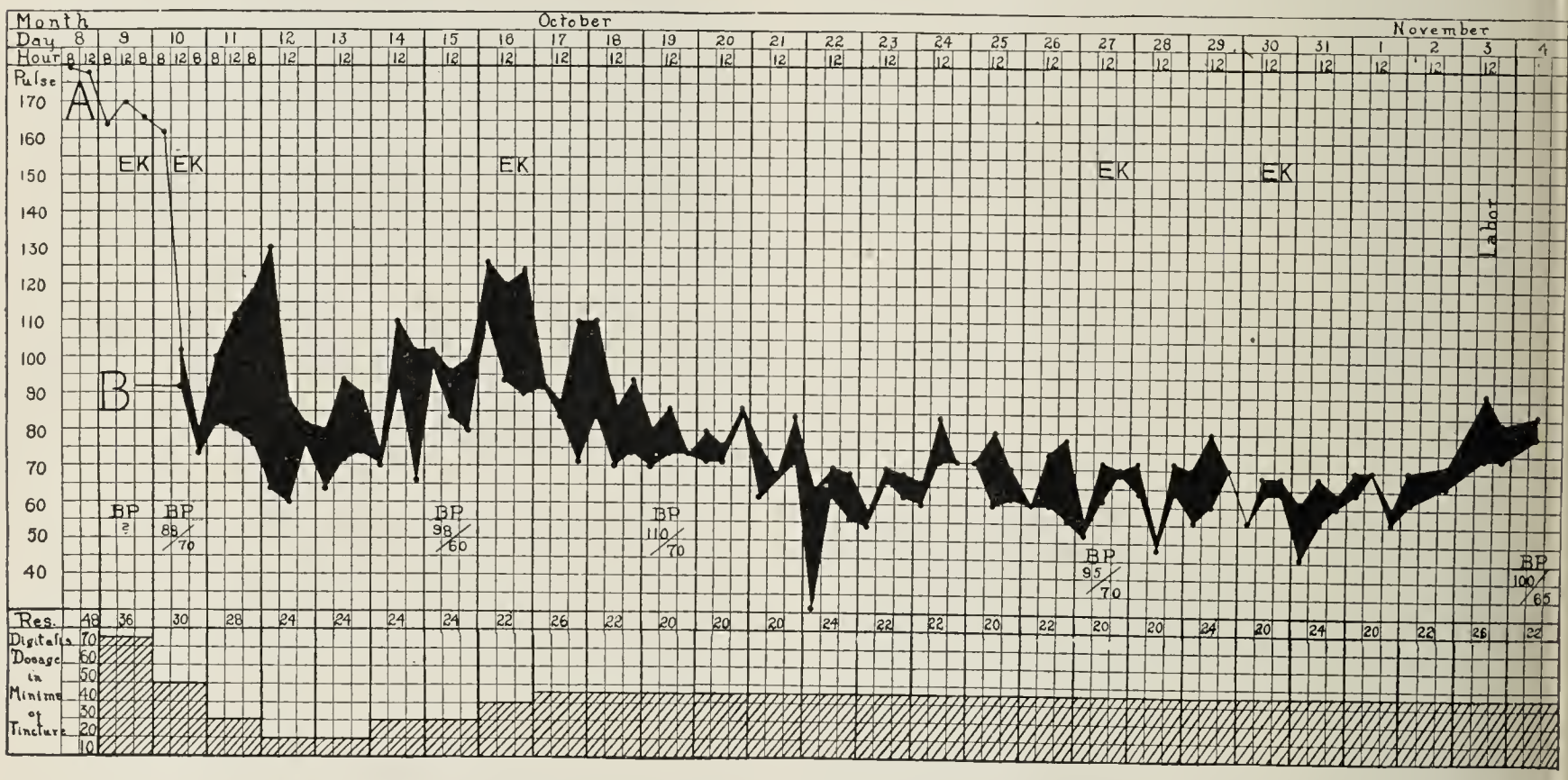


Fig. 3.—Changes in pulse rate, the blood pressure at intervals, and the dose of digitalis in minims, from the date on which the electrocardiograms were made. The upper line (*A*) represents the heart rate as counted at the apex. The lower line (*B*) represents the pulse rate as counted at the wrist, and the intervening solid portion, the pulse deficiency. The columns at the bottom of the chart indicate the amount of digitalis in minims of the tincture administered daily. *E K*, the electrocardiogram.

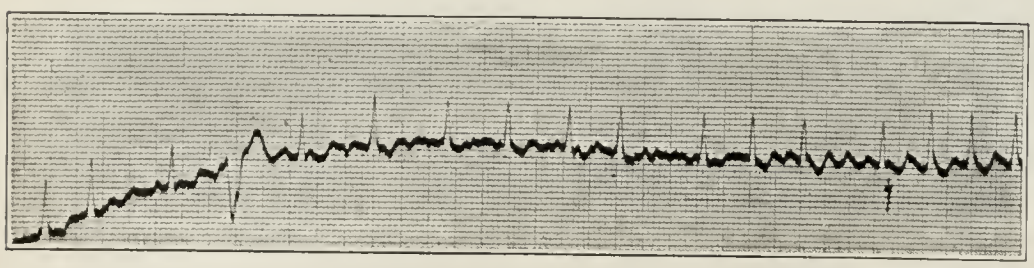


Fig. 4.—Fibrillation; moderately fast ventricular rate; Lead II; ventricular rate, 109; October 16.

COMMENT

The literature contains no reports of cardiac arrhythmias in pregnancy. The case here reported illustrates the possibilities of treatment in such cases when they occur or are discovered late in pregnancy. It shows the advantages of a prompt and accurate diagnosis followed by digitalis therapy. I do not pretend to advise similar treatment

or all such cases, since the handling of such patients must depend on the advisability of allowing the pregancy to go to term, considered, of course, in connection with the purely obstetric aspects of the case.

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PERCUSSION NOTE OF THE BACK IN THE LATERAL POSITION *

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In 1917, I [1] published a short report of observations on the varying character of the percussion note of the back when a patient is turned from one side to the other in the lying position. The study was suggested by the negative necropsy findings in a patient who presented an area of dulness, amounting almost to flatness, about the angle of the scapula on the right side as he lay on the left side shortly before death. A search of the literature at that time and later brought out surprisingly little information about this rather puzzling subject. A review of the titles of periodical literature for years back disclosed but few clues to papers which might deal with the subject, and such clues, when followed up, proved for the most part fruitless. Textbooks on physical diagnosis, and monographs on percussion by twenty-four different authors, going back to 1832, and including many editions of some authors, yielded some information.

Gerhardt,[2] in 1866, brought out the fact that when a patient lies on the side the diaphragm falls away from the chest wall on the upper side, the lung pushing down to fill the complemental space, while on the lower side the diaphragm is crowded up a little. The effect of this phenomenon, as bearing on the level of the lung border in the axilla, was noted. This change in the position of the lung border in the axilla in the lateral recumbency was described in several of the later textbooks consulted. The influence of posture on the level of the diaphragm was emphasized by the fluoroscopic studies of Hoffbauer and Holzknecht.[3] The extent of this shift is difficult to appreciate without the aid of the roentgen ray. The accompanying roentgenograms [4] illustrate the usual change. They are by no means exceptional. Aside from an occasional reference to the level of the diaphragm in the axilla, twenty-one of the twenty-four authors made no mention of differences in the percussion note of the two sides with the patient lying on the side.

Vierordt,[5] in 1892, described the fact that percussing that zone of the chest that lies nearest the bed will elicit a dull note because the vibrations of the chest are dampened in the region by the pressure of the bed.

Cabot,[6] in 1900, and after him Wilson [7] described a diminished resonance of the lower side when the patient is in the lateral decubitus because of a compression of the lower side and a consequent greater amount of air in the upper side. Later Cabot [8] added a footnote to the effect that "there is also a shade of tympany associated with the dulness of the feebly expanded lung of the lower side."

In an article on pneumonia published in 1903, Conner and Dodge [9] state that "in examining the back of a patient who is lying on his side, the lower side of the chest, because of its compression, or perhaps because of its contact with the mattress, will give almost always a percussion note noticeably deeper and more resonant than that of the upper side." This statement is quoted in Osler's textbook, and, so far as I am aware, is the earliest description of this phenomenon.

In 1917, at which time I was not familiar with this observation, I [1] drew attention to the fact that frequently when a patient lies on the side, the spine at the level of the shoulders and pelvis is propped up, while its center tends to sag, thus separating the ribs to some extent on the lower side and crowding them together on the upper side. To this I attributed the fact that the note is frequently more resonant over the lower side than over the upper side.

In order to review these various observations, a series of fifty patients, which includes the twenty whose cases had already been reported, was studied, and the variations in the percussion note over the back were noted with the patient lying first on one side and then on the other. It was found that:



Areas of relative dulness frequently seen in the normal chest with the patient lying on the side: 1, zone of dulness due to deadening effect of the mattress; 2, dulness at base due to higher level of diaphragm and possibly to compression of chest by weight of body; 3, area of dulness due to crowding together of the ribs by the sag scoliosis, which may be seen.

1. There was almost invariably a well marked change in the percussion note over a zone from 2 to 4 inches in width lying next the bed on the dependent side. The percussion note over this zone was short and high pitched, and it seemed reasonable to suppose that this is the result of the deadening of the vibrations by the pressure of the bed. The note over this zone also frequently had a musical quality. It was a real tone rather than a mere sound, so that although it had some characteristics of a dull note, there was frequently superadded a tympanitic quality. The cause for the tympanitic quality will be discussed later.

2. In nineteen patients comparatively less resonance was noted throughout the lower side, as described by Cabot and others. This is ascribed to compression of the lower side by the weight of the body.

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* From the Department of Medicine of the Long Island College Hospital.

1. Howard, Tasker: Note on Percussion of the Back in the Lateral Posture, Hosp. Bull. Dept. Public Charities, New York **1**: 63 (April) 1917.

2. Gerhardt, G.: Lehrbuch der Auskultation und Perkussion, Tübingen, 1866, p. 126.

3. Hoffbauer and Holzknecht: Die Veränderungen des Standes und die Exkursionsbreite des Zwerchfelles in den verschiedenen Körperlagen, Mitt. a. d. Lab. f. radio. Diag. u. Therapie, Jena, 1907.

4. Owing to lack of space, the roentgenograms are omitted here. They will appear in the author's reprints.

5. Vierordt, Oswald: Diagnostik der inneren Krankheiten, Ed. 3, Leipzig, 1892, p. 89.

6. Cabot, R. C.: Physical Diagnosis, New York, 1900.

7. Wilson, J. C.: Handbook of Medical Diagnosis, 1909, p. 133.

8. Cabot, R. C.: Physical Diagnosis, Ed. 4, 1909.

9. Conner, L. A., and Dodge, G. E.: A Study of the Physical Signs of Lobar Pneumonia, Am. J. M. Sc. **126**: 390 (Sept.) 1903.

3. The effect of the shift of the level of the diaphragm on the lower border of pulmonary resonance is much more apparent in the axilla than in the back, although a change of 1 or 2 cm. may often be made out by percussion in the scapular line. However, there often appears an area of relative dulness at the base on the dependent side which extends up to the level of the ninth or eighth rib. Of twenty-seven patients examined for this point, it was observed in nineteen. The area was not dull enough to be explained by an entire absence of pulmonary resonance. The roentgenograms suggest that this dulness is due to a thinning out of the pulmonary tissue by the dome of the diaphragm, which is crowded up on the lower side. The diaphragm is dragged away from the chest wall on the upper side so that a thicker layer of lung lies below the percussing finger over the base of this side, and a relatively more resonant note results over this area. Compression of the lower side of the chest by the weight of the body would also operate more effectively near the base of the lung, because at this point the chest bears more weight than does the upper part, which is more or less supported by the shoulder.

4. Of fifty patients examined, twenty-two showed an area of relatively diminished resonance on the upper side which shifted to the opposite side when the patient turned over. In some it was perfectly apparent, and in others it amounted only to a small patch which might easily be overlooked unless the two sides were carefully and systematically compared. It was usually observed at about the level of the angle of the scapula, but it sometimes appeared nearer the base. In some of the patients this area of diminished resonance was found on one side, but did not appear on the opposite side when the patient was turned over. It was not affected by the position of the upper arm. It could be shifted or obliterated, in some instances, by rolling the patient a little more forward or backward. The explanation is believed to lie in the fact that when a person lies on the side there tends to develop a scoliosis due to sagging downward of the spine. This results in a spreading of the ribs on the lower side, giving rise to a relatively greater capacity and a tendency to hyperresonance on percussion. The tympanitic quality in the dull zone described by Vierordt is probably due to this factor. The ribs are crowded together on the upper side. The upper side expands less readily and presents to the percussing finger a greater rib surface and less intercostal surface. All this tends to a diminished resonance on percussion. An endeavor was made to compare the measurements of the chest on the two sides in the lateral position, but the sources of error were found to be too great to permit of accuracy.

The suggestion that the relative hyperresonance of the lower side is due to the reinforcement of the sound by the mattress was tested by percussing a patient who showed this phenomenon while in bed, when he was lying on a concrete floor. The side next to the floor was more resonant than the upper side whether in the right or left lateral position.

Many of the patients showed various combinations of the areas of diminished resonance and relative hyperresonance described, and in not a few the dulness was as great as that obtained over well marked areas of consolidation.

CONCLUSIONS

1. It will be seen that the asymmetry found in the percussion note over the back in the lateral recumbency may take the form of relative dulness over (*a*) a zone next the bed on the lower side; (*b*) the base of the lung on the lower side; (*c*) the whole lower side; (*d*) a patch on the upper side, or (*e*) various combinations of these areas of dulness, and that relative hyperresonance may be found on either the upper or the lower side.

2. The areas of dulness are sometimes definite enough to suggest consolidation.

3. It is recommended that before conclusions are drawn from percussion of the back of a patient who cannot safely or conveniently stand or sit up, the back should be percussed with the patient first on one side and then on the other, and the results carefully compared.

46 Sidney Place.

Clinical Notes, Suggestions, and New Instruments

FOREIGN BODY IN BRONCHI

Adrian W. Voegelin, M.D. Philadelphia

The occurrence of cases such as the one herewith reported I believe to be of such exceptional rarity as to warrant their recording.

REPORT OF CASE

J. C., a robust man, came to the Episcopal Hospital complaining of pain in the chest and cough. He stated that on the afternoon of the preceding day, while holding several carpet tacks in his mouth, he had taken a breath to answer a question and had felt something slip down his "windpipe." This immediately gave rise to a fit of coughing, lasting fifteen minutes; but he remained at work thinking he had inhaled only some iron rust. That night he expectorated about three teaspoonfuls of blood and mucus; but he slept several hours.



Tack situated low in the right bronchus.

At the hospital the following morning, stereoscopic roentgenograms of the chest revealed a tack lodged, point downward, in the *left* bronchus. No râles, indicating a localized bronchitis, or other unusual thoracic signs were detected.

The patient refused to remain in the hospital for treatment. At noon he had a violent attack of coughing with pain and dyspnea, and expectorated more blood-tinged mucus. That evening, a roentgen-ray examination by another roentgenologist revealed the tack situated low in the *right* bronchus and pointing upward, as shown in the accompanying illustration. The man went home, and early the next morning expectorated more phlegm and blood. A few minutes later, after a slight fit of coughing, he put his hand to his mouth and without much effort obtained the offending tack, which had been in the air passages about thirty-six hours. No subsequent respiratory symptoms or abnormal physical signs have since appeared, and the patient is evidently none the worse for his unusual experience.

STATE BOARD STATISTICS FOR 1920

ANNUAL PRESENTATION BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION OF RESULTS OF STATE BOARD EXAMINATIONS

On pages 1232 to 1239 are three tables, A, B and C, giving in detail the results of the various state medical license examinations held during 1920. All state licensing boards sent in reports and the figures have been carefully verified.

Tables A and B, when read from left to right, show for each medical college named (*a*) the number of graduates appearing for examination in each state, (*b*) whether they passed or failed, (*c*) the total number examined during the year, (*d*) the number who passed, (*e*) the number who failed, (*f*) the percentage of failures, and (*g*) the number of states in which graduates of that school appeared for examination. Read from above downward, they give the results by states, showing (*h*) the number registered and rejected from each college, (*i*) the total numbers examined, registered and rejected, and (*j*) the percentage of rejections. The majority of graduates take the license examination in the state in which the college is located, as shown by the dark diagonal zone of figures passing from the upper left to the lower right corner of each table. These tables are worthy of careful study, since important deductions are possible. The marginal numbers will enable one to follow readily the line for any college.

Graduates of All Years Examined in 1920

Table A shows the results for all candidates who took examinations in 1920, regardless of the years in which they graduated. This shows that altogether 4,787 candidates were examined last year, as compared with 4,736 in 1919, 3,637 in 1918, 4,730 in 1917 and 4,850 in 1916. This year shows an increase of 51 since last year and 1,150 since 1918. Previous to 1919 there had been a steady decrease since 1906 owing chiefly to (*a*) the larger registration through reciprocity, and (*b*) the general diminution in the number of medical colleges, students and graduates. The marked decrease in 1918 was due to the enlistment of many physicians for military medical service. Of those examined in 1920, 15.3 per cent. failed, as compared with 13.3 in 1918, 14.1 per cent. in 1917 and 15 per cent. in 1916.

There were 78 medical colleges in the United States granting degrees in 1920 which had graduates examined, as compared with 79 in 1919, 80 in 1918 and 89 in 1917. There has been a decrease of 75 since 1905, when graduates from 153 medical colleges were examined. The statistics covering schools which have ceased to exist are included in the line for "miscellaneous colleges."

Graduates of Canadian schools were examined in 21 states. The largest number, 31, were examined in New York, the next largest number being 10 examined in Massachusetts. The figures for each college are given separately in order to show the number of candidates coming from each, and to show the successes of their graduates at the examinations. Altogether, 85 candidates from Canadian colleges were examined, of whom 21, or 24.7 per cent. failed.

Foreign granduates were examined in 24 states, the total examined being 86, and of this number 33, or 38.4 per cent., failed. In 1918, 45, and in 1919, 67 foreign graduates were examined. The largest number of foreigners examined in any state in 1920 was 19 in California, where 8, or 42.1 per cent., failed.

Caution in Forming Conclusions

In making comparisons on the basis of these statistics, the reader must keep in mind (*a*) the number of graduates examined; (*b*) the number of states in which a school's graduates have been examined; (*c*) the character of the board making the examination and the methods employed. Some boards refuse to examine graduates of inferior medical colleges, while others (see Table H) not only examine graduates of all medical colleges but also admit osteopaths to the physicians' and surgeons' examination. Some boards hold careful examinations which include practical laboratory and clinical tests, or they mark the papers more severely, while others, especially partisan boards, are very lenient. It is particularly important, in forming conclusions based on these statistics, to note for each college the states in which its graduates are not admitted to examination—information set forth with these statistics in Table D. A state board which admits to its examinations graduates of low-grade medical schools would be expected to have a higher percentage of failures.

Undergraduates and Osteopaths Examined During 1920

For the last three years the few undergraduates examined have been accidental instances due evidently to imperfect credentials. In 1906, there were 703 undergraduates examined, and 342 were licensed. Colorado is now the only state which will knowingly admit nongraduates to its examinations, but only six have been licensed in that state in fourteen years, two having failed at the examination this year. The door has been closed, therefore, against the admission to practice of those whose medical training is known to be incomplete. At present, however, several boards register as physicians and surgeons, by examination or by reciprocity, graduates of osteopathic colleges—no one of which compares favorably with the lowest grade Class C medical college—even though in two of these states—Colorado and Texas—the boards refuse to admit graduates of Class C medical schools to their examinations. (See Table D on page 1240 and 1241.)

During 1920, in California, 27 graduates of osteopathic colleges were admitted to the regular examination for licenses as physicians and surgeons, and of this number 12, or 44.4 per cent., were granted licenses. In Colorado, of 32 osteopaths examined, 17, or 53.1 per cent., were granted licenses as physicians and surgeons (see Tablets G and I). Two osteopaths each were so licensed in Oklahoma and Utah. Altogether 63 osteopaths were examined as physicians and of this number 33, or 52.3 per cent., passed.

Recent Graduates Examined During 1920

Table B gives the results for graduates of 1916 to 1920, inclusive, examined during 1920. This table is important, since it deals with recent graduates, and is, therefore, the fairest basis for comparison between colleges. Of all candidates examined in 1920, 3,984, or 83.2 per cent., were recent graduates, and of this number, 11.5 per cent. failed, as compared with 15.3 per cent. for all candidates.

Old Practitioners Examined During 1920

Table C is so arranged as to show in comparison the results for graduates of all years (first column), for recent graduates (second column), for graduates of 1915 and previous years (third column), and for graduates of 1920 (fourth column). Of the graduates of 1915 and previous years—"old practitioners" 738 were examined, and of this number 245, or 33.2 per cent., failed, as compared with 11.5 per cent. of failures for recent graduates. The total number of these candidates is diminishing each year as state licensing boards extend the provision for reciprocity, or for the endorsement, without further examination of licenses granted by other states where a physician's qualifications are otherwise satisfactory. As a rule, the states which do not have reciprocal relations with other states (Florida, Massachusetts, Montana and Oregon, see Table G) examined the largest numbers of old practitioners.

Graduates of 1920 Examined During 1920

Table C also gives the results for the graduates of 1920 who were examined during the year by the state boards, and shows that 2,559, or 53.7 per cent., of all candidates examined

(CONTINUED ON PAGE 1239)

Marginal Number	NAME OF COLLEGE	1 Alabama P	1 Alabama F	2 Arizona P	2 Arizona F	3 Arkansas P	3 Arkansas F	4 California P	4 California F	5 Colorado P	5 Colorado F	6 Connecticut P	6 Connecticut F	7 Delaware P	7 Delaware F	8 Dist. Columbia P	8 Dist. Columbia F	9 Florida P	9 Florida F	10 Georgia P	10 Georgia F	11 Idaho P	11 Idaho F	12 Illinois P	12 Illinois F	13 Indiana P	13 Indiana F	14 Iowa P	14 Iowa F	15 Kansas P	15 Kansas F	16 Kentucky P	16 Kentucky F	17 Louisiana P	17 Louisiana F	18 Maine P	18 Maine F	19 Maryland P	19 Maryland F	20 Massachusetts P	20 Massachusetts F	21 Michigan P	21 Michigan F
	ALABAMA																																										
1	University of Alabama School of Medicine	10	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	ARKANSAS																																										
2	University of Arkansas Medical Department	..	..	..	..	3	0	1	0	..	..	..	..	..	..	2	0	0	2	..	..	..	..	..	..	..	..	..	..	..	..	1	0	2	0	..	..	..	..	..	..	..	..
	CALIFORNIA																																										
3	College of Medical Evangelists	..	..	..	..	..	..	13	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	College of Physicians and Surgeons, Los Angeles	..	..	2	0	..	..	12	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	College of Physicians and Surgs., San Francisco	..	..	..	..	..	..	16	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Leland Stanford Junior Univ. School of Medicine	..	..	..	..	..	..	19	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	Oakland College of Medicine and Surgery	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..
8	University of California Medical School	..	..	..	..	..	..	19	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..
	COLORADO																																										
9	University of Colorado School of Medicine	..	..	..	..	..	..	1	0	18	0	..	..	..	..	..	..	..	..	..	..	..	..	4	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	CONNECTICUT																																										
10	Yale University School of Medicine	..	..	..	..	..	..	1	0	1	0	17	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	DISTRICT OF COLUMBIA																																										
11	Georgetown University School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	0	2	0
12	George Washington University Medical School	..	..	..	..	..	..	1	0	..	..	..	..	..	..	20	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	Howard University School of Medicine	1	0	..	..	..	..	..	..	..	..	..	..	1	0	9	1	1	0	..	..	..	..	0	1	1	0	..	..	..	..	..	..	..	..	..	..	2	0	2	0	..	..
	GEORGIA																																										
14	Emory University School of Medicine	1	0	..	..	..	..	..	..	..	..	0	1	..	..	..	..	6	0	28	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..
15	University of Georgia Medical Department	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	2	0	15	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..
	ILLINOIS																																										
16	Chicago Medical School	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	18	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..	..
17	Hahnemann Medical College and Hospital	..	..	0	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	1	8	1	1	0	..	..	..	..	1	1	..	..	..	..	..	..	1	0	..	..
18	Loyola University School of Medicine	..	..	..	..	..	..	..	..	..	..	1	0	..	..	1	0	..	..	..	..	..	..	74	3	1	0	0	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	Northwestern University Medical School	..	..	3	0	..	..	2	0	..	..	..	..	..	..	..	..	1	0	..	..	3	0	62	0	..	..	2	0	..	..	..	..	..	..	..	..	..	..	5	1	2	0
20	Rush Medical College (University of Chicago)	..	..	2	0	..	..	4	0	..	..	..	..	..	..	..	..	2	0	..	..	2	0	123	0	..	..	..	..	3	0	..	..	..	..	..	..	..	..	1	0	..	..
21	University of Illinois College of Medicine	..	..	2	2	..	..	3	0	..	..	..	..	..	..	..	..	0	1	..	..	4	0	47	2	1	0	2	0	..	..	..	..	..	..	..	..	..	..	1	0	1	0
	INDIANA																																										
22	Indiana University School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	43	0	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..
	IOWA																																										
23	State University of Iowa College of Medicine	..	..	1	0	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	54	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..
	KANSAS																																										
24	University of Kansas School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	23	0	..	..	..	..	..	..	..	..	..	..	..	..
	KENTUCKY																																										
25	University of Louisville Medical Department	..	..	0	2	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	1	0	4	0	1	0	..	..	22	1	1	0	..	..	..	..	..	..	..	..
	LOUISIANA																																										
26	Tulane University of Louisiana School of Med.	7	0	2	0	2	0	..	..	..	..	..	..	..	..	1	0	3	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	64	0	..	..	..	..	..	..
	MAINE																																										
27	Bowdoin Medical School	..	..	..	..	..	..	..	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	0	..	..	4	0	..	..
	MARYLAND																																										
28	Johns Hopkins University Medical Department	..	..	1	0	..	..	1	1	..	..	7	0	..	..	1	0	..	..	2	0	..	..	..	..	1	0	1	0	1	0	..	..	..	..	1	0	50	2	1	0	1	0
29	Univ. of Md. School of Med. & Coll. of P. & S.	..	..	1	0	..	..	1	0	..	..	2	1	..	..	1	1	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	42	5	2	0	..	..
	MASSACHUSETTS																																									
30	Boston University School of Medicine	..	..	1	0	..	..	..	..	..	..	0	1	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
31	College of Physicians and Surgeons, Boston	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	9	0	..	..
32	Medical School of Harvard University	1	0	..	..	1	0	3	0	..	..	9	2	..	..	..	..	2	0	1	0	..	..	3	0	2	0	2	0	..	..	..	..	..	..	..	..	..	..	4	13	..	..
33	Middlesex College of Medicine and Surgery.—N.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	0	1	0	54	0	2	0
34	Tufts College Medical School	..	..	1	0	..	..	..	..	..	..	8	1	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	21	..	..
	MICHIGAN																																									
35	Detroit College of Medicine and Surgery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	76	12	..	..
36	University of Michigan Medical School	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39	0	..	..
37	University of Michigan Homeo. Med. School.—H.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	1	0	79	0	..	..
	MINNESOTA																																										
38	University of Minnesota Medical School	..	..	..	..	..	..	2	0	..	..	..	..	..	..	1	0	..	..	..	..	2	0	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	0	..	..
	MISSOURI																																										
39	Kansas City College of Medicine and Surgery.—N.	..	..	..	..	22	21	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	Kansas City Univ. of Phys. and Surgs.—N.	..	..	..	..	..	..	..	..	5	1	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41	St. Louis College of Physicians and Surgeons	..	..	0	2	..	..	..	..	5	21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42	St. Louis University School of Medicine	..	..	..	..	..	..	2	0	..	..	..	..	..	..	..	..	2	0	..	..	..	..	7	1	1	0	3	0	..	..	..	..	..	..	..	..	..	..	1	0	2	0
43	Washington University School of Medicine	..	..	2	0	1	0	2	0	..	..	1	0	..	..	1	0	..	..	..	..	..	..	2	0	1	0	..	..	..	..	..	..	..	..	..	..	1	0	1	0	..	..
	NEBRASKA																																										
44	John A. Creighton Medical College	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45	University of Nebraska College of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	NEW YORK																											1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..
46	Albany Medical College	..	..	..	..	..	..	..	..	..	..	4	0	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
47	Columbia University College of Phys. & Surgs.	..	..	1	0	1	0	..	..	..	..	10	0	..	..	1	0	4	0	2	0	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0
48	Cornell University Medical College	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	2	0	..	..
49	Fordham University School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
50	Long Island College Hospital	..	..	..	..	..	..	..	..	..	..	6	0	..	..	..	..	1	0	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
51	N. Y. Homeo. Med. Coll. and Flower Hosp.—H.	..	..	..	..	..	..	1	0	..	..	2	0	..	..	..	..	0	1	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
52	Syracuse University College of Medicine	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..
53	University and Bellevue Hospital Med. Coll.	..	..	..	..	..	..	..	..	..	..	3	0	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
54	University of Buffalo Medical Department	..	..	2	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	3	0	..	..
	OHIO																																										
55	Eclectic Medical College.—E.	..	..	..	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	1	0	..	..	1	0	3	0	..	..	..	..	3	0	..	..	..	..	..	..	..	..	2	0
56	Ohio State University College of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
57	Ohio State University Coll. of Homeo. Med.—H.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
58	University of Cincinnati College of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
59	Western Reserve University School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	OKLAHOMA																																										
60	University of Oklahoma School of Medicine	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	OREGON																																										
61	University of Oregon Medical School	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..
	PENNSYLVANIA																																										
62	Hahnemann Medical College and Hospital.—H.	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
63	Jefferson Medical College	2	0	2	0	1	0	2	0	1	0	9	1	..	..	..	..	2	0	2	0	2	0	1	0	..	..	1	0	..	..	..	..	..	..	..	..	2	0	5	0	..	..
64	Temple University Department of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
65	University of Pennsylvania School of Medicine	1	0	0	1	..	..	1	0	..	..	2	0	2	1	1	0	3	0	..	..	1	0	2	0	..	..	..	..	1	0	..	..	2	0	..	..	0	2	1	0	1	0
66	University of Pittsburgh School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	2	0	..	..	1	0	2	0	2	0
67	Woman's Medical College of Pennsylvania	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

H. = Homeopathic; E = Eclectic; N = Nondescript; P = Passed; F = Failed.

24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	Totals	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Exam. in	Marginal Number
Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	U. S. Territories and Possessions					
P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F						
							4 3					1 0															30	26	4	13.3	7	10
1 0							1 2			2 0			0 1									1 0 1 0			1 0	31	28	3	9.7	10	11
	1 0						1 0	1 0				1 0	1 0	1 0	1 0						2 0		1 0			1 1	38	36	2	5.3	15	12
1 0					2 0		6 9			1 0			1 1								1 0						39	27	12	30.8	13	13
							1 0	2 0			1 0		2 0		1 1												46	42	4	8.7	10	14
			1 0				1 0						1 0		2 0												24	24	0	0.0	8	15
																											50	32	18	36.0	3	16
1 0	1 0					1 0						0 1				1 0					1 0	0 1					19	14	5	26.3	11	17
	0 1							2 0		3 1	1 0	1 0				1 0						0 1			2 0	0 1	105	95	10	9.5	17	18
0	1 0						1 2		2 0	1 0		3 2				2 0	2 0					2 1		4 0		0 1	103	97	6	5.8	19	19
	7 0						4 1		3 0	2 0		8 0	1 0			6 0	2 0					1 0		7 0		1 1	181	179	2	1.1	18	20
	2 0	1 0					3 4		1 0		3 0	2 1				1 0			3 0					3 0		1 0	94	83	11	11.7	20	21
																1 0										0 1	49	47	2	4.1	6	22
							1 1					1 0				3 0								1 0			64	63	1	1.6	8	23
1 0							1 0									1 0											29	29	0	0.0	7	24
1 0			1 0			1 0	1 5	1 0				0 3	2 2			1 0		1 0			1 0	1 0					59	42	17	28.8	20	25
								1 0			1 0		0 1				3 0	5 0								2 0	106	105	1	0.9	15	26
																											17	16	1	5.9	4	27
1 0	1 0	1 0					20 5	2 0	1 0	4 0		4 0	8 1	1 0	2 0	1 0	1 0				3 0	1 0		2 0	1 0	2 1	135	125	10	7.4	31	28
	0 1		1 0			3 0	5 6	8 0		2 0	1 0		4 0	1 0	3 0		1 0						10 0			5 0	109	95	14	12.8	21	29
							1 2							1 0	0 1											0 2	20	14	6	30.0	9	30
														1 0													20	6	14	70.0	3	31
2 0				3 0	1 0		16 3	1 0		3 0		1 0	6 0	6 0	1 0	1 0	3 0		1 0					1 0	1 0	1 0	148	143	5	3.4	29	32
																											34	13	21	61.8	1	33
			1 0	1 0	1 0		7 8						1 0	7 1		1 0										2 0	131	109	22	16.8	13	34
							2 3									1 0										1 0	49	45	4	8.2	6	35
	1 0						4 1						4 1			1 0											96	94	2	2.1	10	36
							3 1									1 0											12	11	1	8.3	3	37
	4 0						2 1		3 0			2 0															87	86	1	1.1	9	38
																		2 0									48	26	22	45.8	3	39
			1 1																			1 0					10	8	2	20.0	4	40
3 4	1 0		1 0									1 1							0 1				1 0		1 0		42	13	29	69.0	9	41
47 0							1 0									1 0			1 0			1 0			1 0		72	71	1	1.4	14	42
32 0							1 1					1 0				1 0							1 0		1 0		51	50	1	2.0	16	43
		20 0					0 1									1 0			2 0								27	26	1	3.7	7	44
		4 0					1 0					1 0				1 0											11	11	0	0.0	8	45
							24 3						1 0														35	31	4	11.4	5	46
2 0			2 0	1 0	1 0		91 18	1 0					1 0	1 0			2 0	3 0	1 0			2 0		2 0			153	135	18	11.8	23	47
							53 8						1 0									1 0				1 0	66	58	8	12.1	6	48
							59 20																				87	67	20	23.0	4	49
							79 11						1 0						1 0								95	83	12	12.6	6	50
						2 0	42 35										1 0										85	50	35	41.2	7	51
							33 4						1 0														39	35	4	10.3	3	52
							111 7	1 0					2 0	1 0													130	123	7	5.4	8	53
			1 0				52 4						1 1														63	58	5	7.9	6	54
							7 8			24 1													0 1				52	41	11	21.1	9	55
										22 0																	23	23	0	0.0	2	56
										1 1																	2	1	1	50.0	1	57
							1 0	1 0		40 0			1 0			1 0							2 0			1 0	49	49	0	0.0	8	58
										46 0						1 0			3 0				1 0			52	52	0	0.0	5	59
0							0 1		0 1	1 0	1 0						1 0										8	6	2	25.0	8	60
							1 1					19 0										2 0					25	24	1	4.0	5	61
					5 0		1 4			1 0		1 0	24 1								2 0						40	35	5	12.5	7	62
0 3	0		1 0		7 0		10 7	26 0		9 0	1 0		88 3	1 0	4 0		3 0		2 0		1 0		5 0		1 0	2 1	210	198	12	5.7	31	63
		1 0											15 13									3 0	4 0		2 0		38	21	17	44.7	6	64
0 2	0 2 0				9 0		7 5	8 0		4 0		1 2	77 2					1 0	1 0		4 0		2 0			2 0	160	149	11	6.9	30	65
							1 0			1 0			30 0													36	36	0	0.0	6	66
					1 0		0 2	1 0					5 0														12	9	3	25.0	6	67
3	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						

TABLE A—PHYSICIANS EXAMINED

Marginal Number	NAME OF COLLEGE	1 Alabama P	1 Alabama F	2 Arizona P	2 Arizona F	3 Arkansas P	3 Arkansas F	4 California P	4 California F	5 Colorado P	5 Colorado F	6 Connecticut P	6 Connecticut F	7 Delaware P	7 Delaware F	8 Dist. Columbia P	8 Dist. Columbia F	9 Florida P	9 Florida F	10 Georgia P	10 Georgia F	11 Idaho P	11 Idaho F	12 Illinois P	12 Illinois F	13 Indiana P	13 Indiana F	14 Iowa P	14 Iowa F	15 Kansas P	15 Kansas F	16 Kentucky P	16 Kentucky F	17 Louisiana P	17 Louisiana F	18 Maine P	18 Maine F	19 Maryland P	19 Maryland F	20 Massachusetts P	20 Massachusetts F	21 Michigan P	21 Michigan F	22 Minnesota P
	SOUTH CAROLINA																																											
68	Medical College of the State of South Carolina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	TENNESSEE																																											
69	Meharry Medical College	1	1	..	..	4	7	..	..	..	..	0	2	..	..	1	1	3	0	12	4	..	..	6	28	..	..	1	0	..	..	0	2	1	2	..	..	1	1	1	2	..	..	..
70	University of Tennessee College of Medicine	..	..	1	0	7	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..
71	University of West Tennessee Medical Department	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
72	Vanderbilt University School of Medicine	2	0	2	0	..	..	1	0	1	0	1	0	..	..	..	..	1	0	1	0	..	..	..	..	1	0	..	..	..	..	1	0	2	0	..	..	..	..	..	..	..	..	..
	TEXAS																																										
73	Baylor University College of Medicine	..	..	..	..	..	..	..	..	0	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
74	University of Texas Department of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	1	0	..	..	..	..	..	..	..	..	..
	VERMONT																																										
75	University of Vermont College of Medicine	..	..	..	..	..	..	1	0	..	..	1	1	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	..	..	..
	VIRGINIA																																										
76	Medical College of Virginia	1	0	..	..	..	..	..	..	..	..	0	5	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..
77	University of Virginia Departmentof Medicine	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	1	0	..	..	2	0	1	0	..	..	..
	WISCONSIN																																										
78	Marquette University School of Medicine	..	..	1	0	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	CANADA																																										
79	Laval University Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..
80	McGill University Faculty of Medicine	..	..	..	..	..	..	3	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	3	0	1	0	1	0	..	..	..
81	Queen's University Faculty of Medicine	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
82	University of Manitoba Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
83	University of Montreal Medical Faculty	..	..	..	..	..	..	..	..	..	..	0	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	1	..	..	0	2	..	..	..
84	University of Toronto Faculty of Medicine	1	0	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	7	0	..
85	Western University Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	1	0	..
86	Foreign Colleges	..	..	..	..	..	..	11	8	1	0	0	1	..	..	..	..	1	0	..	..	1	0	6	0	..	..	..	..	1	1	..	..	1	0	..	..	..	..	1	2	3	0	..
87	Miscellaneous Medical Colleges	5	1	2	6	6	0	1	0	4	1	4	4	..	..	1	2	24	11	5	2	2	0	17	11	1	0	3	1	0	1	..	..	3	0	..	..	0	1	3	9	6	2	..
88	Undergraduates and Osteopaths	..	..	..	..	..	..	12	15	17	17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
89	Totals by States	36		47		76		184		102		123		9		66		90		76		29		470		64		78		34		34		83		25		118		286		163		
90	Totals — Examined — Passed	34		33		48		150		56		97		6		61		72		70		27		404		64		76		32		30		81		24		107		217		161		
91	Totals — Examined — Failed	2		14		28		34		46		26		3		5		18		6		2		66		0		2		2		4		2		1		11		69		2		
92	Percentage of Failures	5.6		29.8		36.8		18.5		45.1		21.1		33.3		7.6		20.0		7.9		6.9		14.0		0.0		2.6		5.9		11.8		2.4		4.0		9.3		24.1		1.2		4
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22

H. = Homeopathic; E = Eclectic; N = Nondescript; P = Passed; F = Failed.

TABLE B—GRADUATES OF 1916 TO 1920, INCLUSI

Marginal Number	NAME OF COLLEGE	1 Alabama P	1 Alabama F	2 Arizona P	2 Arizona F	3 Arkansas P	3 Arkansas F	4 California P	4 California F	5 Colorado P	5 Colorado F	6 Connecticut P	6 Connecticut F	7 Delaware P	7 Delaware F	8 Dist. Columbia P	8 Dist. Columbia F	9 Florida P	9 Florida F	10 Georgia P	10 Georgia F	11 Idaho P	11 Idaho F	12 Illinois P	12 Illinois F	13 Indiana P	13 Indiana F	14 Iowa P	14 Iowa F	15 Kansas P	15 Kansas F	16 Kentucky P	16 Kentucky F	17 Louisiana P	17 Louisiana F	18 Maine P	18 Maine F	19 Maryland P	19 Maryland F	20 Massachusetts P	20 Massachusetts F	21 Michigan P	21 Michigan F	22 Minnesota P
	ALABAMA																																												
1	University of Alabama School of Medicine	10	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	ARKANSAS																																											
2	University of Arkansas Medical Department	..	..	..	..	3	0	1	0	..	..	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	1	0	..	..	..	..	..	..	..	..	..
	CALIFORNIA																																											
3	College of Medical Evangelists	..	..	..	..	..	..	13	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	College of Physicians and Surgeons, Los Angeles	..	..	2	0	..	..	12	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	College of Physicians and Surgs., San Francisco	..	..	..	..	..	..	16	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	Leland Stanford Junior Univ. School of Medicine	..	..	..	..	..	..	19	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	Oakland College of Medicine and Surgery	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..
8	University of California Medical School	..	..	..	..	..	..	19	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..
	COLORADO																																										
9	University of Colorado School of Medicine	..	..	..	..	..	..	1	0	18	0	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	CONNECTICUT																																										
10	Yale University School of Medicine	..	..	..	..	..	..	1	0	..	..	17	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	DISTRICT OF COLUMBIA																																										
11	Georgetown University School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	2	0	..
12	George Washington University Medical School	..	..	..	..	..	..	1	0	..	..	..	..	..	..	20	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	1	0	..
13	Howard University School of Medicine	1	0	..	..	..	..	..	..	..	..	..	..	1	0	9	1	1	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	..
	GEORGIA																																										
14	Emory University School of Medicine	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	0	28	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	2	..	..	..
15	University of Georgia Medical Department	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	15	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	ILLINOIS																																										
16	Chicago Medical School	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29	16	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	1	0	..	..	..
17	Hahnemann Medical College and Hospital	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	1	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	Loyola University School of Medicine	..	..	..	..	..	..	..	..	..	..	1	0	..	..	1	0	..	..	..	..	..	..	74	3	1	0	0	1	..	..	1	1	..	..	..	..	..	..	..	..	5	1	2	0	..
19	Northwestern University Medical School	..	..	3	0	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	62	0	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	3
20	Rush Medical College (University of Chicago)	..	..	..	..	..	..	4	0	..	..	..	..	..	..	..	..	..	..	..	..	2	0	122	0	..	..	..	..	3	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
21	University of Illinois College of Medicine	..	..	..	..	..	..	3	0	..	..	..	..	..	..	..	..	..	..	..	..	2	0	47	2	1	0	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	1
	INDIANA																																										
22	Indiana University School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	43	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
	IOWA																																										
23	State University of Iowa College of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	54	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22

H. = Homeopathic; E = Eclectic; N = Nondescript; P = Passed; F = Failed.

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						
Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	U. S. Territories and Possessions	Totals	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Exam. in	Marginal Number
F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F						
																1 0												16	16	0	0.0	2	68
0 10 0				1 0					1 2		2 1			0 1		0 1		21 0						2 4				129	70	59	45.8	20	69
	1 0								1 0		1 0		1 1				1 0	8 0										25	24	1	4.0	10	70
														0 2														9	4	5	55.6	5	71
								4 9	1 0		4 0				1 0			28 0	2 0									62	53	9	14.5	16	72
								0 1											25 0									29	26	3	10.3	4	73
	1 0							0 1				2 0							62 0									70	69	1	1.4	8	74
								6 11		0 1			1 0								18 0			1 0	1 0			50	36	14	28.0	10	75
0								1 4	7 0													23 3		3 1				56	43	13	23.2	9	76
									2 0						1 0	1 0		2 0	1 0			14 0	1 0	2 0				31	31	0	0.0	14	77
																	1 0								14 0			17	17	0	0.0	4	78
															0 2													5	1	4	80.0	2	79
								5 4						1 0									2 0					22	18	4	18.2	9	80
								7 4		1 0														1 0				17	12	5	29.4	6	81
										1 0																		1	1	0	0.0	1	82
															1 0		1 0						1 0					8	3	5	62.5	6	83
0				1 0				8 3			1 0		1 0										1 0					30	27	3	10.0	11	84
																												2	2	0	0.0	2	85
		1 0		1 0		1 1		9 5	0 1		2 0		0 2	0 5	1 0							1 0	3 0	1 0	2 0		5 7	86	53	33	38.4	24	86
1 8 1		2 1		0 1	0 1	5 0	1 0	3 7	2 0	1 1	2 1	1 0	8 6	8 6	0 2	2 5	6 2	5 0	1 0	1 0		2 1	1 2	2 4	4 1	2 0		2 5	259	159	100	38.5	44	87
												2 0								2 0								65	33	32	50.8	4	88
31	129	28	27	16	7	39	3	949	73	16	184	14	80	329	30	41	40	82	103	19	18	59	29	51	47	9	54	4787	....	....	.....	...	89
30	117	25	27	14	6	38	3	703	70	13	179	14	61	288	25	33	38	82	103	18	18	55	24	41	46	9	33	....	4053	....	.....	...	90
1	5	3	0	2	1	1	0	246	3	3	5	0	19	41	5	8	2	0	0	1	0	4	5	10	1	0	21	....	....	734	.....	...	91
3.2	4.1	10.7	0.0	12.5	14.3	2.6	0.0	25.9	4.1	18.7	2.7	0.0	23.7	12.5	16.7	19.5	5.0	0.0	0.0	5.3	0.0	6.8	17.2	19.6	2.1	0.0	38.9	....	....	....	15.3	...	92
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						

AMINED BY STATE BOARDS DURING 1920

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						
Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	U. S. Territories and Possessions	Totals	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Exam. in	Marginal Number
F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F						
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				1 0																			1 0					19	15	4	21.1	3	4
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																												20	20	0	0.0	2	6
																												5	4	1	20.0	2	7
																												20	20	0	0.0	2	8
		1 0																					1 0					23	23	0	0.0	5	9
					1 0			4 3					1 0															28	24	4	14.3	5	10
	1 0										2 0			0 1										1 0			1 0	25	24	1	4.0	8	11
	1 0							1 0	1 0				1 0	1 0	1 0	1 0						2 0		1 0			1 0	33	33	0	0.0	13	12
	1 0						2 0	4 5			1 0			0 1								1 0						31	24	7	22.6	12	13
									2 0			1 0		1 0		1 0												41	39	2	4.9	8	14
								1 0								1 0												19	19	0	0.0	4	15
																												47	31	16	34.0	3	16
							1 0															1 0						12	11	1	8.3	4	17
		0 1							2 0		3 1	1 0	1 0				1 0						0 1			2 0	0 1	105	95	10	9.5	17	18
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		5 0						2 1		3 0	2 0		3 0	1 0			5 0	1 0					1 0		6 0			164	162	2	1.2	16	20
		2 0						3 2		1 0		1 0								3 0					3 0		1 0	75	71	4	5.3	14	21
																												47	46	1	2.1	4	22
								1 0																	1 0			58	58	0	0.0	5	23
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						

Marginal Number	NAME OF COLLEGE	1 Alabama P	1 Alabama F	2 Arizona P	2 Arizona F	3 Arkansas P	3 Arkansas F	4 California P	4 California F	5 Colorado P	5 Colorado F	6 Connecticut P	6 Connecticut F	7 Delaware P	7 Delaware F	8 Dist. Columbia P	8 Dist. Columbia F	9 Florida P	9 Florida F	10 Georgia P	10 Georgia F	11 Idaho P	11 Idaho F	12 Illinois P	12 Illinois F	13 Indiana P	13 Indiana F	14 Iowa P	14 Iowa F	15 Kansas P	15 Kansas F	16 Kentucky P	16 Kentucky F	17 Louisiana P	17 Louisiana F	18 Maine P	18 Maine F	19 Maryland P	19 Maryland F	20 Massachusetts P	20 Massachusetts F	21 Michigan P	21 Michigan F
	KANSAS																																										
24	University of Kansas School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	23	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	KENTUCKY																																											
25	University of Louisville Medical Department	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	1	0	4	0	..	..	..	..	22	1	1	0	..	..	..	..	..	..	..	..	..	..
	LOUISIANA																																											
26	Tulane University of Louisiana School of Med.	7	0	1	0	2	0	..	..	..	..	..	..	..	..	..	..	3	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	63	0	..	..	..	..	1	0	1	0	..	..
	MAINE																																											
27	Bowdoin Medical School	..	..	..	..	..	..	..	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	0	..	..	..	..	3	0	..	..
	MARYLAND																																											
28	Johns Hopkins University Medical Department	..	..	..	..	..	..	1	1	..	..	6	0	..	..	1	0	..	..	2	0	..	..	..	..	1	0	1	0	1	0	..	..	..	..	1	0	48	2	..	..	1	0	1
29	Univ. of Md. School of Med. & Coll. of P. & S.	..	..	..	..	..	..	1	0	..	..	2	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	41	5	1	0	..	..	..
	MASSACHUSETTS																																											
30	Boston University School of Medicine	..	..	..	..	..	..	..	..	..	..	0	1	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	9	0	..	..	..
31	College of Physicians and Surgeons, Boston	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	13	..	..	..
32	Medical School of Harvard University	1	0	..	..	1	0	3	0	..	..	7	0	..	..	..	..	..	..	1	0	..	..	3	0	2	0	1	0	..	..	..	..	..	..	6	0	..	..	50	0	2	0	2
33	Middlesex College of Medicine and Surgery.—N.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	21	..	..	..
34	Tufts College Medical School	..	..	..	..	..	..	..	..	..	..	8	1	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	75	12	..	..	..
	MICHIGAN																																											
35	Detroit College of Medicine and Surgery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39	0	..
36	University of Michigan Medical School	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	79	0	..
37	University of Michigan Homeo. Med. School.—H.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	0	..
	MINNESOTA																																											
38	University of Minnesota Medical School	..	..	..	..	..	..	2	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	69
	MISSOURI																																											
39	Kansas City College of Medicine and Surgery.—N.	..	..	..	..	22	21	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	Kansas City Univ. of Phys. and Surgs.—N.	..	..	..	..	..	..	..	..	5	1	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41	St. Louis College of Physicians and Surgeons	..	..	0	2	..	..	..	..	5	21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42	St. Louis University School of Medicine	.	.	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	1	1	0	3	0	..	..	..	..	..	..	..	..	..	..	1	0	2	0	1
43	Washington University School of Medicine	..	..	1	0	..	..	2	0	..	..	1	0	..	..	..	..	..	..	..	..	..	..	2	0	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	1	0	..
	NEBRASKA																																											
44	John A. Creighton Medical College	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45	University of Nebraska College of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	NEW YORK																																											
46	Albany Medical College	..	..	..	..	..	..	..	..	..	..	2	0	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0
47	Columbia University College of Phys. & Surgs.	..	..	1	0	1	0	..	..	..	..	5	0	..	..	..	..	1	0	2	0	1	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	2
48	Cornell University Medical College	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..
49	Fordham University School of Medicine	..	..	..	..	..	..	..	..	..	..	6	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
50	Long Island College Hospital	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
51	N. Y. Homeo. Med. Coll. and Flower Hosp.—H.	..	..	..	..	..	..	1	0	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..
52	Syracuse University College of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
53	University and Bellevue Hospital Med. Coll.	..	..	..	..	..	..	..	..	..	..	3	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	0	..	..	..	..
54	University of Buffalo Medical Department	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	OHIO																																											
55	Eclectic Medical College.—E.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	1	0	3	0	..	..	..	..	3	0	..	..	..	..	..	..	..	..	2	0	..
56	Ohio State University College of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
57	Ohio State University Coll. of Homeo. Med.—H.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
58	University of Cincinnati College of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
59	Western Reserve University School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	OKLAHOMA																																											
60	University of Oklahoma School of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..
	OREGON																																											
61	University of Oregon Medical School	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	PENNSYLVANIA																																											
62	Hahnemann Medical College and Hospital.—H.	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
63	Jefferson Medical College	2	0	..	..	..	..	2	0	..	..	8	1	..	..	..	..	..	..	2	0	1	0	1	0	..	..	1	0	..	..	..	..	..	..	..	..	..	..	2	0	5	0	..	1
64	Temple University Department of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	2	1	0	1	0
65	University of Pennsylvania School of Medicine	..	..	..	..	..	..	1	0	..	..	2	0	2	1	1	0	..	..	..	..	1	0	2	0	..	..	..	..	1	0	..	..	2	0	..	..	1	0	2	0	2	0	2
66	University of Pittsburgh School of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
67	Woman's Medical College of Pennsylvania	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	SOUTH CAROLINA																																											
68	Medical College of the State of South Carolina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	TENNESSEE																																											
69	Meharry Medical College	1	1	..	..	3	4	..	..	..	..	0	1	..	..	1	1	3	0	11	3	..	..	3	8	..	..	..	..	..	..	0	2	1	2	..	..	1	1	..	..	..	..
70	University of Tennessee College of Medicine	..	..	1	0	7	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0
71	University of West Tennessee Medical Department	..	..	..	..	..	..	..	..	0	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
72	Vanderbilt University School of Medicine	2	0	1	0	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	1	0	2	0	..	..	..	..	..	..	..	..	..	..
	TEXAS																																											
73	Baylor University College of Medicine	..	..	..	..	..	..	..	..	0	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
74	University of Texas Department of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	1	0	..	..	..	..	..	..	..	..	..	..
	VERMONT																																											
75	University of Vermont College of Medicine	..	..	..	..	..	..	1	0	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	..	..	..
	VIRGINIA																																											
76	Medical College of Virginia	1	0	..	..	..	..	..	..	..	..	0	5	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..
77	University of Virginia Departmentof Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..	..	2	0	1	0	..	..
	WISCONSIN																																											
78	Marquette University School of Medicine	..	..	1	0	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	CANADA																																											
79	Laval University Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..
80	McGill University Faculty of Medicine	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	3	0	..	..	1	0	..	..	..
81	Queen's University Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
82	University of Manitoba Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
83	University of Montreal Medical Faculty	..	..	..	..	..	..	..	..	..	..	0	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	1	..	..	0	1	..	..	..	..
84	University of Toronto Faculty of Medicine	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	0	..	..
85	Western University Faculty of Medicine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
86	Foreign Colleges	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	0	..	..	..	..	..	..	..	..	..	..	1	0	..	..	..	..	..	..	1	0
87	Miscellaneous Medical Colleges	..	..	0	1	4	0	..	..	1	0	..	..	..	..	..	..	..	..	1	0	..	..	5	2	..	..	0	1	..	..	..	..	..	..	..	..	..	..	..	..	0	3	6	2
88	Undergraduates and Osteopaths	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
89	Totals by States	28		16		68		134		59		92		9		60		21		67		13		411		62		70		31		34		76		21		109		250		155	
80	Totals — Examined — Passed	27		13		43		122		32		77		6		57		21		64		13		378		62		68		31		30		74		20		99		192		153	
91	Totals — Examined — Failed	1		3		25		12		27		15		3		3		0		3		0		33		0		2		0		4		2		1		10		58		2	
92	Percentage of Failures	3.6		18.7		36.8		9.0		45.8		16.3		33.3		5.0		0.0		4.5		0.0		8.0		0.0		2.9		0.0		11.8		2.6		4.8		9.2		23.2		1.3	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

H = Homeopathic E = Eclectic; N = Nondescript; P = Passed; F = Failed.

24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50							
Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming		U. S. Territories and Possessions		Totals	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Exam. in	Marginal Number
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
1	0																													1	0																					28	28	0	0.0	6	24
1	0															1	0							0	2									1	0									1	0									36	33	3	8.3	10	25
																1	0					1	0									2	0	5	0															1	0	100	100	0	0.0	13	26
																																																					15	14	1	6.7	3	27
1	0	1	0	1	0									19	5	2	0	1	0	4	0			2	0	8	0	1	0	2	0	1	0							3	0			2	0	1	0	1	1	123	114	9	7.3	27	28
						1	0			3	0			4	4	7	0			1	0					4	0	1	0	3	0													10	0					5	0	96	85	11	11.5	15	29
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2	0							3	0	1	0			14	2	1	0			2	0					4	0	4	0	1	0			1	0			1	0													17	4	13	76.5	1	31
																																																			115	113	2	1.7	23	32
								1	0					5	5											1	0	7	1																					2	0	121	102	19	15.7	9	34
														2	3																	1	0															1	0	47	44	3	6.4	5	35
		1	0											4	1											3	0					1	0											1	0							92	91	1	1.1	8	36
														3	1																																					11	10	1	9.1	2	37
		3	0											2	1			3	0					1	0																											83	82	1	1.2	8	38
																																		2	0																	48	26	22	45.8	3	39
						1	1																																					1	0							10	8	2	20.0	4	40
2	4					1	0																	1	1											0	1							1	0			1	0			40	11	29	72.5	8	41
17	0													1	0															1	0											1	0							68	67	1	1.5	11	42
32	0													1	1															1	0													1	0					1	0	46	45	1	2.2	12	43
				20	0									0	1																					2	0															24	23	1	4.2	4	44
				4	0									1	0									1	0					1	0																					10	10	0	0.0	7	45
														24	3																																					31	28	3	9.7	4	46
2	0							1	0					88	18	1	0									1	0	1	0					1	0	3	0	1	0					2	0			2	0					136	118	18	13.2	20	47
														52	8																													1	0					1	0	64	56	8	12.5	5	48
														55	17																																					79	62	17	21.5	3	49
														78	11											1	0									1	0															91	80	11	12.1	3	50
										2	0			40	29																																					75	46	29	38.7	5	51
														33	4											1	0																									38	34	4	10.5	2	52
														109	7	1	0											1	0																							124	117	7	5.6	5	53
														52	4											1	0																									59	55	4	6.8	3	54
														7	6					24	1																							0	1							49	41	8	16.3	8	55
																				22	0																															23	23	0	0.0	2	56
																				1	1																															2	1	1	50.0	1	57
														1	0	1	0			40	0					1	0					1	0													2	0					48	48	0	0.0	7	58
																				46	0											1	0			3	0							1	0					52	52	0	0.0	5	59
																		0	1	1	0	1	0					1	0																							6	5	1	16.7	6	60
														1	1									19	0																							1	0					24	23	1	4.2	5	61
										5	0			1	4					1	0			1	0	23	1													2	0											39	34	5	12.8	7	62
3	0									6	0			7	4	26	0			9	0					86	3			2	0			2	0			2	0			1	0			5	0			1	0	2	0	186	178	8	4.3	24	63
				1	0																					15	13																									38	21	17	44.7	6	64
2	0	1	0							8	0			5	3	8	0			4	0			1	2	77	2									1	0	1	0			4	0			3	0	4	0			1	0	148	140	8	5.4	27	65
														1	0					1	0					30	0																	2	0							36	36	0	0.0	6	66
										1	0			0	1	1	0									5	0																									8	7	1	12.5	4	67
																														14	0																			14	14	0	0.0	1	68
10	0															1	1			1	1											21	0											1	4							90	61	29	32.2	16	69
																				1	0											7	0																			19	19	0	0.0	6	70
																																																			3	0	3	100.0	1	71
														2	1	1	0			3	0											28	0	2	0																	45	44	1	2.2	11	72
														0	1																					25	0															29	26	3	10.3	4	73
1	0													0	1							2	0													62	0															69	68	1	1.4	7	74
														5	10																							16	0													38	27	11	28.9	5	75
																6	0																									23	3			3	1							49	40	9	18.4	8	76
																2	0															1	0									13	0			2	0							24	24	0	0.0	9	77
																																																			16	16	0	0.0	3	78
																												0	2																							5	1	4	80.0	2	79
														4	3																											2	0									16	13	3	18.7	7	80
														7	2			1	0																															13	10	3	23.1	4	81
																																																		0	0	0	0.0	0	82
																																																		4	0	4	100.0	3	83
														3	2					1	0																															11	9	2	18.2	6	84
																																																		0	0	0	0.0	0	85
		1	0											3	1					1	0					0	4																	3	0					2	0	22	16	6	27.3	10	86
0	1	1	0							2	0	1	0	0	3	2	0	1	1	1	1	1	0	1	3	4	1					1	0			1	0			1	0			2	0	2	1					59	38	21	35.6	25	87
																																																			0	0	0	0.0	0	88
111		18		26		5		6		30		2		833		68		14		178		8		44		294		20		27		18		66		102		15		16		54		18		43		39		5		26		3984	....	....	.....	...	89
106		17		26		4		6		30		2		651		67		12		173		8		36		268		17		26		18		66		102		14		16		51		16		37		38		5		22		....	3527	....	.....	...	90
5		1		0		1		0		0		0		182		1		2		5		0		8		26		3		1		0		0		0		1		0		3		2		6		1		0		4		....	....	457	.....	...	91
4.5		5.6		0.0		20.0		0.0		0.0		0.0		21.8		1.5		14.3		2.8		0.0		18.2		8.8		15.0		3.7		0.0		0.0		0.0		6.7		0.0		5.6		11.1		14.0		2.6		0.0		15.4		....	....	....	11.5	...	92
24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50							

Marginal Number	NAME OF COLLEGE	Graduates of All Years					Graduates of 1916-1920					Graduates of 1915 and Previous					Graduates of 1920			
		Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed
	ALABAMA																			
1	University of Alabama School of Medicine	11	11	0	0.0	2	10	10	0	0.0	1	1	1	0	0.0	1	9	9	0	0.0
	ARKANSAS																			
2	University of Arkansas Medical Department	11	9	2	18.2	6	8	8	0	0.0	5	3	1	2	66.7	2	6	6	0	0.0
	CALIFORNIA																			
3	College of Medical Evangelists	15	15	0	0.0	2	15	15	0	0.0	2	0	0	0	0 0	0	14	14	0	0.0
4	College of Physicians and Surgeons, Los Angeles	20	16	4	20.0	4	19	15	4	21.1	3	1	1	0	0.0	1	10	8	2	20.0
5	College of Physicians and Surgs., San Francisco	22	17	5	22.7	2	22	17	5	22.7	2	0	0	0	0.0	0	15	14	1	6.7
6	Leland Stanford Junior Univ. School of Medicine	20	20	0	0.0	2	20	20	0	0.0	2	0	0	0	0.0	0	18	18	0	0.0
7	Oakland College of Medicine and Surgery	5	4	1	20.0	2	5	4	1	20 0	2	0	0	0	0 0	0	5	4	1	20.0
8	University of California Medical School	21	21	0	0.0	3	20	20	0	0.0	2	1	1	0	0.0	1	20	20	0	0.0
	COLORADO																			
9	University of Colorado School of Medicine	26	26	0	0.0	6	23	23	0	0.0	5	3	3	0	0.0	1	19	19	0	0.0
	CONNECTICUT																			
10	Yale University School of Medicine	30	26	4	13.3	7	28	24	4	14.3	5	2	2	0	0.0	2	19	18	1	5.3
	DISTRICT OF COLUMBIA																			
11	Georgetown University School of Medicine	31	28	3	9.7	10	25	24	1	4.0	8	6	4	2	33.3	3	13	13	0	0.0
12	George Washington University Medical School	38	36	2	5.3	15	33	33	0	0.0	13	5	3	2	40.0	5	21	21	0	0.0
13	Howard University School of Medicine	39	27	12	30.8	13	31	24	7	22.6	12	8	3	5	62.5	3	8	6	2	25.0
	GEORGIA																			
14	Emory University School of Medicine	46	42	4	8.7	10	41	39	2	4.9	8	5	3	2	40.0	5	35	33	2	5.7
15	University of Georgia Medical Department	24	24	0	0.0	8	19	19	0	0.0	4	5	5	0	0.0	5	19	19	0	0.0
	ILLINOIS																			
16	Chicago Medical School	50	32	18	36.0	3	47	31	16	34.0	3	3	1	2	66.7	1	21	17	4	19.0
17	Hahnemann Medical College and Hospital	19	14	5	26 3	11	12	11	1	8.3	4	7	3	4	57.1	7	10	9	1	10.0
18	Loyola University School of Medicine	105	95	10	9.5	17	105	95	10	9.5	17	0	0	0	0.0	0	68	67	1	1.5
19	Northwestern University Medical School	103	97	6	5.8	19	95	92	3	3.2	17	8	5	3	37.5	4	17	17	0	0.0
20	Rush Medical College (University of Chicago)	181	179	2	1.1	18	164	162	2	1.2	16	17	17	0	0.0	9	135	134	1	0.7
21	University of Illinois College of Medicine	94	83	11	11.7	20	75	71	4	5.3	14	19	12	7	36.8	10	61	59	2	3.3
	INDIANA																			
22	Indiana University School of Medicine	49	47	2	4.1	6	47	46	1	2.1	4	2	1	1	50.0	2	39	39	0	0.0
	IOWA																			
23	State University of Iowa College of Medicine	64	63	1	1.6	8	58	58	0	0.0	5	6	5	1	16.7	4	55	55	0	0.0
	KANSAS																			
24	University of Kansas School of Medicine	29	29	0	0.0	7	28	28	0	0.0	6	1	1	0	0.0	1	23	23	0	0.0
	KENTUCKY																			
25	University of Louisville Medical Department	59	42	17	28.8	20	36	33	3	8.3	10	23	9	14	60.7	12	27	28	1	3.4
	LOUISIANA																			
26	Tulane University of Louisiana School of Med.	106	105	1	0.9	15	100	100	0	0.0	13	6	5	1	16.7	6	88	88	0	0.0
	MAINE																			
27	Bowdoin Medical School	17	16	1	5.9	4	15	14	1	6.7	3	2	2	0	0.0	2	12	11	1	8.3
	MARYLAND																			
28	Johns Hopkins University Medical Department	135	125	10	7.4	31	123	114	9	7.3	27	12	11	1	8.3	10	66	62	4	6.1
29	Univ. of Md. School of Med. & Coll. of P. & S.	109	95	14	12.8	21	96	85	11	11.5	15	13	10	3	23.1	11	59	53	6	10.2
	MASSACHUSETTS																			
30	Boston University School of Medicine	20	14	6	30.0	9	16	12	4	25.0	8	4	2	2	50.0	3	11	9	2	18.2
31	College of Physicians and Surgeons, Boston	20	6	14	70.0	3	17	4	13	76.5	1	3	2	1	33.3	2	15	3	12	80.0
32	Medical School of Harvard University	148	143	5	3.4	29	115	113	2	1.7	23	33	30	3	9.1	16	73	73	0	0.0
33	Middlesex College of Medicine and Surgery.—N.	34	13	21	61.8	1	34	13	21	61.8	1	0	0	0	0.0	0	18	9	9	50.0
34	Tufts College Medical School	131	109	22	16.8	13	121	102	19	15.7	9	10	7	3	30.0	6	90	79	11	12.2
	MICHIGAN																			
35	Detroit College of Medicine and Surgery	49	45	4	8.2	6	47	44	3	6.4	5	2	1	1	50.0	1	41	41	0	0.0
36	University of Michigan Medical School	96	94	2	2.1	10	92	91	1	1.1	8	4	3	1	25.0	3	80	80	0	0.0
37	University of Michigan Homeo. Med. School.—H.	12	11	1	8.3	3	11	10	1	9.1	2	1	1	0	0.0	1	7	7	0	0.0
	MINNESOTA																			
38	University of Minnesota Medical School	87	86	1	1.1	9	83	82	1	1.2	8	4	4	0	0.0	3	66	66	0	0.0
	MISSOURI																			
39	Kansas City College of Medicine and Surgery.—N.	48	26	22	45.8	3	48	26	22	45.8	3	0	0	0	0.0	0	44	23	21	47.7
40	Kansas City Univ. of Phys. and Surgs.—N.	10	8	2	20.0	4	10	8	2	20.0	4	0	0	0	0.0	0	4	3	1	25.0
41	St. Louis College of Physicians and Surgeons	42	13	29	69.0	9	40	11	29	72.5	8	2	2	0	0.0	2	21	4	17	81.0
42	St. Louis University School of Medicine	72	71	1	1.4	14	68	67	1	1.5	11	4	4	0	0.0	3	61	60	1	1.6
43	Washington University School of Medicine	51	50	1	2.0	16	46	45	1	2.2	12	5	5	0	0.0	5	31	31	0	0.0
	NEBRASKA																			
44	John A. Creighton Medical College	27	26	1	3.7	7	24	23	1	4.2	4	3	3	0	0.0	3	21	21	0	0.0
45	University of Nebraska College of Medicine	11	11	0	0.0	8	10	10	0	0.0	7	1	1	0	0.0	1	2	2	0	0.0
	NEW YORK																			
46	Albany Medical College	35	31	4	11.4	5	31	28	3	9.7	4	4	3	1	25.0	3	21	21	0	0.0
47	Columbia University College of Phys. & Surgs.	153	135	18	11.8	23	136	118	18	13.2	20	17	17	0	0.0	8	69	64	5	7.2
48	Cornell University Medical College	66	58	8	12.1	6	64	56	8	12.5	5	2	2	0	0.0	2	44	40	4	9.1
49	Fordham University School of Medicine	87	67	20	23.0	4	79	62	17	21.5	3	8	5	3	37.5	2	52	44	8	15.4
50	Long Island College Hospital	95	83	12	12.6	6	91	80	11	12.1	3	4	3	1	25.0	4	76	67	9	11.8
51	N. Y. Homeo. Med. Coll. and Flower Hosp.—H.	85	50	35	41.2	7	75	46	29	38.7	5	10	4	6	60.0	3	38	29	9	23.7
52	Syracuse University College of Medicine	39	35	4	10.3	3	38	34	4	10.5	2	1	1	0	0.0	1	37	33	4	10.8
53	University and Bellevue Hospital Med. Coll.	130	123	7	5.4	8	124	117	7	5.6	5	6	6	0	0.0	4	104	101	3	2.9
54	University of Buffalo Medical Department	63	58	5	7.9	6	59	55	4	6.8	3	4	3	1	25.0	4	56	52	4	7.1
	OHIO																			
55	Eelectic Medical College.—E.	52	41	11	21.1	9	49	41	8	16.3	8	3	0	3	100 0	2	45	38	7	15.6
56	Ohio State University College of Medicine	23	23	0	0 0	2	23	23	0	0 0	2	0	0	0	0.0	0	23	23	0	0.0
57	Ohio State University Coll. of Homeo. Med.—H.	2	1	1	50.0	1	2	1	1	50.0	1	0	0	0	0 0	0	1	1	1	50 0
58	University of Cincinnati College of Medicine	49	49	0	0.0	8	48	48	0	0.0	7	1	1	0	0.0	1	42	42	0	0.0
59	Western Reserve University School of Medicine	52	52	0	0 0	5	52	52	0	0.0	5	0	0	0	0.0	0	47	47	0	0.0
	OKLAHOMA																			
60	University of Oklahoma School of Medicine	8	6	2	25.0	8	6	5	1	16.7	6	2	1	1	50.0	2	2	2	0	0.0
	OREGON																			
61	University of Oregon Medical School	25	24	1	4.0	5	24	23	1	4.2	5	1	1	0	0.0	1	11	10	1	9 1
	PENNSYLVANIA																			
62	Hahnemann Medical College and Hospital.—H.	40	35	5	12.5	7	39	34	5	12.8	7	1	1	0	0.0	1	6	3	3	50.0
63	Jefferson Medical College	210	198	12	5.7	31	186	178	8	4.3	24	24	20	4	16.7	15	52	52	0	0.0
64	Temple University Department of Medicine	38	21	17	44.7	6	38	21	17	44.7	6	0	0	0	0.0	0	2	2	0	0.0
65	University of Pennsylvania School of Medicine	160	149	11	6.9	30	148	140	8	5.4	27	12	9	3	25.0	7	24	24	0	0 0
66	University of Pittsburgh School of Medicine	36	36	0	0.0	6	36	36	0	0 0	6	0	0	0	0.0	0	1	1	0	0.0
67	Woman's Medical College of Pennsylvania	12	9	3	25.0	6	8	7	1	12.5	4	4	2	2	50.0	3	1	1	0	0 0

H. = Homeopathic; E. = Eelectic; N. = Nondescript.

NAME OF COLLEGE	Graduates of All Years					Graduates of 1916-1920					Graduates of 1915 and Previous					Graduates of 1920					Marginal Number
	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	
SOUTH CAROLINA																					
Medical College of the State of South Carolina	16	16	0	0.0	2	14	14	0	0.0	1	2	2	0	0.0	2	14	14	0	0.0	1	68
TENNESSEE																					
Memphis Medical College	129	70	59	45.8	20	90	61	29	32.2	16	39	9	30	77.0	11	61	49	12	19.7	12	69
University of Tennessee College of Medicine	25	24	1	4.0	10	19	19	0	0.0	6	6	5	1	16.7	5	15	15	0	0.0	3	70
University of West Tennessee Medical Department	9	4	5	55.6	5	3	0	3	100.0	1	6	4	2	33.3	5	0	0	0	0.0	0	71
Vanderbilt University School of Medicine	62	63	9	14.5	16	45	44	1	2.2	11	17	9	8	47.1	8	35	35	0	0.0	7	72
TEXAS																					
Baylor University College of Medicine	29	26	3	10.3	4	29	26	3	10.3	4	0	0	0	0.0	0	28	25	3	10.7	4	73
University of Texas Department of Medicine	70	69	1	1.4	8	69	68	1	1.4	7	1	1	0	0.0	1	63	63	0	0.0	3	74
VERMONT																					
University of Vermont College of Medicine	50	36	14	28.0	10	38	27	11	28.9	5	12	9	3	25.0	9	18	17	1	5.6	3	75
VIRGINIA																					
Medical College of Virginia	56	34	13	23.2	9	49	40	9	18.4	8	7	3	4	57.1	3	24	24	0	0.0	4	76
University of Virginia Departmentof Medicine	31	31	0	0.0	14	24	24	0	0.0	9	7	7	0	0.0	7	14	14	0	0.0	4	77
WISCONSIN																					
Marquette University School of Medicine	17	17	0	0.0	4	16	16	0	0.0	3	1	1	0	0.0	1	15	15	0	0.0	2	78
CANADA																					
Laval University Faculty of Medicine	5	1	4	80.0	2	5	1	4	80.0	2	0	0	0	0.0	0	1	0	1	100.0	1	79
McGill University Faculty of Medicine	22	18	4	18.2	9	16	13	3	18.7	7	6	5	1	16.7	4	5	3	2	40.0	3	80
Queen's University Faculty of Medicine	17	12	5	29.4	6	13	11	2	15.4	4	4	2	2	50.0	3	8	5	3	37.5	3	81
University of Manitoba Faculty of Medicine	1	1	1	0.0	1	0	0	0	0.0	0	1	1	0	0.0	1	0	0	0	0.0	0	82
University of Montreal Medical Faculty	8	3	5	62.5	6	4	0	4	100.0	3	4	3	1	25.0	4	0	0	0	0.0	0	83
University of Toronto Faculty of Medicine	30	27	3	10.0	11	11	9	2	18.2	6	19	18	1	5.3	8	0	0	0	0.0	0	84
Western University Faculty of Medicine	2	2	0	0.0	2	0	0	0	0.0	0	2	2	0	0.0	2	0	0	0	0.0	0	85
Foreign Colleges	86	53	33	38.4	24	22	16	6	27.3	10	64	37	27	42.2	21	0	0	0	0.0	8	86
Miscellaneous Medical Colleges	259	159	100	38.5	44	59	38	21	35.6	25	203	124	79	38.9	38	4	3	1	25.0	2	87
Undergraduates and Osteopaths	65	33	32	50.8	4	0	0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	0	88
Totals by States	4787	4053	734	15.3	....	3984	3527	457	11.5	....	738	493	245	33.2	....	2559	2374	185	7.2	....	89

(CONTINUED FROM PAGE 1231)

during the year, graduated in 1920, including fourteen who graduated from Canadian medical colleges. Educational statistics show that the medical colleges of the United States graduated 3,047 students last year, therefore, 84 per cent. of all graduates in 1920 took examinations for license during that year. In some of the states, graduates in medicine are allowed to serve as hospital interns without first becoming licensed practitioners, which accounts for some of the remaining 16 per cent. Of the 1920 graduates examined 185, or 7.2 per cent., failed, as compared with 4.2 per cent. in 1919, 5.5 per cent. in 1918, 5.7 per cent. in 1917 and 7.4 per cent. in 1916.

Nonrecognition of Medical Colleges

Table D shows for each college, from official reports, the states in which its diplomas are not given unqualified recognition. Nonrecognition is expressed by different terms in different states. Some boards list colleges as "not in good standing"; some give them as "not reputable"; in New York full recognition is given only to colleges which are "registered," and in Michigan colleges are divided into groups, only those of Group 1 having full recognition. This table also shows the latest rating given to each college by the Council on Medical Education and Hospitals.

From the point of view of the prospective student who may be selecting a medical college, the facts in Table D are of extreme importance. There are 63 medical colleges now having complete recognition in all states. There are 7 others for which the few instances of nonrecognition are due to certain technicalities in state board requirements. If the student gets his medical training in one of the remaining 18 colleges, he will find on graduation that his diploma is not recognized in from 5 to 44 states!

Without the information published in Table D, these state board statistics would be not merely incomplete—they would be actually misleading. For example, 50 graduates of the Chicago Medical School were examined in 1920. Of these 32 passed and 18, or 36 per cent., failed. Note, however, that all these candidates were examined in 3 states while these graduates are reported as not admitted to the examinations for licensure in 41 states!

During the eight years this table has been published, the percentages of fully recognized colleges were, respectively, 29.0, 32.3, 43.7, 65.6, 57.3, 61.3, 67.8 and 71.6. This shows a decided improvement in the medical colleges. Of the 50 states—counting in Alaska and the District of Columbia—42 state licensing boards, to some extent at least, are now utilizing their legal power to refuse recognition to medical colleges which do not meet the requirements in the respective states. In the other eight states, however (including Alaska and the District of Columbia), this table indicates either that the practice acts do not give the boards authority to enforce a requirement of reasonable standards, or else that the boards are not exercising that authority. California and Wyoming each reports three colleges not recognized, Washington reports two, and Arizona and Nevada each reports one college not in good standing. It is evident that if the graduates of low standard medical colleges are not eligible for license in the majority of states, they will flock to these eight which still grant liberal recognition. The following states, therefore—Arizona, California, Massachusetts, Nevada, Utah, Washington, Wyoming—and the District of Columbia will remain the dumping grounds for the output of low grade medical college, until the licensing boards obtain the need authority, and until they take action in the matter. Arkansas, Florida and Connecticut are also registering through their separate sectarian licensing boards graduates of medical colleges not recognized in the majority of other states. It is reported that no examinations were held during the year by the Arkansas Homeopathic Board, and from the Florida Homeopathic and Eclectic Boards no reports were received. There is now only one remaining eclectic college in the United States and there are no homeopathic colleges in or near Arkansas or Florida. It is evident, therefore, that very few, if any candidates applied for examination before these boards.

TABLE 1.—RECOGNITION OF MEDICAL COLLEGES (BASED ON TABLE D)

	Number of Colleges
Recognized by all state boards	63
Not recognized by 1 or 2 state boards	7
Not recognized by 5 to 18 state boards	9
Not recognized by 40 to 44 state boards	9
Total	88

(CONTINUED ON PAGE 1242)

TABLE D.—RECOGNITION OF MEDICAL COLLEGES

This Table, Based on Official Reports, Shows the Numerous Pitfalls to Be Avoided by Prospective Medical Students

Colleges marked (x) have been reported as not recognized by the states in the columns of which the letter appears

| Marginal Number | COLLEGE | Classification by Council on Medical Education† | 1 Alabama | 2 Alaska | 3 Arizona | 4 Arkansas | 5 California | 6 Colorado | 7 Connecticut | 8 Delaware | 9 Dist. of Columbia | 10 Florida | 11 Georgia | 12 Idaho | 13 Illinois | 14 Indiana | 15 Iowa | 16 Kansas | 17 Kentucky | 18 Louisiana | 19 Maine | 20 Maryland | 21 Massachusetts | 22 Michigan | 23 Minnesota | 24 Mississippi | 25 Missouri | 26 Montana | 27 Nebraska | 28 Nevada | 29 New Hampshire | 30 New Jersey | 31 New Mexico | 32 New York | 33 North Carolina | 34 North Dakota | 35 Ohio | 36 Oklahoma | 37 Oregon | 38 Pennsylvania | 39 Rhode Island | 40 South Carolina | 41 South Dakota | 42 Tennessee | 43 Texas | 44 Utah | 45 Vermont | 46 Virginia | 47 Washington | 48 West Virginia | 49 Wisconsin | 50 Wyoming | Reported Non-Recognition by State Licensing Boards: No. of State Boards reporting full recognition | No. of State Boards reporting college not recognized | Percentage of State Boards reporting full recognition | Marginal Number |
|---|---|---

| | | |

(CONTINUED FROM PAGE 1239)

STUDY OF TOTALS AND PERCENTAGES

A study of totals and percentages (see Table 2) as compared with previous years is of interest. The number examined in 1920 was 1,150 more than in 1918; 57 more than in 1917 and 63 less than in 1916. Statistics regarding physicians licensed in the various states by reciprocity and by other methods are given in Tables G, H, I, J and K. By all methods—examination, reciprocity, under exemption, etc.—6,557 physicians were licensed during 1920, or 27 less than in 1919, but 2,372 more than in 1918, and 1,308 less than in 1906, when 7,865 physicians were licensed.

Other deductions from the larger tables, presented in Tables E and F, are worthy of special study.

STUDY OF LARGER COLLEGES

Table E is also based on the three large tables, and gives the results of state board examinations as they affect the thirty-two larger medical colleges. Although these colleges represent 41.0 per cent. of the seventy-eight medical colleges in the United States having graduates examined, in 1920 they furnished 72.8 per cent. of all candidates for license coming from medical schools of the United States. The table shows, also, that the graduating of large classes by a medical college does not prove excellence of teaching, since seven of these have high failure percentages. The larger the college from the standpoint of students and graduates, the more serious is inferior teaching ability, as indicated by a high failure percentage. In fairness both to medical students and to the public, such schools should strengthen their teaching facilities or reduce the size of their classes.

TOTALS EXAMINED IN FIVE YEARS

Table F shows the number registered and the number rejected in each state for each of the past five years. A comparison of this table with the statistics in the last educational number of THE JOURNAL (Aug. 7, 1920, p. 387, Table 11) shows—what would be expected—that the states having the several largest numbers of medical graduates examined the largest numbers of physicians. New York leads, having

TABLE 2.—RESULTS FOR THIS AND PREVIOUS YEARS

Year	All Candidates Examined				Recent Graduates		Older Graduates		Nondescript		Registered without Written Examination	Total Registered
	Examined	Passed	Failed	Percentage Failed	Examined	Percentage Failed	Examined	Percentage Failed	Examined	Percentage Failed		
1904	7035	5672	1303	19.3	4773	14.1	579	29.7	515	52.6	999	6671
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6368	1667	20.7	6250	16.4	793	27.1	703	51.3	1497	7865
1907	7271	5723	1548	21.3	5922	15.1	675	27.7	674	69.6	1426	7149
1908	7770	6084	1686	21.7	6477	17.8	796	31.5	494	56.8	1276	7360
1909	7287	5857	1430	19.6	5891	15.4	958	30.0	438	54.1	1373	7230
1910	7004	5712	1292	18.4	5678	14.9	973	29.1	353	45.6	1640	7352
1911	6960	5578	1382	19.9	5685	17.2	945	29.4	330	38.5	1246	6824
1912	6879	5466	1413	20.5	5770	18.6	856	29.2	253	34.8	1257	6723
1913	6435	5236	1199	18.6	5390	16.5	225	32.1	251	37.8	1265	6501
1914	5570	4370	1200	21.6	4549	17.6	728	30.0	293	61.4	1427	5797
1915	5313	4486	827	15.6	4627	13.2	621	29.3	65	49.2	1386	5872
1916	4850	4123	727	15.0	4283	12.7	567	32.1	.....	.....	1338	5461
1917	4730	4061	669	14.1	4015	10.1	564	32.6	.....	.....	1362	5423
1918	3637	3154	483	13.3	2984	9.3	479	30.5	.....	.....	1031	4185
1919	4736	4060	676	14.3	3904	10.5	766	30.8	66	47.0	2521	6584
1920	4787	4053	734	15.3	3984	11.5	738	33.2	65	50.8	2504	6557

TABLE E.—COLLEGES HAVING FORTY OR MORE EXAMINED

COLLEGE	Graduates of All Years					Graduates of 1916–1920					Graduates of 1915 and Previous					Graduates of 1920					Marginal No., Table A
	No. Examined	No. Passed	No. Failed	Per Cent. Failed	No. of States	No. Examined	No. Passed	No. Failed	Per Cent. Failed	No. of States	No. Examined	No. Passed	No. Failed	Per Cent. Failed	No. of States	No. Examined	No. Passed	No. Failed	Per Cent. Failed	No. of States	
Jefferson Medical College	210	198	12	5.7	31	186	178	8	4.3	24	24	20	4	16.7	15	52	52	0	0.0	13	63
Rush Medical College (University of Chicago)	181	179	2	1.1	18	164	162	2	1.2	16	17	17	0	0.0	9	135	134	1	0.7	11	20
University of Pennsylvania School of Medicine	160	149	11	6.9	30	148	140	8	5.4	27	12	9	3	25.0	7	24	24	0	0.0	13	65
Columbia University College of Phys. and Surgs.	153	135	18	11.8	23	136	118	18	13.2	20	17	17	0	0.0	8	69	64	5	7.2	6	47
Medical School of Harvard University	148	143	5	3.4	29	115	113	2	1.7	23	33	30	3	9.1	16	73	73	0	0.0	15	32
Johns Hopkins University Medical Department	135	125	10	7.4	31	123	114	9	7.3	27	12	11	1	8.3	10	66	62	4	6.1	12	28
Tufts College Medical School	131	109	22	16.8	13	121	102	19	15.7	9	10	7	3	30.0	6	90	79	11	12.2	5	34
University and Bellevue Hospital Med. College	130	123	7	5.4	8	124	117	7	5.6	5	6	6	0	0.0	4	104	101	3	2.9	3	53
Meharry Medical College	129	70	59	45.8	20	90	61	29	32.2	16	39	9	30	77.0	11	61	49	12	19.7	12	69
Univ. of Md. Sch. of Med. and Coll. of P. & S.	109	95	14	12.8	21	96	85	11	11.5	15	13	10	3	23.1	11	59	53	6	10.2	9	29
Tulane Univ. of Louisiana School of Medicine	106	105	1	0.9	15	100	100	0	0.0	13	6	5	1	16.7	6	88	88	0	0.0	7	26
Loyola University School of Medicine	105	95	10	9.5	17	105	95	10	9.5	17	.....	.....	.....	.....	.....	68	67	1	1.5	3	18
Northwestern University Medical School	103	97	6	5.8	19	95	92	3	3.2	17	8	5	3	37.5	4	17	17	0	0.0	10	19
University of Michigan Medical School	96	94	2	2.1	10	92	91	1	1.1	8	4	3	1	25.0	3	80	80	0	0.0	5	36
Long Island College Hospital	95	83	12	12.6	6	91	80	11	12.1	3	4	3	1	25.0	4	76	67	9	11.8	1	50
University of Illinois College of Medicine	94	83	11	11.7	20	75	71	4	5.3	14	19	12	7	36.8	10	61	59	2	3.3	9	21
Fordham University School of Medicine	87	67	20	23.0	4	79	62	17	21.5	3	8	5	3	37.5	2	52	44	8	15.4	2	49
University of Minnesota Medical School	87	86	1	1.1	9	83	82	1	1.2	8	4	4	0	0.0	3	66	66	0	0.0	5	38
New York Homeo. Med. Coll. and Flower Hosp.	85	50	35	41.2	7	75	46	29	38.7	5	10	4	6	60.0	3	38	29	9	23.7	3	51
St. Louis University School of Medicine	72	71	1	1.4	14	68	67	1	1.5	11	4	4	0	0.0	3	61	60	1	1.6	7	42
University of Texas Department of Medicine	70	69	1	1.4	8	69	68	1	1.4	7	1	1	0	0.0	1	63	63	0	0.0	3	74
Cornell University Medical College	66	58	8	12.1	6	64	56	8	12.5	5	2	2	0	0.0	2	44	40	4	9.1	1	48
State University of Iowa College of Medicine	64	63	1	1.6	8	58	58	0	0.0	5	6	5	1	16.7	4	55	55	0	0.0	3	23
University of Buffalo Medical Department	63	58	5	7.9	6	59	55	4	6.8	3	4	3	1	25.0	4	56	52	4	7.1	1	54
Vanderbilt University School of Medicine	62	53	9	14.5	16	45	44	1	2.2	11	17	9	8	47.1	8	35	35	0	0.0	7	72
University of Louisville Medical Department	59	42	17	28.8	20	36	33	3	8.3	10	23	9	14	60.9	12	29	28	1	3.4	7	25
Medical College of Virginia	56	43	13	23.2	9	49	40	9	18.4	8	7	3	4	57.1	3	24	24	0	0.0	4	76
Western Reserve Univrsity School of Mdicine	52	52	0	0.0	5	52	52	0	0.0	5	.....	.....	.....	.....	.....	47	47	0	0.0	2	59
Eclectic Medical College	52	41	11	21.1	9	49	41	8	16.3	8	3	0	3	100.0	2	45	38	7	15.6	7	55
Washington University Medical School	51	50	1	2.0	16	46	45	1	2.2	12	5	5	0	0.0	5	31	31	0	0.0	5	43
Chicago Medical School	50	32	18	36.0	3	47	31	16	34.0	3	3	1	2	66.7	1	21	17	4	19.0	1	16
University of Vermont College of Medicine	50	36	14	28.0	10	38	27	11	28.9	5	12	9	3	25.0	9	18	17	1	5.6	3	75
Totals	3111	2754	357	11.5	....	2778	2526	252	9.1	....	333	228	105	31.4	....	1808	1715	93	5.1		

This table is interesting, since it gives data relating to the 32 larger medical colleges arranged according to the number of graduates examined. This allows of comparison between colleges having classes of nearly equal size. Jefferson Medical College had the largest number of graduates examined in 1919 and 1920. The position was held by the Chicago College of Medicine and Surgery in 1913 to 1918, inclusive, by the University of Illinois College of Medicine in 1906, 1907 and 1912; in 1908 by Jefferson Medical College, and in 1909, 1910 and 1911 by the University of Louisville Medical Department. The higher places from the standpoint of the numbers examined, however, do not always mean the higher places from the standpoint of scholarship. Note the percentages of failures. The five highest failure percentages are for Meharry Medical College, 45.8; New York Homeopathic Medical College, 41.2; Chicago Medical School (formerly Chicago Hospital College of Medicine), 36.0; University of Louisville Medical Department, 28.8, and the University of Vermont College of Medicine, 28.0.

Of the 13 colleges having 100 or more examined, nine have failure percentages of less than 10, while four stand out prominently with large failure percentages. Of the 19 colleges having between 50 and 100 graduates examined, eight had failure percentages of less than 10, four had between 10 and 20, and seven had over 20 per cent.

The average percentage of failures for these larger colleges for graduates of 1915 and previous years was 31.4; for graduates of 1916 to 1920, inclusive (recent graduates), 9.1; for graduates of 1920, 5.1 and for graduates of all years, 11.5. Of the 4,292 graduates of the 78 colleges in the United States which had graduates examined by state boards in 1920, these larger (41.0 per cent. of all) schools furnished 3,111, or 72.5 per cent., of the graduates examined.

examined 3,756 candidates in five years, followed by Illinois with 2661. Altogether, 22,740 physicians were examined by state boards in five years, an average of 4,548 each year.

TOTAL REGISTRATION IN 1920

The tables thus far described have referred only to the results of examinations and to those registered on that basis. Table G, however, shows the total number who received licenses in each states, including those registered by examination, by reciprocity and under various exemption clauses.

TABLE F.—PHYSICIANS EXAMINED BY STATE BOARDS, 1916 TO 1920, INCLUSIVE

	1916		1917		1918		1919		1920		Totals			
	Registered	Rejected	Registered	Rejected	Registered	Rejected	Registered	Rejected	Registered	Rejected	Examined	Registered	Rejected	Percentage Rejected
Alabama	55	36	45	21	20	9	23	12	34	2	257	177	80	31.1
Arizona	33	9	32	5	33	8	48	5	33	14	220	179	41	18.6
Arkansas	67	11	80	12	68	4	70	7	48	28	395	333	62	15.7
California	146	8	235	94	203	71	109	56	150	34	1106	843	263	23.8
Colorado	25	8	38	2	44	10	57	16	56	46	302	220	82	27.2
Connecticut	41	20	72	22	39	14	94	24	97	26	449	343	106	23.6
Delaware	13	2	14	0	10	1	19	1	6	3	69	62	7	10.1
Dist. of Columbia	33	14	26	7	37	4	51	6	61	5	244	208	36	14.8
Florida	68	18	44	12	21	8	64	17	72	18	342	269	73	21.3
Georgia	133	7	100	2	48	2	60	5	70	6	433	411	22	5.1
Idaho	29	0	20	2	16	0	31	0	27	2	127	123	4	3.1
Illinois	517	91	487	101	367	57	475	96	404	66	2661	2250	411	15.4
Indiana	49	4	39	2	43	6	34	0	64	0	241	229	12	5.0
Iowa	82	2	45	1	50	1	78	4	76	2	341	331	10	2.9
Kansas	32	1	24	3	20	0	32	3	32	2	149	140	9	6.0
Kentucky	66	10	68	16	40	2	31	7	30	4	274	235	39	14.2
Louisiana	68	10	44	13	50	6	80	6	81	2	360	323	37	10.3
Maine	25	2	33	1	27	3	43	3	24	1	162	152	10	6.2
Maryland	96	30	82	11	54	5	145	11	107	11	552	484	68	12.3
Massachusetts	166	40	219	42	228	18	305	41	217	69	1345	1135	210	15.6
Michigan	135	5	125	3	97	4	52	0	161	2	584	570	14	2.4
Minnesota	56	1	60	0	68	0	98	0	90	4	377	372	5	1.1
Mississippi	48	29	23	5	12	0	18	3	30	1	169	131	38	22.5
Missouri	161	13	166	12	143	21	136	1	117	5	775	723	52	6.7
Montana	38	14	43	24	20	7	26	12	25	3	212	152	60	28.3
Nebraska	52	0	63	0	44	1	102	5	27	0	294	288	6	2.0
Nevada	10	1	8	0	5	1	13	0	14	2	54	50	4	7.4
New Hampshire	10	0	6	0	4	2	5	0	6	1	34	31	3	8.8
New Jersey	72	10	26	6	16	1	61	1	38	1	232	213	19	8.2
New Mexico	5	1	...	...	2	0	2	0	3	0	13	12	1	7.7
New York	523	159	600	146	456	117	627	189	703	246	3756	2909	857	22.9
North Carolina	96	18	65	10	49	3	59	9	70	3	382	339	43	11.3
North Dakota	15	5	6	1	6	3	6	4	13	3	62	46	16	25.8
Ohio	182	5	185	4	142	6	156	8	179	5	872	844	28	3.2
Oklahoma	52	8	52	2	24	0	34	0	14	0	186	176	10	5.4
Oregon	38	17	37	7	35	7	39	3	61	19	263	210	53	20.2
Pennsylvania	233	33	241	12	168	22	213	28	288	41	1279	1143	136	10.6
Rhode Island	27	7	22	1	13	4	20	5	25	5	129	107	22	17.1
South Carolina	53	24	37	29	17	12	45	14	33	8	272	185	87	32.0
South Dakota	18	2	18	1	14	0	20	1	38	2	114	108	6	5.3
Tennessee	128	20	167	10	103	19	96	7	82	0	632	576	56	8.9
Texas	90	13	119	5	82	2	89	3	103	0	506	483	23	4.5
Utah	15	0	11	0	10	1	29	0	18	1	85	83	2	2.4
Vermont	17	0	13	1	24	0	22	0	18	0	95	94	1	1.1
Virginia	99	8	64	4	50	6	65	12	55	4	367	333	34	9.3
Washington	48	4	57	7	59	7	63	10	24	5	284	251	33	11.6
West Virginia	58	2	45	7	16	4	35	15	41	10	233	195	38	16.3
Wisconsin	72	4	40	3	34	2	34	0	46	1	236	226	10	4.2
Wyoming	17	0	13	0	22	2	19	8	9	0	90	80	10	11.1
U.S. Territories and Possessions	11	1	2	0	1	0	27	18	33	21	114	74	40	35.1
Totals	4,850		4,730		3,637		4,736		4,740		22,740			
Registered	4,123		4,061		3,154		4,060		4,053		19,451			
Rejected	727		669		483		676		734		3,289			
Per Cent. Rejected	15.0		14.1		13.2		14.3		15.4		14.6			

This table gives the number of candidates registered and rejected on examination by each state during each of the last five years. The last four columns give the totals for the five years and the percentage rejected by each state. Compare this table with Table H.

Four states registered over 1,000 candidates by examination in the five years, these being New York, Illinois, Massachusetts and Pennsylvania. Over 2,000 were registered in only two states, New York with 2,909 and Illinois with 2,250. Altogether 22,740 physicians were registered by examination in five years, an average of 4,548 each year.

The five highest percentages of rejections for the five years were in South Carolina, 32.0; Alabama, 31.1; Montana, 28.3; Colorado, 27.2; North Dakota, 25.8, and California, 23.8. California and Colorado admit graduates of low type and nondescript colleges to their examinations; the latter admitting also undergraduates; and for that reason would be expected to have higher percentages rejected. On the other hand, in several states the boards refused to recognize certain colleges and eliminated many candidates prior to the examination by a careful scrutiny of credentials (see Table D), and as a result the percentages of failures at the examinations are lower than otherwise would be the case. For example, Michigan rejected only 2.4 per cent. of those who took their examinations, but graduates of twelve medical colleges are not eligible for admission to the examinations.

The lowest failure percentages were in Vermont and Minnesota, each 1.1; Nebraska, 2.0; Utah and Michigan, each 2.4; Iowa, 2.9; Idaho, 3.1, and Ohio, 3.2.

Altogether 6,557 physicians were registered by all methods during 1920 as compared with 6,584 in 1919, 4,185 in 1918, 5,423 in 1917, 5,461 in 1916. The total registered in 1918—4,185—was the lowest number registered in any year since the publication of these statistics was begun, owing, undoubtedly to the war. In 1919 the total increased by 2,399 and was the largest number since 1912. In 1920 there was a decrease of 27, of which 17, or 63 per cent., were in reciprocal registrations.

TABLE G.—REGISTRATION BY STATE BOARDS DURING THE YEAR 1920

STATES	By Examination			By Reciprocity	Without Written Examination or Under Exemption	Total Registered
	Graduates, 1916-1920	Graduates, 1915 and Previous	Nongraduates and graduates of Nondescript Colleges			
Alabama	27	7	....	20	....	54
Arizona	13	20	....	....	....	33
Arkansas	43	5	....	49	....	97
California	122	16	12	501	....	651
Colorado	32	7	17	82	....	138
Connecticut	77	20	....	8	3	108
Delaware	6	0	....	1	....	7
District of Columbia	57	4	....	16	....	77
Florida	21	51	....	....	....	72
Georgia	64	6	....	44	....	114
Idaho	13	14	....	14	....	41
Illinois	378	26	....	78	....	482
Indiana	62	2	....	94	....	158
Iowa	68	8	....	56	....	132
Kansas	31	1	....	64	....	96
Kentucky	30	0	....	21	....	51
Louisiana	74	7	....	12	....	93
Maine	20	4	....	6	....	30
Maryland	99	8	....	57	....	164
Massachusetts	192	25	....	....	....	217
Michigan	153	8	....	126	....	287
Minnesota	85	5	....	84	....	174
Mississippi	26	4	....	17	....	47
Missouri	106	11	....	60	....	177
Montana	17	8	....	1	....	26
Nebraska	26	1	....	48	....	75
Nevada	4	10	....	17	....	31
New Hampshire	6	0	....	15	....	21
New Jersey	30	8	....	133	....	171
New Mexico	2	1	....	4	39	46
New York	651	52	....	72	4	779
North Carolina	67	3	....	44	....	114
North Dakota	12	1	....	15	....	28
Ohio	173	6	....	132	....	311
Oklahoma	8	4	2	57	....	71
Oregon	36	25	....	4	....	65
Pennsylvania	268	20	....	28	....	316
Rhode Island	17	8	....	....	....	25
South Carolina	26	7	....	8	....	41
South Dakota	18	20	....	11	....	49
Tennessee	66	16	....	1	....	83
Texas	102	1	....	168	....	271
Utah	14	2	2	14	....	32
Vermont	16	2	....	2	....	20
Virginia	51	4	....	30	....	85
Washington	16	8	....	103	....	127
West Virginia	37	4	....	54	....	95
Wisconsin	38	8	....	60	....	106
Wyoming	5	4	....	25	....	34
U. S. Territories and Possessions	22	11	....	2	....	35
Totals	3,527	493	33	2,458	46	6,557

This table shows the total number registered during 1920 in each state by the various methods. The first three columns show those registered by examination; the first column showing the recent graduates registered, the second column the old practitioners (graduates of 1915 and previous years) and the third column shows a few nongraduates, graduates of nondescript colleges and some osteopaths who were given licenses as physicians and surgeons. The fourth column shows the number licensed through reciprocity, by endorsement of other state licenses and by certificates of the National Board of Medical Examiners. The fifth column shows those licensed under various exemption clauses in the practice acts, such as because of national fame or by recognition of diplomas (New Mexico). California licensed as physicians 12 out of 27 graduates of osteopathic colleges, and Colorado so licensed 17 out of 32 osteopaths.

It is interesting to note that states like Florida, Massachusetts and New York, which have no reciprocal relations or which reciprocate with only a few other states, have registered by examination the largest number of old practitioners. The large registration through reciprocity in California is due to the liberal provision in the recent medical practice act providing for the recognition of licenses granted in other states. No reciprocal registrations were reported for four states, Connecticut, Florida, Massachusetts, Rhode Island and the United States territories and possessions.

The last column shows the total number of physicians registered by all methods in each state during the year. Four states registered over 300 each, these being New York, 779, California, 651; Illinois, 482, and Pennsylvania, 316. Fifteen states registered less than 50 each. The largest registration was in New York, and the smallest number was 7 in Delaware. The total registered by all methods was 6.557, a decrease of 46 below the total registered in 1919.

By reciprocity or under exemption clauses 2,504 were licensed in 1920 as compared with 2,524 in 1919, 1,031 in 1918, 1,362 in 1917 and 1,338 in 1916.

Over 100 were registered by all methods in twenty states; over 200 in eight, and over 300 in four, the largest numbers registered being 779 in New York, 651 in California, 482 in Illinois and 316 in Pennsylvania. Of those licensed in California 501, or 77 per cent., were registered by the endorsement of licenses granted by the boards of other states. California also registered as physicians and surgeons 12 graduates of osteopathic colleges. Seventeen osteopaths were so licensed in Colorado, 2 in Oklahoma and two in Utah. Texas registered by reciprocity with full privileges to practice as physicians 26 osteopaths and two undergraduates.

TABLE H.—REGISTRATIONS BY STATE BOARDS FOR FIVE YEARS

STATE	1916	1917	1918	1919	1920	Totals
Alabama	55	48	26	55	54	238
Arizona	33	32	33	48	33	179
Arkansas	95	111	81	130	97	514
California	302	440	342	445	651	2,180
Colorado	86	100	97	141	138	562
Connecticut	58	84	46	107	108	403
Delaware	19	17	24	28	7	95
Dist. of Columbia	44	33	41	66	77	261
Florida	68	44	21	64	72	269
Georgia	152	122	72	111	114	571
Idaho	33	25	31	49	41	179
Illinois	556	520	392	568	482	2,518
Indiana	77	79	58	65	158	437
Iowa	103	91	79	149	132	554
Kansas	95	67	56	89	96	403
Kentucky	75	76	54	68	51	324
Louisiana	77	51	57	98	93	376
Maine	31	42	32	51	30	186
Maryland	120	100	73	179	164	636
Massachusetts	166	219	228	305	217	1,135
Michigan	224	198	145	182	287	1,036
Minnesota	101	103	97	179	174	654
Mississippi	58	37	15	46	47	203
Missouri	212	206	186	232	177	1,013
Montana	39	43	20	26	26	154
Nebraska	70	99	77	167	75	488
Nevada	29	24	16	22	31	122
New Hampshire	25	18	7	18	21	89
New Jersey	163	122	101	263	171	820
New Mexico	63	67	33	50	46	259
New York	545	635	496	711	779	3,166
North Carolina	113	86	67	82	114	462
North Dakota	35	24	11	18	28	116
Ohio	251	245	175	285	311	1,267
Oklahoma	107	142	73	116	71	509
Oregon	38	37	35	39	65	214
Pennsylvania	252	258	172	269	316	1,267
Rhode Island	27	22	13	20	25	107
South Carolina	53	37	17	45	41	193
South Dakota	18	24	14	20	49	125
Tennessee	142	167	114	123	83	629
Texas	166	176	149	275	271	1,037
Utah	23	20	23	54	32	152
Vermont	23	13	25	24	20	105
Virginia	131	82	78	127	85	503
Washington	48	57	59	105	127	396
West Virginia	90	84	41	76	95	386
Wisconsin	127	67	54	148	106	502
Wyoming	32	27	28	19	34	140
U. S. Possessions	11	2	1	27	35	76
Totals	5,461	5,423	4,185	6,584	6,557	28,210

This table shows the totals registered in each state during each of the last five years. In some states it will be noted that there has been a gradual decrease during the first four years and a large increase in 1920. In others this increase has not been so large. The totals also are given for the entire five years. It will be noted that nine states registered over 1,000 physicians, the largest number being in New York with 3,147 followed by Illinois with 2,518, California with 2,180, Ohio and Pennsylvania each with 1,267, Massachusetts with 1,135 and Texas with 1,037. Omitting the outlying territories the lowest registration during the five years was in New Hampshire, where only 89 physicians were registered, followed by Delaware with 95, Vermont with 105, Rhode Island with 107, North Dakota with 116 and Nevada with 122.

In the five years there were altogether 28,210 registrations, an average of 5,642 each year.

Total Registration in Five Years

Table H permits the reader to compare the registrations in each state for the last five years. There was a decrease from 1916 to 1918. The decrease of 1,238 in 1918 was due undoubtedly to war conditions. A rebound was seen however, in 1919, when there was an increase of 2,399. This highest mark since 1912 in total registrations is nearly maintained in 1920 since the decrease is only 27. It is interesting to compare the registrations in different states. For example, in 1918 Massachusetts had an increase in the number of registrations regardless of the general decrease in the majority of states. Massachusetts was one of the states which also in 1919 showed an increase beyond what would be expected by the general increase. Since Massachusetts does not have reciprocal relations with other states, this increase is apparently due to the medical practice act in that state which does not give the board authority to refuse recognition to low grade medical colleges and the board cannot insist on reasonable standards of preliminary or professorial education. The 1920 registrations, however, are 217, approximately the same as in 1917. Attention is called also to the figures in 1919 for Arkansas, California, Connecticut, Minnesota, Nebraska, Texas, Wisconsin and Washington, in which states the registrations are larger than would be expected even with the general increase in registrations in 1919. In California and Texas this seems to be due to the generous provision for reciprocity. In 1920 California swings into second place with a total registration of 651, including 501 (76.9 per cent.) who were registered through reciprocity. In Arkansas and Connecticut, although the regular medical boards exact fairly high qualifications, there are generous sectarian boards which are not so particular. In Nebraska, only a high school education is required as the minimum standard of preliminary education.

In 1920 the marked increases in registrations were in California, Indiana, Michigan, North Carolina, Pennsylvania and Washington. Marked decreases in registration are noted in Delaware, Maine, Oklahoma, Tennessee and Virginia.

The three largest registrations for the five years are in New York, Illinois and California; the three lowest in New Hampshire, Delaware, and Vermont. Altogether there were 28,210 registrations in the five years.

Medical Training of Applicants Licensed in 1920

Table I is of special interest, since it shows for each state the numbers of candidates coming from medical schools rated in classes A, B and C, thereby indicating the character of the medical training of the candidates licensed during 1920. Of the 6,557 candidates registered, 4,053 were licensed by examination and 2,504 by reciprocity or on presentation of acceptable credentials. Those who graduated prior to 1907, when the first classification of medical colleges was completed by the Council on Medical Education, are included among those graduating from "Miscellaneous Colleges." Among the graduates of Class C schools are included 33 graduates of osteopathic colleges who were licensed as physicians in California, Colorado, Oklahoma, Utah and Texas. The Texas totals of Class C candidates would be increased if the 26 osteopaths who were licensed by reciprocity and who evidently received licenses as physicians were included. Altogether, of the 6,557 candidates registered in 1920, 4,597, or 70.2 per cent., were graduates of Class A medical schools; 631, or 9.6 per cent., were from Class B schools; 275, or 4.2 per cent., were from Class C schools, and for 1,054, or 16.0 per cent., the colleges are unclassified.

As will be noted, the largest numbers of Class C graduates were licensed in California with 61; Colorado and Illinois, each with 33; Texas with 28; Arkansas, 26, and Massachusetts, 19. All of the Class C. graduates registered in Arkansas were licensed by the Eclectic Board.

California registered 69 Class B. graduates, the largest number, followed by New York, with 55; Illinois with 54; Ohio with 44 and Missouri with 32. Only Class A graduates were registered either by examination or by reciprocity in, Maine, New Hampshire and Vermont.

It is evident that in several states, particularly, more care should be taken in the recognition of medical colleges, or better methods of examination should be adopted which will provide better safeguards against those not having adequate education.

Source of Candidates Registered in Four Years

Of the 6,557 physicians registered by all methods in 1920, 4,597, or 70.2 per cent., graduated from Class A medical colleges; 631, or 9.6 per cent., were from Class B medical colleges; and 275, or 4.2 per cent., were from Class C medical colleges. Of all candidates examined, 1,054, or 16.0 per cent., graduated prior to the first classification of medical colleges

r came from foreign medical colleges. By comparing these igures with the results for the previous three years as shown n Table 3, it is noteworthy that the percentages from Class 3 and Class C colleges are steadily decreasing and that the percentage of graduates of Class A colleges are increasing notwithstanding the fact that, in a few states, osteopaths are being licensed as physicians and surgeons.

TABLE 3.—SOURCE OF PHYSICIANS LICENSED IN THREE YEARS

Year	Medical Colleges in Class A		Class B		Class C		Miscellaneous and Foreign Colleges		Total
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	
1917	3,369	62.1	988	18.2	297	5.3	769	14.4	5,423
1918	2.456	58.7	682	16.3	342	8.2	705	16.8	4,185
1919	4,368	66.4	872	13.2	278	4.2	1,066	16.2	6,584
1920	4,597	70.2	631	9.6	275	4.2	1,054	16.0	6,557
Totals	14,790	65.0	3,173	14.0	1,192	5.2	3,594	15.8	22,749

Registration by Reciprocity

Table J gives those registered without examination on presentation of satisfactory credentials, which included a license issued by some other state. This is commonly referred to as "reciprocity," which conveys the idea that the state which accepts a license of another must be granted the same courtesy by the state issuing the original license. The term does not always apply, however, since some state boards—Arizona, California, Colorado, Delaware, Maryland, New Hampshire, New Jersey and North Carolina, as examples—accept the physician's credentials, if satisfactory, whether or not the state board issuing the original license returns the favor. Had not reciprocal relations been established by the forty states shown in Table J, 2,458 physicians—many of

TABLE I.—CHARACTER OF PHYSICIANS LICENSED IN 1920

Marginal Number	STATES	By Examination: Medical Colleges in Class A	B	C	Misc.	Totals	By Reciprocity or Credentials: Medical Colleges in Class A	B	C	Misc.	Totals	Totals Registered from Medical Colleges in Class A	B	C	Misc.	Grand Totals	Marginal Number
1	Alabama	27	6	1	0	34	12	4	2	2	20	39	10	3	2	54	1
2	Arizona	21	3	0	9	33	0	0	0	0	0	21	3	0	9	33	2
3	Arkansas	15	3	26[1]	4	48	21	13	0	15	49	36	16	26[1]	19	97	3
4	California	79	27	28[2]	16	150	186	42	33	240	501	265	69	61[2]	256	651	4
5	Colorado	20	1	32[3]	3	56	37	6	1	38	82	57	7	33[3]	41	138	5
6	Connecticut	90	3	0	4	97	3	1	1	6	11	93	4	1	10	108	6
7	Delaware	3	3	0	0	6	0	0	1	0	1	3	3	1	0	7	7
8	District of Columbia	54	4	1	2	61	12	0	0	4	16	66	4	1	6	77	8
9	Florida	33	5	3	31	72	0	0	0	0	0	33	5	3	31	72	9
10	Georgia	52	15	0	3	70	24	10	1	9	44	76	25	1	12	114	10
11	Idaho	19	2	0	6	27	12	0	0	2	14	31	2	0	8	41	11
12	Illinois	324	34	33	13	404	46	20	0	12	78	370	54	33	25	482	12
13	Indiana	59	5	0	0	64	44	22	2	26	94	103	27	2	26	158	13
14	Iowa	71	2	0	3	76	32	13	2	9	56	103	15	2	12	132	14
15	Kansas	31	0	0	1	32	31	10	2	21	64	62	10	2	22	96	15
16	Kentucky	24	6	0	0	30	11	2	3	5	21	35	8	3	5	51	16
17	Louisiana	73	4	0	4	81	9	2	0	1	12	82	6	0	5	93	17
18	Maine	21	0	0	3	24	2	0	0	4	6	23	0	0	7	30	18
19	Maryland	103	1	0	3	107	27	2	3	25	57	130	3	3	28	164	19
20	Massachusetts	184	9	19	5	217	0	0	0	0	0	184	9	19	5	217	20
21	Michigan	145	11	1	4	161	70	13	0	43	126	215	24	1	47	287	21
22	Minnesota	89	0	0	1	90	57	14	1	12	84	146	14	1	13	174	22
23	Mississippi	24	4	1	1	30	10	0	0	7	17	34	4	1	8	47	23
24	Missouri	94	14	4	5	117	33	18	1	8	60	127	32	5	13	177	24
25	Montana	17	2	1	5	25	1	0	0	0	1	18	2	1	5	26	25
26	Nebraska	25	1	0	1	27	19	16	2	11	48	44	17	2	12	75	26
27	Nevada	6	1	3	4	14	4	1	3	9	17	10	2	6	13	31	27
28	New Hampshire	6	0	0	0	6	11	0	0	4	15	17	0	0	4	21	28
29	New Jersey	33	2	1	2	38	78	9	6	40	133	111	11	7	42	171	29
30	New Mexico	0	3	0	0	3	14	4	0	25	43	14	7	0	25	46	30
31	New York	641	46	0	16	703	34	9	0	33	76	675	55	0	49	779	31
32	North Carolina	64	6	0	0	70	27	6	2	9	44	91	12	2	9	114	32
33	North Dakota	10	2	0	1	13	13	1	0	1	15	23	3	0	2	28	33
34	Ohio	144	33	0	2	179	84	11	0	37	132	228	44	0	39	311	34
35	Oklahoma	10	1	2	1	14	25	12	3	17	57	35	13	5	18	71	35
36	Oregon	40	5	2	14	61	1	1	1	1	4	41	6	3	15	65	36
37	Pennsylvania	266	16	1	5	288	23	0	0	5	28	289	16	1	10	316	37
38	Rhode Island	20	1	1	3	25	0	0	0	0	0	20	1	1	3	25	38
39	South Carolina	29	0	1	3	33	7	1	0	0	8	36	1	1	3	41	39
40	South Dakota	25	2	2	9	38	8	1	0	2	11	33	3	2	11	49	40
41	Tennessee	53	24	2	3	82	1	0	0	0	1	54	24	2	3	83	41
42	Texas	100	0	3[4]	0	103	59	16	25	68	168	159	16	28[4]	68	271	42
43	Utah	15	0	2	1	18	9	0	0	5	14	24	0	2	6	32	43
44	Vermont	18	0	0	0	18	2	0	0	0	2	20	0	0	0	20	44
45	Virginia	50	3	1	1	55	20	4	0	6	30	70	7	1	7	85	45
46	Washington	16	1	1	6	24	44	7	2	50	103	60	8	3	56	127	46
47	West Virginia	34	5	1	1	41	37	5	2	10	54	71	10	3	11	95	47
48	Wisconsin	58	3	0	5	46	40	10	1	9	60	78	13	1	14	106	48
49	Wyoming	4	2	0	3	9	13	4	1	7	25	17	6	1	10	34	49
50	U. S. Territories and Possessions	25	0	1	7	33	0	0	0	2	2	25	0	1	9	35	50
	Totals	3,344	321	174	214	4,053	1,253	310	101	840	2,504	4,597	631	275	1,054	6 557	

1. Of the 97 physicians licensed in Arkansas, the Regular Board licensed by examination 15 Class A, 3 Class B and 2 miscellaneous graduates and by reciprocity 21 Class A, 13 Class B and 15 miscellaneous graduates, a total of 69. The Eclectic Board licensed by examination all of the 26 Class C graduates and 2 of the miscellaneous graduates. The Homeopathic Board reported no candidates licensed either by examination or by reciprocity.

2. Of the 61 graduates of Class C colleges licensed in California, 12 were graduates of osteopathic colleges which are not generally recognized as medical colleges by state licensing boards. Altogether, 27 osteopaths were admitted to the examination for licensure as physicians and 12 were licensed.

3. Of the 33 graduates of Class C colleges licensed in Colorado. 17 were graduates of osteopathic colleges, institutions inferior in most respects to Class C medical schools which are reported as not recognized in Colorado. Thirty-two osteopaths were admitted to the examination for physicians and 17 were so licensed.

4. Texas licensed 3 Class C graduates by examination (although Class C colleges are reported as not recognized) and 25 Class C graduates (excluding 26 osteopaths) were licensed by reciprocity, a total of 28.

This table shows the classification of the colleges from which most of the physicians graduated who were licensed in 1920. Graduates of colleges which became extinct prior to 1907 who were examined, and all reciprocity licentiates who graduated prior to 1907, are unclassified and included under "miscellaneous" since it was in 1907 that the Council on Medical Education and Hospitals completed its first classification of all medical colleges.

It will be seen that twelve states accepted altogether 31 Class C graduates through reciprocity where they did not license any by examination. On the whole, however, 174 Class C graduates were licensed by examination and 101 were registered through reciprocity.

By both examination and reciprocity, the largest numbers of Class C graduates were licensed in California, 61; Colorado and Illinois, each 33; Texas, 28; Arkansas, 26, and Massachusetts, 19. The Texas figures would be increased by 26 if the osteopaths who were registered by reciprocity and granted licenses as physicians were included. The largest numbers of Class B graduates were licensed in California, 69; New York, 55; Illinois, 54; Ohio, 44, and Missouri, 32.

Of all physicians licensed 4,597, or 70.2 per cent., were graduates of Class A medical schools; 631, or 9.6 per cent., from Class B schools; 275, or 4.2 per cent., from Class C schools, and 1,054, or 16 per cent., from foreign and miscellaneous colleges.

TABLE J.—PHYSICIANS REGISTERED THROUGH RECIPROCITY BY STATE EXAMINING BOARDS DURING 1920

STATE BOARDS OF	Total Reg. by Recip.	Alabama 1	Arizona 2	Arkansas 3	California 4	Colorado 5	Connecticut 6	Delaware 7	Dist. Columbia 8	Florida 9	Georgia 10	Idaho 11	Illinois 12	Indiana 13	Iowa 14	Kansas 15	Kentucky 16	Louisiana 17	Maine 18	Maryland 19	Massachusetts 20	Michigan 21	Minnesota 22	Mississippi 23	Missouri 24	Montana 25	Nebraska 26	Nevada 27	New Hampshire 28	New Jersey 29	New Mexico 30	New York 31	North Carolina 32	North Dakota 33	Ohio 34	Oklahoma 35	Oregon 36	Pennsylvania 37	Rhode Island 38	South Carolina 39	South Dakota 40	Tennessee 41	Texas 42	Utah 43	Vermont 44	Virginia 45	Washington 46	West Virginia 47	Wisconsin 48	Wyoming 49	U.S.A.,U.S.N. etc 50	Nat. Bd. Med. Ex. 51	U. S. Territories 52
Alabama....	20	..	..	..	..	..	..	..	..	..	1	..	2	..	1	..	2	4	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3	1	..	..	1	..	..	..	..	1	..	..
Arkansas....	49	..	..	..	..	..	..	..	..	..	1	..	3	..	..	1	3	3	..	1	..	..	..	4	2	..	1	1	..	..	..	..	..	..	..	4	..	1	..	..	..	19	3	..	..	2	..	..	1	..	..	..	..
California...	501	3	5	3	..	3	6	..	3	1	6	2	102	10	27	12	2	6	2	7	19	18	19	..	28	8	12	4	2	3	..	33	..	7	23	4	13	22	1	..	11	4	6	10	3	2	19	1	9	1	15	..	4
Colorado....	82	1	..	..	1	..	1	..	2	..	..	..	8	1	2	6	1	..	..	..	4	2	2	2	12	..	9	..	..	1	..	3	1	1	1	2	1	4	..	..	1	3	3	1	..	..	..	1	..	3	1	..	..
Connecticut.	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delaware....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dist. of Col.	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	6	..	..	..	..	..	..	..
Georgia.....	44	10	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	2	4	..	..	1	2	..	..	..	..	..	..	..	..	1	2	..	..	..	..	1	..	1	..	14	1	..	..	2	..	1	..	..	..	..
Idaho.....	14	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	6	..	..	..	..	..	..	..	..
Illinois.....	78	4	..	3	2	..	..	..	..	..	..	..	..	5	12	1	3	1	2	6	2	2	3	..	6	..	5	..	..	1	..	4	..	..	3	..	..	1	..	..	..	..	..	..	1	1	9	..	..	..	..
Indiana.....	94	..	..	..	..	..	..	..	1	..	1	..	49	..	2	1	10	..	..	1	..	4	1	1	3	..	..	..	..	1	..	3	..	1	4	..	..	3	..	..	..	3	1	1	..	..	..	1	2	1	..	..	..
Iowa.....	56	..	..	..	1	..	..	..	..	..	1	..	21	..	..	..	1	..	..	..	..	..	3	..	6	..	15	..	1	..	..	..	..	..	2	..	..	2	..	..	..	..	..	..	1	..	..	2	..	..	..	..
Kansas.....	64	..	..	1	..	..	..	..	1	..	..	..	12	1	4	..	1	1	..	..	1	1	..	..	23	..	7	..	..	..	..	..	..	..	1	2	..	2	..	..	..	..	1	..	..	1	3	1	..	..	..	..
Kentucky....	21	..	..	..	..	..	..	..	..	..	1	..	2	2	..	..	..	..	..	1	..	..	..	1	3	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..
Louisiana...	12	2	..	2	..	..	..	..	..	..	2	..	..	..	..	..	2	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	3	..	..	1	..	..	..	3	..	..	..	..	..	1	..	1	..
Maine.....	6	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Maryland...	57	..	..	..	1	..	..	..	15	..	4	..	3	..	..	..	2	..	..	1	..	1	2	..	1	..	..	..	..	2	..	..	..	..	1	..	..	..	6	..	2	..	1	1	..	2	2	..	10	..	..	..	..
Michigan....	126	1	..	1	2	..	..	1	1	..	2	..	20	8	3	..	5	..	1	4	3	..	3	..	3	..	2	..	..	1	..	14	1	..	21	..	..	5	..	..	..	13	..	..	3	..	3	4	..	..	..	..
Minnesota...	84	..	..	..	1	1	..	..	1	..	..	..	16	..	9	1	..	1	..	1	..	6	..	1	1	..	2	..	..	1	..	..	..	2	2	..	..	..	..	..	..	..	..	..	3	..	..	3	..	..	..	1	..
Mississippi..	17	2	..	1	..	..	..	..	..	..	..	..	2	..	..	..	3	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	3	..	34	..	..	..
Missouri.....	60	..	..	2	..	1	..	..	..	..	..	..	18	2	2	13	4	3	..	1	..	..	2	1	..	..	5	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Montana....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nebraska....	48	..	..	2	..	..	..	..	..	..	1	..	11	1	4	10	..	..	..	1	2	..	2	..	4	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	1	1	..	..	..	1	..	..	..	..
Nevada.....	17	..	..	..	3	1	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	1	..	..	5	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..
New Hamp.	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	9	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
New Jersey..	133	..	..	..	2	..	1	2	3	2	..	..	1	..	..	..	1	..	3	3	7	..	..	..	2	..	..	..	..	..	..	68	3	..	2	1	..	16	..	..	..	3	1	1	4	2	..	4	1	..	..	..
New Mexico.	4	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
New York...	72	1	..	..	3	..	1	1	1	..	..	..	6	3	..	1	1	2	1	2	2	..	..	..	3	..	..	..	..	10	..	..	..	..	16	..	1	4	..	..	..	..	..	..	1	6	..	..	1	..	..	1
No. Carol'na	44	..	..	..	..	..	..	..	1	..	5	..	..	..	..	..	2	..	..	2	3	2	..	..	2	..	..	..	..	..	..	..	3	..	..	3	..	..	1	..	3	..	5	1	..	..	7	..	..	..	..	..
No. Dakota..	15	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	..	7	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..
Ohio.....	132	5	..	..	1	..	..	3	..	..	..	..	18	9	4	..	4	1	1	6	..	8	1	..	10	..	2	..	..	2	..	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Oklahoma...	57	..	..	13	..	..	..	..	..	..	5	..	1	1	1	5	1	1	..	..	..	1	..	1	7	..	2	..	..	..	3	..	..	1	..	..	18	..	..	..	..	4	1	3	4	..	7	1	..	..	..	..
Oregon.....	4	..	..	..	2	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	1	..	..	..	..	..	..	6	6	..	..	..	..	..	..	1	..	..	..
Penns'vania	28	..	..	..	..	1	..	1	..	..	..	..	2	..	..	..	..	..	1	4	..	..	..	..	1	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
So. Carolina	8	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	..
So. Daktoa..	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tennessee...	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Texas.....	168	3	..	28	1	1	..	..	3	..	9	..	14	5	3	9	7	13	..	1	2	4	1	2	12	..	2	2	..	2	..	3	..	..	3	6	..	3	..	1	1	16	..	..	1	2	..	2	..	..	1	..
Utah.....	14	..	..	..	..	1	..	..	..	..	..	..	5	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	4	1	..
Vermont....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	1	..	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Virginia.....	30	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	3	1	1	..	..	..	..	..	..	..	..	..	3	4	..	1	1	..	2	..	..	..	..	..	..	..	..	..	..	..	8	..	..
Washington	103	..	..	..	3	..	..	..	..	..	1	7	23	3	9	2	4	..	..	..	..	4	11	..	5	7	3	..	..	..	..	..	..	7	3	..	..	..	6	..	..	1	2	..	..	..	..	4	..	..	..	..
W. Virginia.	54	..	..	..	..	1	..	..	1	..	2	..	2	..	..	..	7	1	..	6	..	..	1	1	1	..	..	..	..	..	..	..	1	..	5	..	..	5	..	4	..	..	..	..	..	..	..	..	1	..	1	..
Wisconsin...	66	..	..	..	..	..	..	..	..	..	..	..	8	..	1	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	16	..	..	..	..	..	..	..	..
Wyoming...	25	..	1	..	..	..	..	1	..	..	..	..	9	1	3	1	..	..	..	..	1	1	..	..	1	..	3	..	..	..	..	2	..	3	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..	40	..	..
Alaska.....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	1	..	..	..	2	..	..	..	..	..	..
Totals.....	2458	32	6	58	23	13	9	6	37	3	47	11	367	52	88	65	68	43	16	62	59	58	66	17	143	17	71	9	5	27	3	163	15	25	98	26	18	123	1	11	15	102	33	22	18	59	23	41	35	7	108	18	8
Number.....	....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52

This table shows the number of physicians registered by each state through reciprocity during 1920. Read from left to right, it shows the total number of physicians registered through reciprocity in the state named and the number of such candidates coming from each of the states named at the top of the various columns. Read from above downward, the figures show the number of physicians who left the state named at the head of the column and went to each of the states named in the corresponding lines, and at the bottom the total number of candidates leaving the state to go elsewhere. For example, read from left to right the table shows that Maine registered 6 candidates through reciprocity in 1920 and that, of these candidates 1 came from Illinois, 2 from New Hampshire and 3 from Vermont. Read from above downward the table shows that from Maine 1 candidate each when to Michigan, Nevada, New Hampshire, New York, Ohio, Pennsylvania and Vermont, 2 each went to California, Georgia and Illinois and 3 went to Iowa. The line at the bottom shows in what states physicians who registered through reciprocity obtained their original licenses. The total number licensed by reciprocity was 2,458—one less than in 1919. This total includes 32 osteopaths, 6 in Oklahoma and 26 in Texas who were granted full privileges as physicians and surgeons.

TABLE K.—RECIPROCAL REGISTRATION IN FIVE YEARS (SHOWING WHAT STATES ISSUED ORIGINAL LICENSES)

STATE	Physicians Going from States Named During 1916	1917	1918	1919	1920	Totals
Alabama	4	8	12	27	32	83
Arizona	5	6	4	7	6	28
Arkansas	56	41	24	72	58	251
California	2	2	5	14	23	46
Colorado	8	14	10	22	13	67
Connecticut	1	0	2	12	9	24
Delaware	8	4	11	8	6	37
District of Columbia	20	16	14	30	37	117
Florida	2	1	2	2	3	10
Georgia	30	28	10	38	47	153
Idaho	5	4	0	7	11	27
Illinois	178	176	125	325	367	1171
Indiana	27	22	30	57	52	188
Iowa	32	44	40	71	88	275
Kansas	33	32	28	75	65	233
Kentucky	40	44	31	71	68	254
Louisiana	16	13	5	36	43	113
Maine	13	8	8	18	16	63
Maryland	45	34	25	61	62	227
Massachusetts	22	20	10	36	59	147
Michigan	34	42	24	69	58	227
Minnesota	19	28	20	27	66	160
Mississippi	18	59	11	48	17	153
Missouri	93	84	65	144	143	529
Montana	1	1	1	8	17	28
Nebraska	28	49	36	60	71	244
Nevada	7	5	7	8	9	36
New Hampshire	11	7	4	24	5	51
New Jersey	17	16	15	30	27	105
New Mexico	2	2	6	9	3	22
New York	84	83	74	197	163	601
North Carolina	17	9	16	24	15	81
North Dakota	4	13	4	17	25	63
Ohio	51	43	27	73	98	292
Oklahoma	26	17	28	53	26	150
Oregon	2	3	7	15	18	45
Pennsylvania	74	62	57	113	123	429
Rhode Island	1	3	1	4	1	10
South Carolina	7	7	4	5	11	34
South Dakota	3	3	6	3	15	30
Tennessee	65	67	34	124	102	392
Texas	15	20	23	38	33	129
Utah	16	13	6	17	22	74
Vermont	15	13	7	25	18	78
Virginia	36	42	36	61	59	234
Washington	12	10	12	21	23	78
West Virginia	25	24	16	41	41	147
Wisconsin	32	28	13	51	35	159
Wyoming	1	4	4	6	7	22
U. S. Territories and Possessions	1	1	1	4	8	15
Army, Navy, P. H. Service	1	1	10	130	108	250
Natl. Bd. of Med. Exam.	....	2	1	19	18	40
Foreign and Misc.	6	1	....	2	8	17
Totals	1271	1279	972	2459	2458	8439

This table shows that 8,439 candidates were registered through reciprocity during the last five years. In 1918 there was a marked decrease due largely to the war. In 1919 there was an increase of 1,487 due to a large migration following the return from military service, and in 1920 there was a decrease of one in the total registered. It will be noted that 130 were registered in 1919 on this basis. A study of the totals for the different states shows that of the 8,439 registered during the five years 1,171, or 13.9 per cent., obtained their original licenses in Illinois. New York could easily lead Illinois but reciprocal relations have been established with only six other states.

whom had been in practice for ten or more years—would have been compelled to undergo the ordeal of a second trying examination.

Table K shows in what states were granted the original licenses of those who were registered elsewhere under the reciprocity provision during the last five years. Of the 8,439 physicians licensed through reciprocity during the last five years, the largest number coming from any one state was 1,171, who obtained their original licenses in Illinois. Although New York has a larger number of medical college graduates each year than Illinois,[1] only 601 physicians obtained original licenses in New York and registered elsewhere through reciprocity in the last five years. This is accounted for by the fact that Illinois has reciprocal relations with twenty-five other states, while New York has established such relations with only six.

IMPROVED STANDARDS OF LICENSURE

Table L shows the states which have adopted one or two years of college work as a minimum standard of preliminary education for those who seek the license to practice medicine

TABLE L.—STATE REQUIREMENTS OF PRELIMINARY EDUCATION

There are now forty states (counting Alaska Ter.) which have adopted requirments of preliminary edueation in addition to a standard four-year high school edueation. Of this number 33 now require the two year standard. These states, the number of college years required and the time the higher requirements beeame or become effeetive are as follows:

State Examining Board of	One Year of College Work		Two Years of College Work	
	Affeets Students Matrieulating	Affeets All Graduates	Affeets Students Matrieulating	Affeets All Graduates
Alabama	.....	....	1915-16	1919
Alaska	1914-15	1918	1918-19	1922
Arizona	1914-15	1918	1918-19	1922
Arkansas[1]	1915-16	1919	1918-19	1922
California	1915-16	1919	.....	....
Colorado	1908-09	1912	1910-11	1914
Conneetieut	1911-12	1915	.....	....
Delaware*	.....	....	.....	....
District of Columbia†	.....	....	.....	....
Florida[1]	1914-15	1918	1918-19	1922
Georgia*	.....	....	1918-19	1922
Idaho*	.....	....	.....	....
Illinois	1915-16	1919	1918-19	1922
Indiana	1910-11	1914	1911-12	1915
Iowa	.....	....	1911-12	1915
Kansas	1910-11	1914	1918-19	1922
Kentueky	1914-15	1918	1918-19	1922
Louisiana	1915-16	1919	1918-19	1922
Maine	1915-16	1919	.....	....
Maryland	1914-15	1918	1918-19	1922
Massaehusetts†	.....	....	.....	....
Michigan	1914-15	1918	1918-19	1922
Minnesota	.....	....	1908-09	1912
Mississippi	1915-16	1919	1919-20	1923
Missouri*	.....	....	.....	....
Montana	1914-15	1918	1918-19	1922
Nebraska*	.....	....	.....	....
Nevada*	.....	....	.....	....
New Hampshire	1914-15	1918	1915-16	1919
New Jersey	1915-16	1919	1917-18	1921
New Mexico	1914-15	1918	1918-19	1922
New York	1917-18	1921	1918-19	1922
North Carolina	1914-15	1918	1918-19	1922
North Dakota	.....	....	1908-09	1912
Ohio*	.....	....	.....	....
Oklahoma	1914-15	1918	1917-18	1921
Oregon†	.....	....	.....	....
Pennsylvania	1914-15	1918	.....	....
Rhode Island	1914-15	1918	1918-19	1922
South Carolina	.....	....	1918-19	1922
South Dakota	1908-09	1912	1911-12	1915
Tennessee	1916-17	1920	1918-19	1922
Texas	1914-15	1918	.....	....
Utah	1913-14	1917	.....	....
Vermont	1913-14	1917	1918-19	1922
Virginia	1014-15	1918	1917-18	1921
Washington	1914-15	1918	1918-19	1922
West Virginia	1917-18	1921	.....	....
Wiseonsin	.....	....	1915-16	1919
Wyoming†	.....	....	.....	....

* Require a four-year high school education or its equivalent.
† No fixed standard.
1. The higher standards in Arkansas and Florida are evidently not enforeed by the sectarian licensing boards of those states.

in those states. The first and third columns show, respectively, when the one year and the two years of premedical college work affects students matriculating in medical colleges, and the second and fourth columns give the years in and after which all applicants for licenses in the various states are affected by the increased requirements. This table shows the rapidity with which state board requirements of

1 THE JOURNAL, Aug. 7, 1920, p. 387, Table 11.

TABLE M.—ADVANCES IN STATE LICENSE REQUIREMENTS IN SEVENTEEN YEARS

Requirement or Provision	States Having Provision for			States Still Having No Provision for
	1904	1921	Increase	
Preliminary Education—				
Any requirement	20	47	27	3[1]
A standard four-year high school education or higher	10	45	35	5[2]
One year or more of college work	0	40[3]	40	10[3]
Two years of college work as a minimum	0	33[3]	33	17[3]
That all applicants be graduates of a medical college	36	49	13	1[4]
That all applicants undergo an examination for license	45	49	4	1[5]
Requirement of practical tests in the license examinations	1	16	15	34
Hospital intern year required	0	10[6]	10	40
Full authority by board to refuse recognition to low-grade colleges	14	44	30	6[7]
Boards refusing to recognize low-grade colleges	5	44[8]	39	6[9]
Reciprocal relations with other states	27	44	17	6[10]
Single boards of medical examiners	36	44	8	6[11]

1. District of Columbia, Massachusetts and Wyoming.
2. Idaho, Oregon and the states named in Footnote 1.
3. See Table L.
4. Colorado.
5. New Mexico.
6. Pennsylvania, 1914; New Jersey, 1916; Alaska, 1917; Rhode Island, 1917; North Dakota, 1918; Washington, 1919; Illinois and Michigan, 1922; Iowa, 1923, and Texas, 1924.
7. District of Columbia, Massachusetts, Missouri, Utah, Washington and Wyoming.
8. In three states, Arkansas, Connecticut and Florida, each of which has three separate boards, only the regular (nonsectarian) boards have refused recognition to low standard medical colleges and have enforced higher standards of preliminary education.
9. The states named in Footnote 7.
10. Alaska, Arizona, Connecticut, Florida, Massachusetts, Rhode Island. To this list should be added the outlying territories of Canal Zone, Philippine Islands and Porto Rico, which have no provision for reciprocity.
11. Multiple boards still remain in Arkansas, Connecticut, District of Columbia, Florida, Louisiana and Maryland.

preliminary education have been advanced since 1908, prior to which no state was requiring more than a four-year high school education. As will be noted, there are now forty states which have adopted the higher standard, and thirty-three of these require as a minimum two years of premedical college work. It is understood that in every instance the one or two years of collegiate work must have included courses in physics, chemistry and biology. As shown in the footnotes, in the District of Columbia, Massachusetts, Oregon and Wyoming no standards of preliminary education have been fixed.

In Table M the advance in standards of licensure is shown for all states since 1904. The most marked increase is in regard to the requirement of collegiate work in forty states as referred to in Table L. The next greatest increase (thirty-seven) is in the number of states—now forty-four—which are refusing to recognize low-grade medical colleges. A recent amendment to the practice act of Missouri takes away from the board the authority to refuse recognition—a decidedly backward step in that state. Although, as shown in the third column, marked improvements have been made in state requirements for licensure, nevertheless, as indicated by the last column, there is still room for further improvement. The greatest needs are for a wider adoption of the requirement of the hospital intern year, the standard of two years of premedical college work, and—a matter of more vital importance—a more general and larger use of practical tests in the examinations. The states in which the boards are making really effective use of such examinations are Illinois, Massachusetts, Minnesota, North Dakota, Ohio and South Dakota. They are being followed to a greater or less extent in a few other states.

RECOGNITION OF GOVERNMENT EXAMINATION

The examination given under federal authority, which should be generally recognized by all state licensing boards

as a qualification for license to practice medicine, is that given to medical officers of the United States Army, Navy, and Public Health Service. In fact, retired officers from the services mentioned are now eligible to receive licenses without further examination in

Alabama	Illinois	Virginia
California	North Dakota	Wisconsin
Colorado	Porto Rico	

This has been interpreted in most of the above states to apply only to those who were admitted to the government services under the strict examination which prevailed prior to the entrance of the United States in the World War and not to those who were commissioned after the admission requirements were relaxed. In Wisconsin, however, 76 physicians were licensed following their discharge from the government services. In Minnesota in April, 1919, a special law was enacted empowering the licensing board to register without examination physicians who had been in the government medical service overseas. Pennsylvania and Virginia licensed, respectively, 19 and 11 government medical officers following their discharge.

National Board of Medical Examiners

The National Board of Medical Examiners, which was organized in 1915, consists of fifteen members, including the Surgeon-Generals of the Army, Navy and Public Health Service, and one other representative of each of those services, three representatives of the state medical licensing boards and six members appointed at large. Up to March 15, 1921, nine examinations have been held as follows:

Date of Examination	Where Held	Total Examined	Passed	Failed	Percentage Failed
Oct., 1916	Washington	10	5	5	50.0
June, 1917	Washington	12	9	3	33.3
Oct., 1917	Chicago	28	22	6	21.5
Jan., 1918	New York	20	18	2	10.0
Apr., 1918	Ft. Riley, Ft. Oglethorpe	23	18	5	26.1
Dec., 1918	Chicago, New York	16	15	1	6.3
June, 1919	Philadelphia	52	51	1	1.9
Feb., 1920	Chicago, St. Louis	48	36	12	25.0
May, 1920	Philadelphia	60	46	14	23.3
Feb., 1921	Rochester, Minn.	16	11	5	31.3
	Totals	285	231	54	19.0

Thirty-nine medical schools were represented and the results were as follows:

College	Total Examined	Passed	Failed	Percentage Failed
Boston University School of Medicine	1	1	0	0.0
Columbia Univ. Coll. of P. and S.	11	11	0	0.0
Cornell Univ. Med. College	4	4	0	0.0
Emory Univ. School of Med.	1	1	0	0.0
Georgetown University	1	1	0	0.0
George Washington University	1	0	1	100.0
Harvard University Med. School	11	11	0	0.0
Howard Univ. School of Med.	1	0	1	100.0
Indiana Univ. School of Medicine	2	1	1	50.0
Jefferson Medical College	7	2	5	71.4
Johns Hopkins Univ. Med. Dept.	21	19	2	9.5
Leland Stanford Jr. University	1	1	0	0.0
Marquette University	1	1	0	0.0
McGill Univ. Faculty of Med.	1	0	1	100.0
Northwestern Univ. Med. School	23	18	5	21.7
Rush Medical College	56	49	7	12.5
State Univ. of Iowa Coll. of Med.	5	2	3	60.0
Syracuse University	1	1	0	0.0
Tulane University	1	1	0	0.0
Univ. and Bellevue Hosp. Med. College	1	0	1	100.0
University of Buffalo Med. Dept.	1	1	0	0.0
University of California Med. School	1	1	0	0.0
University of Colorado Sch. of Med.	1	1	0	0.0
University of Georgia	1	1	0	0.0
University of Illinois	3	1	2	66.6
University of Maryland Sch. of Med.	2	2	0	0.0
University of Michigan Med. School	6	4	2	33.3
University of Minnesota Med. School	11	4	7	63.6
University of Nebraska Coll. of Med.	2	1	1	50.0
University of Pennsylvania Sch. of Med.	86	76	10	11.6
University of Pittsburgh Sch. of Med.	1	1	0	0.0
University of Texas Dept. of Med.	4	3	1	25.0
University of Utrecht	1	1	0	0.0
University of Virginia Dept. of Med.	2	1	1	50.0
Vanderbilt University	2	0	2	100.0
Washington University	4	4	0	0.0
Western Reserve Univ. School of Med.	2	1	1	50.0
Woman's Medical College	3	3	0	0.0
Yale University School of Med.	1	1	0	0.0
Totals	285	231	54	19.0

Holders of certificates from the National Board of Medical Examiners will be registered without further examination in the following twenty states:

Alabama	Kentucky	North Dakota
Colorado	Maryland	Pennsylvania
Delaware	Minnesota	Rhode Island
Florida	Nebraska	South Carolina
Georgia	New Hampshire	Vermont
Idaho	New Jersey	Virginia
Iowa	North Carolina	

When the permanence of the National Board of Medical Examiners is established and the high character of its examinations is more generally recognized, it is quite probable that its certificate will be recognized by the licensing boards of a larger number, if not of all states.

A holder of the National Board certificate is eligible for the regular medical corps of the United States Army or the United States Navy without further professional examination if a review of his examination papers by the board of examiners of those services is satisfactory. During the summer of 1920 several English and French physicians, as guests of the National Board, visited a number of the medical schools and attended the examination held by the board in Philadelphia in May, 1920. Since that time a recommendation has been adopted by the Triple Qualification Board of Scotland providing that holders of the National Board certificate be admitted to the final examination of that Board. In January, 1921, action was taken by the Conjoint Examining Board of England.

In Conclusion

In the publication of these statistics, the endeavor has been to present the facts, a knowledge of which is always beneficial. We reiterate our acknowledgments to the state licensing boards for their ready cooperation and the complete reports which have been furnished. We believe the information here published will be of service to the medical colleges, to the state boards and also to the public.

Proportion of Physicians to Population

State	Population	Physicians	People to Each Physician
Alabama	2,348,174	2,405	976
Arizona	333,903	380	877
Arkansas	1,752,204	2,450	715
California	3,426,861	6,766	506
Colorado	939,629	1,817	517
Connecticut	1,380,631	1,729	798
Delaware	223,003	262	851
District of Columbia	437,571	1,689	259
Florida	968,470	1,281	754
Georgia	2,895,832	3,406	850
Idaho	431,866	553	781
Illinois	6,485,280	10,651	609
Indiana	2,930,390	4,446	659
Iowa	2,404,021	3,536	680
Kansas	1,769,257	2,550	694
Kentucky	2,416,630	3,323	727
Louisiana	1,798,509	2,001	898
Maine	768,014	1,105	695
Maryland	1,449,661	2,364	613
Massachusetts	3,852,356	5,959	646
Michigan	3,668,412	4,593	798
Minnesota	2,387,125	2,628	908
Mississippi	1,790,618	1,761	1,016
Missouri	3,404,055	5,921	575
Montana	548,889	620	883
Nebraska	1,296,372	1,965	659
Nevada	77,407	147	527
New Hampshire	443,083	641	691
New Jersey	3,155,900	3,260	968
New Mexico	360,350	529	681
New York	10,384,829	16,284	638
North Carolina	2,559,123	2,236	1,143
North Dakota	645,680	556	1,161
Ohio	5,759,394	8,092	712
Oklahoma	2,028,283	2,622	773
Oregon	783,389	1,145	684
Pennsylvania	8,720,017	11,348	768
Rhode Island	604,397	778	777
South Carolina	1,683,724	1,452	1,160
South Dakota	636,547	658	966
Tennessee	2,337,885	3,328	702
Texas	4,663,228	6,205	751
Utah	449,396	496	906
Vermont	352,428	594	593
Virginia	2,309,187	2,545	906
Washington	1,356,621	1,797	755
West Virginia	1,463,701	1,717	852
Wisconsin	2,632,067	2,750	957
Wyoming	194,402	267	728
Totals	105,708,771	145,608	726

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SATURDAY, APRIL 30, 1921

STATISTICS OF THE STATE BOARD EXAMINATIONS

We publish this week, for the eighteenth consecutive year, statistics based on official reports of examinations conducted by state medical boards, and of registrations by reciprocity and other methods. During these eighteen years the work has met with an increasing support and cooperation on the part of the secretaries of the state licensing boards, who have furnished reports of their examinations. The reports have been carefully checked with alumni lists furnished by the deans of the medical colleges, and by this cross-checking, errors have been corrected and the state boards concerned have been notified. Thus, not only are the statistics accurate and reliable, but also state board records have been corrected. We express our acknowledgments for the cooperation of the officers of both the state licensing boards and the medical colleges by which the publication of these statistics has been made possible.

IMPORTANCE OF THESE STATISTICS

These statistics are of great importance, as they relate to medical education and to medical licensure. For each state they show the number and qualifications of physicians admitted to examinations; the character of the colleges from which they graduated; the numbers registered or rejected, and the percentage rejected. The material is so arranged that the facts regarding any one college or any one state can be compared with those, respectively, of all other colleges and states. The statistics show that in some states people are well protected against illiterate and incompetent physicians, while in others, in varying degrees, the opposite situation prevails. A glaring instance relates to Arkansas, where, for a series of years, the regular board of medical examiners has been enforcing reasonably high educational standards; nevertheless, graduates of low grade medical colleges have been licensed. This was because of the existence of a separate board of eclectic examiners which this year licensed twenty-six graduates of a nominally eclectic medical school, the Kansas City College of Medicine and Surgery, even though the college was reported not recognized by the licensing board of Missouri—its home state—and by the boards of thirty-nine other states. This has been going on for several years. The statistics show that in twelve states, although the boards will not admit graduates of certain low type colleges to their examinations, they have granted them licenses by reciprocity.

LICENSING OSTEOPATHS

During the last four years a few boards have examined osteopaths and licensed them as physicians. The objection to this is not that these candidates were osteopaths, but that their educational qualifications were inferior to those which physicians are required to possess. All reputable medical colleges require for admission two years of college education in addition to a high school course. Not so the osteopathic colleges, no one of which has announced a requirement for admission of more than a nominal high school education. Nevertheless, twelve osteopaths were licensed as physicians in California by examination, seventeen in Colorado, and two each in Oklahoma and Utah; and in Texas, twenty-six were licensed by reciprocity.

QUALIFICATIONS OF PHYSICIANS LICENSED

Special attention is called to Table I (page 1245), which shows the classification of the medical colleges from which the applicants graduated. This table shows in what states and in what numbers graduates of low grade medical colleges are being licensed. A review of these tabulations for the last four years shows that California registered 295, the largest number, followed by Illinois with 132, Missouri with 129, Arkansas with 111, and Texas with 110. In Missouri the numbers were greatly diminished during the last two years; but with the weakening of the practice act from a recent amendment, the numbers will probably be again increased.

EFFECTS OF PUBLICITY

The effectiveness of publicity in medical licensure may be noted in Table M, on page 1247. Higher standards of preliminary education have been adopted; all states but one, Colorado, require that applicants must have graduated from a medical school; all but one state, New Mexico, now require an examination of all applicants; a larger number of states have improved their examination by the use of practical laboratory and clinical tests; a larger number of states have obtained authority to refuse recognition to low-grade medical colleges and are making use of that authority; reciprocal relations between states have been widely extended; ten states require a hospital internship as an essential for the license, and all but a few states now have single boards of medical examiners.

EFFECTS ON MEDICAL EDUCATION

On medical education the effect of these statistics has been even more pronounced. Publicity regarding the percentages of failures of graduates at state licensing examinations has led to the adoption of better methods of teaching. Publicity of the fact that in certain states

diplomas granted by various colleges were not recognized as an acceptable qualification for the license has induced a number of medical schools to make improvements in order to retain students. That such improvements have been made is shown by the increased number of colleges each year which are recognized in all states.

Briefly, these statistics show each medical school what improvements are essential if its graduates are to succeed in state board examinations; what state boards are requiring as a minimum of preliminary education, and in what states the boards are refusing to examine its graduates. To each state board these statistics show the qualifications of the physicians licensed as compared with those licensed in other states, and the lines along which further improvements are needed in its educational standards and methods of examination. Owing to political conditions and other factors, standards in certain states swing forward and then backward; on the whole, however, there has been decided progress. Constant publicity has led to a general improvement and a greater uniformity in the methods of examination by all state boards; there has been a lessened confusion in the licensing of physicians throughout the country, and correspondingly better safeguards for the public against the licensing of incompetent practitioners.

EVENTS FOLLOWING THE INTRAVENOUS INJECTION OF PARTICULATE MATERIAL

The ultimate fate of food substances and of foreign particles in the blood, although studied by many different methods, is still unknown. Perhaps the nearest approach to the solution of a part of this problem has been made by studying the fate of certain inert substances injected into the blood. Recently Nagao,[1] working in the McCormick Institute for Infectious Diseases, observed that India ink granules, injected intravenously into rabbits, are adsorbed by what he terms a "base" granule of the leukocytes or fixed phagocytic cells. The ink granules appear to form a capsule around the base granule; this is soon followed by the degeneration of the base granule and finally of the whole cell. Cells with the most ink granules degenerate first, and after twenty-four hours very few may be found containing more than ten granules. Leukocytes containing ink granules become less active, and appear unable to pass through the capillary walls or to eliminate the ink granules except as they themselves disintegrate. The number of polymorphonuclear leukocytes containing ink granules is greatly reduced in forty-eight hours, and such cells disappear entirely in from four to seven days. The degeneration of leukocytes begins from three to six hours after the ink has been injected, and a few hours later abnormal forms appear, myelocytes and metamyelocytes, indicating a rapid destruction of large numbers of leukocytes. Endothelial cells containing ink granules also undergo degeneration in increasing degree until the third or fourth day, when the degeneration gradually becomes less. The degenerating leukocytes with included granules are taken up by fixed cells, especially in the liver and spleen, which cells in turn also degenerate in a few days. The granules finally accumulate irregularly in these organs, or are carried away by the lymphatics to various parts of the body. The irregular distribution of ink granules in the liver suggests that degeneration of endothelial cells containing ink causes defects in the capillary walls and allows the granules to escape into the lymph spaces. Fixed phagocytic cells containing ink disintegrate naturally, but their destruction may be hastened by injecting bacteria or products of bacterial growth, as shown by the fact that, twenty-four hours after such injections, ink granules again appear in the blood. It was found also, by injecting other substances before or after the India ink, that the phagocytic activity of the endothelial cells is greatly reduced twenty-four hours after the injection of particles.

Recently[2] it was suggested that the immediate removal of bacteria in the blood is not essentially different from that of inert particulate material. Reference was made then to the work of Drinker and Shaw[3] in which it was shown that the greater part of finely divided manganese dioxid injected intravenously into cats could be recovered an hour later from the lungs, liver and spleen. These investigators conclude that the vascular endothelium of certain organs possesses phagocytic power and renders the capillaries permeable to particulate material as well as to gases, liquids and dissolved substances. Lund, Shaw and Drinker[4] have observed also that manganese dioxid, an hour after intravenous injection, is localized for the most part in the liver of rabbits, guinea-pigs, dogs, rats, chickens and turtles. These animals do not show the stage of deposition in the lungs as in the cat.

From these studies it appears that various particles are ingested finally by vascular endothelial cells, and that the elimination of such materials from the body is accomplished through the intervention of these phagocytic cells, the vascular endothelium of the liver playing perhaps the more important part in this connection. The endothelium, either through its phagocytic power alone, or more likely through the degeneration following its phagocytic activity, may be the cause of capillary permeability to particles. The observations of Nagao suggest that a second injection following within a few hours after a primary injection of particulate material

1. Nagao, K.: The Fate of India Ink Injected into the Blood, II, The Formation of Intracellular Granules and Their Movements, J. Infect. Dis. **28**: 294 (March) 1921.

2. The Fate of Foreign Particles in the Blood Stream, editorial, J. A. M. A. **76**: 794 (March 19) 1921.

3. Drinker, C. K., and Shaw, L. A.: Quantitative Distribution of Particulate Material Administered Intravenously to the Cat, J. Exper. Med. **33**: 77 (Jan.) 1921.

4. Lund, C. C.; Shaw, L. A., and Drinker, C. K.: Quantitative Distribution of Particulate Material (Manganese Dioxide) Administered Intravenously to the Dog, Rabbit, Guinea-Pig, Rat, Chicken and Turtle, J. Exper. Med. **33**: 231 (Feb.) 1921.

may be a source of danger to the host, since large numbers of leukocytes are destroyed by the primary injection, and many of the remaining leukocytes contain particles which considerably reduce their activity. May not the failure of the body to rid itself of bacteria in certain chronic infections in which there may be frequent showers of bacteria into the blood be due to similar conditions? Further studies of this kind may throw additional light on the rôle of the vascular endothelium in controlling infection.

IMMUNOLOGIC DISTINCTIONS OF ENCEPHALITIS AND POLIOMYELITIS

The statistics which are being collected with respect to epidemic encephalitis indicate that it is quite prevalent throughout the world at the present time.[1] While its cause has not been ascertained, the large number of cases that are being studied by clinicians have made the symptoms and sequelae better understood. As a consequence of this increasing knowledge, many features of resemblance if not actual identity have been established between encephalitis and other paralytic epidemic affections, notably poliomyelitis. The question has even been raised as to whether the various affections may not be different manifestations of one "etiologically simple malady." [2]

In defense of the individuality of epidemic encephalitis and epidemic poliomyelitis, respectively, various contentions have been raised. There seems to be an unlike seasonal incidence; but this factor can never be given more than corroboratory dignity in discussions of this sort. Again, there are apparent differences in communicability as well as divergent clinical manifestations. Nevertheless, when trained clinicians sometimes hesitate to make a final differential diagnosis, the uncertainty of the inexpert may be pardoned.

Amoss[3] of the Rockefeller Institute for Medical Research has lately furnished more convincing immunologic evidence of distinctions between encephalitis and poliomyelitis. The blood serum in convalescent cases of poliomyelitis, whether in man or in the monkey, possesses the power to neutralize the virus of this disease, while the serum of convalescents from encephalitis is devoid of it. On this ground the maladies may be regarded as "integrally distinct affections." Amoss defines encephalitis as an epidemic disease, the main manifestations of which relate to injury inflicted on the central nervous system and in particular the basal ganglions of the brain; whereas in poliomyelitis the gray matter of the spinal cord and medulla oblongata especially are involved.

Although it has been regarded as doubtful whether encephalitis has been communicated to monkeys through inoculation with the affected central nervous tissue of man in the way that readily succeeds in the case of poliomyelitis, the reports recently reviewed in THE JOURNAL[4] warn us to keep an open mind. Even if it shall be conclusively shown that encephalitis is another epidemic disease which can be transmitted by secretions of the nasopharynx, the studies of the serologic reactions now available clearly speak in favor of an individuality rather than an identity of epidemic encephalitis and poliomyelitis.[5]

1. The Pandemicity of Encephalitis, editorial, J. A. M. A. **76**: 1012 (April 9) 1921.
2. Crookshank, F. G.: Boston M. & S. J. **182**: 34 (Jan. 8) 1920.
3. Amoss, H. L.: Immunological Distinctions of Encephalitis and Poliomyelitis, J. Exper. Med. **33**: 187 (Feb. 1) 1921.
4. Experimental Studies of Epidemic Encephalitis, editorial, J. A. M. A. **76**: 932 (April 2) 1921.
5. Levaditi, C., and Harvier, P.: Etude expérimentale de l'encéphalite léthargique, Ann. d l'Inst. Pasteur **34**: 911, 1920.

Current Comment

UNFORTUNATE MISSOURI!

A few weeks ago a bill passed the Missouri legislature which struck out of the medical practice act the word "reputable," as related to medical colleges, and substituted therefor the words "legally chartered." As noted in the news column last week, in spite of vigorous protests against it, the governor signed the measure. Thus at one stroke authority is taken away from the Missouri State Board of Health to perform its most important function—that of protecting the public against incompetent practitioners of the healing art. The words "legally chartered" are entirely without meaning, since the worst diploma mills that ever existed have been chartered. In the majority of states it is easy for any group of individuals, no matter how irresponsible they may be, to secure a "legal charter" and to open a "school," "college" or "university" with full power to grant any or every degree in the category, no questions being asked as to whether they have the essential teachers, buildings or equipment, or the funds necessary to furnish the education usually required for such degrees. The word "reputable," on the other hand, gave the state board authority to enforce reasonably high standards of preliminary and professional education and to refuse recognition to any institution which, on due inspection, was found to be deficient in these respects. As shown in the state board statistics published this week, Missouri for the last few years has stood among the states in which practice acts have been fairly enforced and in which the public has been well protected against incompetent physicians. The present amendment to the practice act places the state in a position as bad as, if not worse than, that which existed twenty or more years ago. It restores Missouri to the rapidly diminishing number of backward or unfortunate states in which the doors to licensure are wide open to the output of the poorly equipped and low-grade, irresponsible institutions which are professing to train practitioners of medicine. In this day of greater educational enlightenment, when the number of states which have closed their doors against the graduates of low-grade medical schools has increased in the last eight years from thirty-two to forty-four states, it is all the more surprising that legislation of this character could be made a law in any of our states. The people of Missouri have our sympathy. In spite

of this handicap the board, by holding a fairly rigid examination, can still do much to weed out the incompetents, if the governor will appoint competent examiners on the board and support them in their work. The results of this law will be watched with much interest.

PROHIBITION AND THE PHYSICIAN

Our profession has been injured in the eyes of the public because a few of its members have not had the moral stamina to live up to the trust placed in physicians by the government agency responsible for the enforcement of the Volstead act. This we presume might have been expected: our profession is composed of human beings with all human frailties. From the very first many thoughtful physicians regretted that the government should have found it necessary to shift some of its responsibility to the medical profession; it was feared that there would be some who would be willing to sacrifice professional honor for financial gain. Unfortunately, developments have justified the fear. And now a recent ruling of the Secretary of the Treasury permitting physicians to prescribe large quantities of beer and wine will tend to aggravate the condition. A little more and the complacent physician will become a substitute for the bartender. A majority of the reputable physicians have from the first refused to take out the permit to prescribe liquor. These have no trouble in disposing of such friends or intimate patients as may wish to abuse the friendship of their medical advisers.

RHUS DERMATITIS

Although the toxicology of poison ivy (*Rhus toxicodendron*) is fairly well understood, the toxic features of the related poison oak (*Rhus diversiloba*) have not been studied to a comparable extent. For the harmfulness of the poison ivy, Pfaff [1] placed the responsibility on a substance isolated from the plant and named toxicodendrol. The latter is insoluble in water, but readily dissolves in the organic solvents like ether and alcohol. The product is so active that 0.005 mg. applied to the skin may suffice to provoke local symptoms with pain. A considerable latent period prior to the appearance of the cutaneous alterations has often been described. Recently McNair [2] has come to the conclusion that a polyhydrophenol, to which the name lobinol has been given, is responsible for the irritation of the skin caused by poison oak. The active substance is neither bacterial nor volatile. Poisoning occurs from actual contact with the resinous sap of the plant; but, as McNair points out, it may result through an intermediary agent, which carries the sap, such as particles of soot in smoke, clothing, cordwood, croquet balls and shoes. As in the case of all rhus dermatitis, the most common avenues of invasion of the poison are connected with the cutaneous surfaces, though the respiratory and alimentary tracts may also play a part at times in promoting intoxication with poison oak. The problem of latency has not been solved. With respect to the mechanism by which the dermatitis is spread so that it appears successively on different areas of the body, McNair has ventured several hypotheses. Thus, it may be due to (1) the direct transference of the poison itself by the fingernails or hands from one part of the body to another, or to new areas from the clothes or hair; (2) reflex irritation; (3) contiguity of tissue, and (4) varying durations of latency for the different skin surfaces on the body (varying with the respective thicknesses of their stratum corneum, chemical and physical differences in the skin, etc.). Perhaps further study will show an essential identity in the etiology of all forms of rhus dermatitis.

1. Pfaff, F.: J. Exper. Med. **2**: 181, 1897.
2. McNair, J. B.: Pathology of Rhus Dermatitis, Arch. Dermat. & Syph. **3**: 383 (April) 1921; J. Am. Chem. Soc. **43**: 159 (Jan.) 1921; J. Infect. Dis. **19**: 419 (Sept.) 1916.

HENRY P. HYNSON, THE PHARMACIST

Henry P. Hynson, whose death was announced in the news columns last week, represented in pharmacy the ideals which the late Dr. E. R. Squibb upheld in the last generation. He devoted his life to advancing pharmacy and to upholding the practical application of his profession. The position which he held was recognized by his confrères, and because of it he was held in honor. In 1907, the *Druggists' Circular,* in speaking of his place of business, said it was "one of the few ethical ones in the country." He was the first president of the National Association of Retail Druggists. As already suggested, his constant effort was to emphasize as of primary importance the service which the educated scientific pharmacist was in a position to render to the public, and to decry the commercial ideas which seemed to be strangling the professional instincts of the pharmacists. He opposed commercial drug store exploitation of the public with "patent medicines" and making pharmacy a mere adjunct to the sale of soda water, light lunches and novelties. Hynson was one of the few prominent pharmacists who were willing to forego financial gain in order to raise the ethical standards of a profession which he honored. He took an earnest interest in all the live pharmaceutical questions of the day, and pure pharmacy sustained a great loss in his death.

BENZYL BENZOATE

Benzyl benzoate has been widely accepted, chiefly on the basis of experiments on excised organs, as an efficient antispasmodic agent for smooth muscle in various regions. Few observations have been made, however, as to its actions on intact organs. Recently, Mason and Pieck,[1] of the pharmacologic laboratory of the University of Cincinnati, have raised serious doubts as to the efficiency of benzyl benzoate as an antispasmodic for the intact uterus, intestine, stomach and bronchi. They injected large (extratherapeutic) doses of benzyl benzoate intravenously into dogs so that the drug might act on smooth muscle of these organs promptly and in efficient form. Almost totally negative results were obtained on both the untreated and the previously excited organs, whereas epinephrin in from one four thousandth to one seven hundredth of the dosage under the same conditions gave prompt and posi-

1. Mason, E. C., and Pieck: J. Lab. &Clin. Med. **6**: 62 (Nov.) 1920.

ive results, i. e., relaxation of both the untreated and excited organs (intestine, stomach and bronchi). According to Macht,[2] benzyl benzoate is conjugated with glycocoll in the body, and, therefore, rendered physiologically inactive. This would be true after oral administration of the ester. If the conjugation is accomplished exclusively by the kidney, the unchanged ester should be present in the blood in part at least, and exert a physiologic action per se. Apparently, however, the concentration in the blood would have to be higher than that used in the experiments of Mason and Pieck. Accordingly, the therapeutic rôle of benzyl benzoate in the treatment of colic by relaxation of smooth muscle appears not so promising as was anticipated from the earlier experimental and clinical literature. What proportion of the alleged benefits in patients may be of reflex origin from the local irritant effects of the benzyl benzoate or solvents used, especially after repeated and large doses, is still a question. The presence of local irritation appears to be indicated by the burning sensation and eructations after swallowing the ester. Certainly this new work suggests that allowances be made for impressions, reflex influences, the psychic state and natural recovery, before drawing definite conclusions as to the beneficial effects of benzyl benzoate, especially in such capricious conditions as hiccup, whooping cough, asthma and dysmenorrhea, for which it has been advocated.

Association News

THE BOSTON SESSION

Important Notice Regarding Registration

Be sure to take with you to the Boston Session your pocket card certifying to your being a Fellow in good standing for 1921. If you have not received your pocket card for this year, you should write at once to the American Medical Association, 535 North Dearborn Street, Chicago, in order that you may secure this credential.

Identification Certificates for Special Round Trip Fare to Boston

Members who desire to take advantage of the special round trip railroad fares which have been announced for the annual session of the American Medical Association at Boston should write, enclosing a self-addressed, stamped envelop, to the Secretary of the Association, 535 North Dearborn Street, Chicago, requesting Identification Certificates. Reduced fares can be secured only by members who hold these Identification Certificates. With one certificate a member may purchase tickets for himself and for dependent members of his family. The same route must used going to and returning from Boston. In the Trunk Line and Central Passenger Associations, these tickets will be on sale June 1 to 5 inclusive, and may be validated for return trip, June 3 to 11 inclusive. The original starting point must be reached by midnight of June 14. For time limits from points in the Western Passenger Association territory see THE JOURNAL, April 9, page 1013.

Banquet for Visiting Women Physicians

The Local Committee of Arrangements announces that arrangements are being made for a banquet for women physicians who attend the Boston Session. The dinner will be given at the Hotel Vendome at 6 o'clock, Wednesday evening, June 8; cost per cover, $3. Those who plan to attend are requested to advise Dr. Florence W. Duckering, 230 Beacon Street, Boston, on or before June 1.

2. Macht, D. I.: Pharmacological Study of Benzyl Esters, J. Pharmacol. & Exper. Therap. **11**: 419 (July) 1918.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Health Unit for Morgan County.—Through the efforts of the Morgan County Medical Society, the central labor union of Alabama and Decatur, the Albany Chamber of Commerce, the women's clubs and other citizens, the health unit will be maintained in Morgan County.

Society for Mental Hygiene.—At a meeting held in connection with the recent Alabama Educational Association convention the state society for mental hygiene was reorganized with Dr. William D. Partlow, Tuscaloosa, as president. Funds having been appropriated by the last legislature, a new home for the feebleminded will be built near Tuscaloosa.

Inspection of Health Work.—A detailed survey of all the activities of the health department and all health work in Birmingham is being made for the American Public Health Association under the direction of experts detailed from the public health service. Housing, street cleaning and garbage disposal in Birmingham are also being investigated in relation to the health department.

ARIZONA

State Medical Meeting.—The meeting of the Arizona State Medical Association, which convened at Tucson, April 15 and 16, was the most successful ever held in the state. Almost 50 per cent. of the state membership was in attendance. Papers by Drs. Albert J. Ochsner, Chicago; E. Avery Newton, Harland Shoemaker, Albert Soiland, Roy Thomas, W. J. Stone, Los Angeles, and G. B. Gilbert of Colorado Springs contributed to the scientific program.

ARKANSAS

Health Agencies Convention.—Dr. Frances Sage Bradley of the Children's Bureau, Washington, D. C., spoke on child welfare, and Dr. John Stewart, superintendent, State Tuberculosis Sanatorium, Booneville, discussed the needs of better hospital facilities in Arkansas at the annual meeting of the state public health association, held, April 28-29, at Little Rock.

"Health on Wheels."—At the request of the recently organized children's bureau of the state board of health, the Children's Bureau of the United States Labor Department sent the "Child Welfare Special" motor truck to tour the state and awaken the rural communities to the need for better physical and mental development of children and to promote better medical and nursing service by the establishment of permanent child welfare centers.

CALIFORNIA

Personal.—Dr. Darius Todd, professor of biology, Medical Department of University of Edinburgh, Scotland, was recently entertained by Dr. Robert B. Dempsey, Vallejo. Dr. Todd will make California his future home and will locate at Napa.

Woman Physician Guilty of Violation of State Medical Law.—Dr. C. Burnley of Huntington Park, it is reported, was convicted of violating the state medical act by operating a sanatorium without a state medical license. According to evidence secured, Dr. Burnley had a license in another state but had failed to secure one in California.

Legislative News.—Two hundred physicians appeared before the senate health and quarantine committee for a discussion of Senator Anderson's bill requiring medical colleges to have laboratory and equipment valued at $200,000 before they may issue degrees.——A meeting of physicians was called to protest against the governor's economy merger plan which would place the professions, including medicine, under a director at a salary of $4,000 a year. The medical profession declared the measure would upset all professional standards, jeopardize the health of the whole state and play havoc with the system of preventive medicine which it has taken years to build up.

Chinese Herbalists Convicted of Illegal Practice.—"Dr." B. Y. Gwan, Chinese herbalist of Marysville, recently convicted on a charge of practicing medicine without a license, was sentenced to pay a fine of $350 or spend 175 days in the county jail. He chose the jail sentence. Quan Kee, herb doctor of Chico, is reported as having been found guilty of practicing medicine without having secured a license. "Dr." W. S. Ling of Oroville, after twenty-five years as a herb doctor, has gone to San Francisco to accept a position as a hotel porter. His change in vocation was made after he had been arrested by federal agents several times during the last few months.

CONNECTICUT

Annual Meeting of Medical Association.—The Middlesex Medical Association held its annual meeting under the presidency of Dr. Jessie W. Fisher, Middletown, April 14, at Middletown. Dr. Peter K. Olitsky, Rockefeller Institute for Medical Research, New York, and Dr. Winnifred O. Wilbur, Springfield, Mass., delivered addresses. The following officers were elected: president, Dr. Thomas P. Walsh; vice president, Dr. James H. Kingman; clerk, Dr. Sheldon S. S. Campbell, all of Middletown.

DISTRICT OF COLUMBIA

Bill to Incorporate Cancer Society.—Provision for the incorporation of the American Society for the Control of Cancer is authorized by a bill introduced in the Senate by Senator Wadsworth of New York.

Personal.—Shepard I. Franz, Ph.D., M.D., LL.D., and Reginald A. Cutting, M.A., Ph.D., respectively, professor and associate professor of physiology at the George Washington University Medical School, have resigned.

New Law Proposed for Medical Licensure.—The existing law relative to the practice of medicine in the District of Columbia is proposed to be amended by a bill introduced by Senator Cummins of Iowa. This bill would specifically require that to qualify in the practice of medicine the applicant must have studied medicine and surgery "in a medical college authorized by law to confer such degree, or under a preceptor authorized to practice medicine and surgery for not less than three years if the diploma was issued prior to July 1, 1898." If the diploma were issued subsequent to June 30, 1898, the applicant must have similar qualifications covering a period of four years prior to the issuance of the diploma. The present law in the District of Columbia requires the applicant to have studied medicine for the three or four year period, but it does not specifically require that such study be in an authorized medical college.

Venereal Disease Law.—A bill introduced by Congressman Raker of California would require that every person in the District of Columbia having syphilis, gonorrhea or chancroid, and who is not at the time under treatment of a physician, shall report the circumstance to the health officer of the District. The bill requires that physicians, nurses, dentists and other professional persons shall make similar report of all cases that come under their observation. No person suffering from syphilis, gonorrhea or other like disease shall work as a barber, dentist, cook, baker or handler of food. Many other restrictive provisions are in the bill. Congressman Raker has also introduced a bill for the free distribution of antirabic virus for the treatment of persons exposed to rabies; a bill to enforce the law regulating the sale of viruses, serums, toxins in the District of Columbia; and for the destruction of animals affected with rabies.

FLORIDA

Birth Registration Bill.—A measure introduced in the state legislature which would make the county judge recorder of births instead of official registrars, as at present, is being fought by the state health officer.

GEORGIA

Personal.—Dr. Buena V. Elmore, Blountstown, Fla., has been appointed health commissioner for Floyd County.

Medical Association Meeting.—The annual meeting of the state medical association will be held, May 4-6, at Rome.

Physician Convicted.—It is reported that Dr. Mack C. Wilson, Savannah, has been convicted of involuntary manslaughter and his punishment fixed at from one to two years in the penitentiary. Dr. Wilson was charged with performing a criminal operation upon Mrs. Maud Muller of Screven County, last August, who made a dying statement incriminating the defendant.

ILLINOIS

Hospital News.—The contract has been awarded for the construction of a $175,000 hospital at Duquoin.

Reelect Physician for Mayor.—Dr. George F. Johnson was reelected mayor of East Moline, April 19. His opponent was Dr. Earl A. Soule.

Physician Pleads Guilty.—It is reported that Dr. Edmond D. Converse, Chicago, indicted on thirty-two counts for violation of the Harrison Narcotic Law, has pleaded guilty.

Death from Trichinosis.—A death on March 18 from trichinosis was recently reported to the state department of public health. The victim was a white woman, aged 28, who lived at Macomb.

New Trial for Dr. Hobbs.—Dr. Lillian Hobbs Seymour, who was sentenced to fourteen years in the penitentiary on a conviction of performing an operation which caused the death of Elda Christopherson in 1916, and was sent to Joliet in May, 1920, it is reported has again been granted a retrial.

State Department of Health Starts Weekly Conferences.—On each Thursday morning the chiefs of the ten major divisions of the state department of public health are meeting for a conference with the director. The conference on the last Thursday of each month is given over to a review of current literature on public health.

Mosquito Surveys.—In response to a request from the Southern Illinois Medical Association, the state natural history survey has undertaken a number of surveys in representative communities to determine the location and prevalence of malaria-carrying mosquitoes in southern Illinois. Up to the present time such surveys have been completed at Murphysboro and Carbondale in Jackson County and at Herring in Williamson County. According to reports an attempt has been made to determine the number of mosquitoes relative to the number of malarial cases. The next survey will be carried out during the coming summer at Thebes in Alexander County. Reports ready for distribution may be had from the state natural history survey, Urbana.

Tuberculosis Sanatorium for Champaign County.—On April 19, the board of supervisors of Champaign County unanimously voted to increase an appropriation of $85,000 for the construction of a county tuberculosis sanatorium to $109,000. This increase makes possible the erection of buildings that represent the latest and most scientific thought in sanatorium construction and that will be commodius enough to provide for as many patients as are likely ever to be in the sanatorium at one time. The architectural plans for the entire institution have already been approved by the state department of public health and contract bids have been received by the local committee in charge. Everything is now ready for the actual work to begin. The sanatorium will be located just north of Urbana.

Health Promotion Week.—In spite of inclement weather conditions, Health Promotion Week (April 17-23) was a success. Especially noteworthy was the widespread and active interest displayed by the smaller municipalities and rural communities. The leading features of the week's program were general clean-ups, better baby conferences and birth registration. Preliminary to Health Promotion Week, the state department of public health, under the direction of Dr. Isaac D. Rawlings, and in keeping with the proclamation issued by Governor Small, outlined a program for the activities of each day of the week, printed and distributed 25,000 copies of a special bulletin on the subject and sent out 10,000 letters in reference thereto. The response to this publicity campaign taxed the department to the limit in its effort to meet requests from local communities for advice, special literature, exhibit material and assistance in the way of speakers. Schedules were so arranged that the motion picture films, stereopticon slides and posters maintained in the loan service made showings each day. Twenty speeches and special demonstrations were made by the limited personnel of the department. More than 80,000 pieces of literature and more than 400 letters were sent out in reply to special requests.

INDIANA

Hospital News.—The new Allen County infirmary to be constructed this year will cost approximately $750,000.——Bids have been received for the new Decatur Memorial Hospital at Greensburg.——The senate passed the Southworth bill appropriating $225,000 for the new hospital and kitchen at the Indiana Soldier's Home at Lafayette.

KENTUCKY

Hospital News.—The Mary Chiles Memorial Hospital, ount Sterling, was dedicated, April 16. It has eleven rooms r patients, also operating and maternity rooms, all furnished societies, churches and individuals.

Mental Hygiene Society.—After an address by Dr. Frankood E. Williams, New York, medical director of the ational Committee for Mental Hygiene, at Louisville, plans ere made for the organization of a state society which will ek to make Louisville an educational center and establish inics throughout the state.

LOUISIANA

New Medical Society.—At a meeting called by Dr. Frank . Gouaux, councilor Third Congressional District, Louisiana tate Medical Society, April 12, at St. Martinsville, there as organized the St. Martin Parish Medical Society, and the llowing officers were elected: Dr. Dominique J. Gragnon, reaux Bridge, president; Dr. John L. Beyt, St. Martinsille, vice president, and Dr. Patrick H. Fleming, St. Martinsille, secretary-treasurer.

MARYLAND

Hospital for Criminal Insane to Be Erected.—Approval as been granted by the Board of Public Works of Maryand to the plans of the state lunacy commission for the roposed hospital building for the criminal insane to be rected on the grounds of the Spring Grove State Hospital t Catonsville. Contracts will be let and construction begun mmediately. The work is expected to be finished before the nd of June. The building will house 107 patients in addiion to an adequate staff of doctors and nurses.

Meetings.—At the School of Hygiene and Public Health, ohns Hopkins University, on April 25, Dr. William H. Davis gave a lecture on "Birth Registration in the United States." ——At the annual meeting of the West Baltimore Medical Association, held April 19, the following officers were elected: Dr. Arthur Barrett, president; Dr. William J. Sullivan and Dr. F. L. G. Helm, vice presidents; Dr. Joseph Zeirler, treasurer, and Dr. Gustav Goldman, secretary.

Medical Staff at Johns Hopkins Medical School Resigns.—An unusual situation has been brought about in the Johns Hopkins Medical School and the Johns Hopkins Hospital by the resignation of Dr. William S. Thayer, as professor of medicine in the Medical School and physician-in-chief of the hospital. The resignations of the seventy physicians connected with the department of clinical medicine have been offered in response to a circular letter sent out some days ago by the medical board of the hospital. This letter explained that none of the members of the department would be reappointed prior to the selection and assumption of his duties of the successor to Dr. Thayer. It was further explained that this course was being taken that the new professor of medicine and physician-in-chief of the hospital might have a free hand in reorganizing his department and carrying out the policies involved in the full-time professorship idea and making it to the greatest extent successful. This action was taken by the medical board, which is composed of the heads of the various departments of the hospital, on the recommendation of the advisory board. The whole matter is considered a form and at least 90 per cent. of those connected with the department will be reappointed.

MASSACHUSETTS

Appeal of Unions to Health Department.—Claiming that it is against the law to house men in buildings not designed for dwelling purposes the Allied Printing Trades Council has sought an order from the Boston City health department forbidding the Southgate Press to house strike breaking printers in its plant.

MICHIGAN

New General Hospital for Detroit.—Seventy-one per cent. of the voters registered their approval of a $3,000,000 bond issue for a municipal general hospital of 1,000 beds for Detroit at the April 4 election. The Wayne County Medical Society has passed resolutions indorsing the hospital.

MISSISSIPPI

Supervision of Midwives.—Rules and regulations have been passed by the executive committee of the state board of health with a view to controlling midwifery in Mississippi. Chief Nurse Laurie Jean Reid has been detailed to the state by Surgeon-General Cumming for special work under the direction of the Bureau of Child Welfare. Plans are being made to organize all of the midwives in all of the counties in the state and fix a standard for those midwives who begin this work in the future and also to instruct those who have been practising midwifery so as to raise the standard. A meeting will be held for three days in each county for the midwives, by the state supervisor of midwives, and a course of instruction will be conducted and also investigation made relative to their fitness for such practice. A bulletin is being printed giving the equipment and requirements for the practice of midwifery in Mississippi.

MONTANA

Personal.—At a recent election of officers for the state board of health, Dr. Louis H. Fligman, Helena, was chosen president.

NEW YORK

Woman's Medical Society.—The fifteenth annual meeting of the Women's Medical Society of New York state will be held at the Kings County Medical Building, Brooklyn, May 2, under the presidency of Dr. Lois L. E. Gannett, Adams.

Course in Study of Syphilis.—The Department of Hospitals and Dispensaries, Buffalo, in cooperation with the Department of Medicine, University of Buffalo, and the Department of Health of the City of Buffalo, gave an intensive clinical and laboratory course in the early diagnosis, treatment, prevention and control of syphilis for the physicians of Erie County, March 14-19. At its completion the physicians presented a unanimous request for its repetition another year.

New York City

Physician Acquitted.—Dr. William B. Wilkinson of New Brighton, Staten Island, has been acquitted in the Supreme Court of the charge of manslaughter. He was accused of having performed an illegal operation, but at the trial it was shown that the operation was necessary to save the woman's life.

Board of Health Regulates Private Hospitals.—At a recent meeting of the Board of Health a resolution was adopted amending Section 220 of the Sanitary Code so that it reads as follows:

> No person, persons or corporation, other than those specially authorized by law, shall conduct or maintain any public or private hospital or institution where human beings may be treated or cared for by a physician or midwife, and no person, persons, or corporation, other than those specifically authorized by law, shall conduct a lying-in hospital, home or place for the care of pregnant women or advertise, offer, or undertake to receive or care for them at such place, or at his or her home, without a permit therefor issued by the board of health or otherwise than in accordance with the terms of said permit and with the regulations of said board.

Antidiphtheria Campaign.—To meet the demand by practicing physicians for material for the Schick test and the Schick-test-control, as well as for toxin-antitoxin, New York City has established a number of consignment stations. These stations have been so selected that each will be easily accessible from the surrounding area. For the present physicians can obtain these products at these stations without charge for use on residents of New York City. New Schick-test and Schick-test-control outfits are being prepared, and as soon as these are ready a price of 25 cents will be charged for each. At the same time toxin-antitoxin will also be supplied in 3.5 vials, sufficient for the immunization of one person, for 25 cents. The health department, however, is ready to make these tests. The work is being done at baby health stations and department clinics. An antidiphtheria campaign has been started in the Bronx by Dr. Arthur J. O'Leary, Bronx health officer, with the special object of persuading parents to have their children undergo the Schick test.

NORTH CAROLINA

Hospital News.—A hospital for the use and benefit of orphans at the Masonic Home will be built at Oxford, at a cost of $100,000.——Plans have been completed for the proposed new fire-proof wing of the Mission Hospital at Asheville.——A drive is being made for funds to take over a large residence in Asheville, on which an option has already been secured, and remodel it as a hospital for negroes. The plans call for an expenditure of $10,000.——The plans have been approved and work will soon be started in the construction of a new hospital at Rocky Mount to replace the Atlantic Coast Line Hospital destroyed by fire, March 2.

OHIO

Medical Classes Merely Suspended.—Instead of the freshman and sophomore classes in the State University College of Medicine being "discontinued indefinitely," as stated in The Journal, April 16, we learn that these classes were temporarily suspended for only three days.

OKLAHOMA

Hospital News.—The Muskogee County proposition for a $100,000 tuberculosis hospital was carried by a large majority.

PENNSYLVANIA

Philadelphia

Personal. — Prof. Elmer V. McCollum, Johns Hopkins' addressed members of the Academy of Stomatology at the College of Physicians, April 27. His subject was "Vitamins and Diet, and the Influence upon the Teeth and Investing Tissues."

Neurological Society Meeting.—At a meeting of the Neurological Society, held at the College of Physicians, April 22, "Analysis of Motor Disturbances by Means of the Ultra-Rapid Moving Pictures and the Kymograph" was discussed by Dr. Frederick Tilney, professor of neurology, and Dr. S. Philip Goodhart, associate professor of neurology, Columbia University, New York.

Pharmacy College on the Parkway.—Announcement was made, April 21, by officials of the Philadelphia College of Pharmacy that the new college building costing several million dollars would probably be erected on the Parkway near Twenty-First and Callowhill streets. It was also stated that Rear Admiral William C. Braisted, retired, former surgeon-general of the Navy, will formally accept the post as president of the college next Thursday, when he will attend a meeting of the board of trustees. It is expected that Admiral Braisted will assume his new duties at the college early in May.

Honor Conferred on Dr. La Place.—Dr. Ernest La Place, president of the French colony in this city, has been decorated as an officer in the French Legion of Honor by Réné Viviani, special envoy of France. The ceremony took place, April 19, at the Hotel Vanderbilt, New York, where Dr. La Place was summoned by former Premier Viviani. Before an assemblage of French officials and Americans Dr. La Place received the badge and the accolade in the name of the French government. In 1902 the "Palmes académiques" were conferred upon Dr. La Place by the French government in recognition of his valuable scientific and medical researches. Later, in 1906, he was made a chevalier in the Legion of Honor.

State Quarantines Dogs.—The department of agriculture today established a quarantine for dogs because of the rabies in the entire county of Delaware, the townships of Kennett, Pennsbury, Birmingham, Thornbury, Westtown, Willistown, Easttown and Tredyffrin, in Chester County, and the townships of Upper Merion and Lower Merion, in Montgomery County, including all municipalities in them. The quarantine will extend for seventy-five days, dating from April 1. All dogs must be securely confined on the premises of the owner at the times, except when being led under proper restraint and except when muzzled. Any dog found running at large may be killed and the owner will be liable to prosecution.

RHODE ISLAND

Consolidation of Public Health Nursing.—Under the auspices of the Smithfield Public Health League the nursing service now being carried on by industrial plants of the town will be consolidated and the town will be divided into three districts, one covering Esmond and Georgiaville in which the nurse will work in the Esmond Mills and the Bernon Mill. The second district will take in the Greenville Mills and the third the Centredale Worsted Mill at Stillwater. This plan may eventually be used all over the state.

TENNESSEE

New Officers for State Society.—The eighty-eighth annual meeting of the state medical association was held at Nashville, April 12-14, under the presidency of Dr. Leon L. Sheddan, Knoxville. The following officers were elected for the ensuing year: Dr. William Britt Burns, Memphis, president; Drs. Alexander B. Dancy, Jackson, Leonard W. Edwards, Nashville, and George P. Zirkle, Kingston, vice presidents for west, middle and east Tennessee, respectively; Dr. Olin West, Nashville, secretary (reelected), and Dr. Joseph F. H. Gallagher, Nashville, treasurer.

GENERAL

Child Labor Conference.—The National Conference on child labor will be held in connection with the conference on social work, June 22-29, at Milwaukee, Wis.

President Favors Hospital Day.—President Harding has endorsed the plans of the United States Public Health Service for the celebration of a National Hospital Day on May 12.

Association of Anesthetists.—The annual meeting of the Interstate Association of Anesthetists will be held, June 1-2, at Niagara Falls, in conjunction with the Canadian Society of Anesthetists and the Ontario Medical Association.

Sheppard Bill Again Introduced.—The bill for the protection of maternity and infancy which passed the Senate last session but failed in the House, has been again presented by Senator Sheppard of Texas. In his message to Congress, President Harding made specific request that this legislation be passed at the present session. The bill is known as Senate No. 1039.

Inter-Allied Meeting of Neurology Society.—The ambassador of the French Republic has called the attention of the Government of the United States to the second Inter-Allied meeting organized by the Neurology Society to be held at Paris, France, June 3 and 4. The French Government desires to have the medical profession of the United States represented at this conference.

British Educators Study American Medical Institutions.—Under the auspices of the Rockefeller Foundation Major-Gen. Sir Wilmot Herringham, physician in ordinary to his Majesty the King of England, chairman of the Committee on Medical Education of the British University Grants Committee, consulting physician to St. Bartholomew's Hospital, consulting physician to the Forces in France, vice chancellor of the University of London, and Sir Walter Fletcher, secretary of the British Medical Research Council, senior demonstrator in physiology, Cambridge University, Croonian lecturer, Royal Society, are traveling over the United States making a tour of study and inspection of various medical and scientific institutions for the British government. Later they will return to Canada. They were entertained in Washington, D. C., by Major-General Ireland, visiting the Surgeon-General's Library and various army and navy institutions. They also visited the Mayo Clinic, Rochester, Minn., and were entertained by the Institute of Medicine of Chicago during this week.

LATIN AMERICA

New Mexican Journal.—The Medical Society of Vera Cruz has begun to publish a journal entitled *Revista Médica Veracruzana*. Dr. S. Morfin is the editor and Dr. R. Ojeda Falcon, the manager.

Election of Officers. — The Círculo Médico of Rosario, Argentina, has elected for the coming year Dr. E. F. Solari, president; Dr. A. Baraldi, vice president; Dr. R. Siquot and Dr. M. Steinsleger, secretaries; Dr. C. Cherubini, treasurer, and Dr. T. Fracassi, editor of the *Revista Médica*, the organ of the society, assisted by Dr. E. A. Carrasco.

Practice of Medicine in Colombia.—A new law, regulating the practice of medicine, has just been enacted in Colombia. Dr. F. Porras was its author and his purpose is to restrict licenses to reputable physicians. Up to the present, politics has had a great deal to do with licensing of physicians in Colombia, this power being entrusted to the different governors.

Personal.—Dr. B. Mejía of Medellín, Colombia, has tendered his resignation as director of the medical school of that city.—— Dr. M. V. Peña of Bogotá, Colombia, has returned to his country after a trip to Europe and the United States.——Dr. J. Francos Rodríguez, a prominent politician and former cabinet member, has just returned to Spain from Chile where he was sent by the Spanish government on a diplomatic mission.——Dr. Angel H. Roffo has returned to Buenos Aires after nearly a year in Europe. His extensive experimental work on cancer has attracted much attention, and he has returned to resume his work as assistant professor of pathologic anatomy. He is also on the editorial staff of the *Prensa Médica Argentina*.

Tribute to Dr. Guiteras.—The meeting of the Academia de Ciencias of Cuba, March 26, at Havana was a special session in honor of the safe return of Dr. Juan Guiteras from his mission to Africa on behalf of the Rockefeller Foundation. It will be remembered that General Gorgas started with him but was stricken in London. Dr. Guiteras' work as expert on

ellow fever and other tropical diseases and his initiative as hief of the National Board of Public Health since the merican occupation of Cuba were emphasized in the ddresses presented. In the nineties he was professor of athology at the University of Pennsylvania and assumed a imilar post at Havana in 1900, has represented the govern- nent of Cuba in international gatherings since then, and was he invited guest of the American Medical Association at the tlantic City meeting in 1919. He has asked to be relieved f his public duties as he is now 69.

FOREIGN

Memorial to Paris Interns Victims of the World War.—The nonument in memory of the interns of the Paris hospitals illed in the war was unveiled, April 24, at the Hotel-Dieu Hospital at Paris.

New Portuguese Journal.—There has just begun the pub- ication of a new pediatric bimonthly in Portugal entitled *Arquivos de Pediatria e Orthopedia*. Its editor is Professor Salazar de Sousa.

Scarcity of Nurses at Vienna.—The *Wiener klinische Wochenschrift* states that the force of nurses at the large general hospital at Vienna is seventy less than the regular number, and certain wards have had to be closed.

Deaf and Dumb in Portugal.—According to a recent article n the *Medicina Contemporanea*, the number of the deaf and dumb in Portugal exceeds that of most European countries, being about 75 per hundred thousand people. There are in Portugal only two institutions for deaf mutes.

Interchange of Professors.—It is announced that the follow- ing Netherlands professors have been invited to deliver lec- tures in London, Einthoven, the physiologist; Salomonson, the neuropathologist; Bolk, the anatomist; Boeke, the embryol- ogist, and Hamburger, the physiologist.

Antituberculosis Institutions in France.—According to the report presented at the International Conference on Tuber- culosis held in 1920, on that date there were in France in operation 213 tuberculosis dispensaries and there are being organized 154 more. There were only sixty-nine sanatoriums with 7,075 beds.

Spanish-Portuguese Congress.—At the Spanish-Portuguese Scientific Congress, to be held at Porto in June, one of the sections of the congress will be devoted to medical sciences. Dr. M. Lemos is its president and Dr. J. Pires de Lima, first secretary. An exhibition will be held in connection with the congress. All papers should be sent to the president of the section. The enrolment fee is 10,000 reis.

Traveling Fellowships for Paris Teaching Force.—The *Paris médical* states that the University of Paris has been presented with funds by M. D. Weill to provide for five fellowships in foreign universities, each of 6,000 francs. These fellowships are to be given to graduate physicians or pharma- cists intending to take up teaching, or to associate professors in the different branches of higher instruction. The awards are to be made after May 15.

Visit of French Physicians to Poland.—The Académie de Médecine at Paris has received a letter from the dean of the medical faculty of the University of Warsaw inviting a party of French physicians to visit Poland in September for two weeks. It is proposed to hold a French-Polish conference for three days, with excursions, etc. Warsaw physicians offer lodgings to the party, including their ladies. The dean is president of the Société Médicale Franco-Polonaise and the invitation is signed also by the president of the Société d'Hygiène.

The Opium Law in Germany.—The German government has fallen into line with the United States, Belgium, France, Eng- land, Holland and Japan in restricting the sale of narcotics to prescriptions for therapeutic purposes. It is provided that if the prescription is not for therapeutic purposes the druggist is not to dispense the drug. No restrictions are placed on use for scientific purposes by reliable persons, but the import and export and traffic are strictly regulated; and the public health service has extensive supervision and rights of inspec- tion. The *Medizinische Klinik* adds that if physicians, dentists and veterinarians do their duty, that is, prescribe only accord- ing to scientific principles, the success of the law is assured.

A Collective Inquiry on Syphilis.—The *Vie médicale* heralds as a small revolution the collective inquiry that has been inaugurated by the Comité de Propagande d'Hygiène Sociale calling upon all the practitioners of France for data in regard to the connection between syphilis and tuberculosis and between syphilis and cancer. It is the first time, the editorial states, that the entire medical profession, without distinction of titles or function or academic connection, has been invited to collaborate in a collective inquiry undertaken by an official body. The Comité is organizing an *office de documentation*, seeking to ascertain the exact morbid value of syphilis and its share in the death rate and birth rate, alone, and in connection with tuberculosis and cancer. Hitherto such inquiries have been restricted to specialists, but their views are naturally too one-sided. "In social hygiene," the editorial concludes, "no progress, either theo- retical or practical, can be hoped for without the aid of the entire profession." (See also Paris letter, p. 1182.)

Child Welfare Work in Poland.—A communication to *Gynécologie et obstétrique* describes the inauguration of the puericulture school at Warsaw to train women to take charge of different institutions for child welfare work, especially in remote regions. A six months' course is given, and includes practical training in management of children's hospitals, day nurseries, dispensaries, milk stations, etc. The course of train- ing includes not only the hygiene of childhood and schools and house inspection but also professional and general hygiene, education of children, protection for children and mothers, first aid and antituberculosis work and measures to prevent the spread of alcoholism and venereal diseases, the training of backward children, juvenile delinquents, and also training in laws relating to the protection of childhood, and in administration and bookkeeping enough for the purpose. The instruction is free and students from out of town are given free lodging and food tickets at reduced rates. The Warsaw students have ten free scholarships. The school is in the building founded by Baron de Lenval for child hygiene, and is in direct charge of Dr. Strackiewicz, chief of the child welfare service in the public health ministry. Sixty students are already enrolled.

Advertising of "Rad-Jo" in Germany.—Our German ex- changes protest that the advertising of "Rad-Jo," which claims to render childbirth harmless is growing more and more "grotesque." The latest device is to send a question-blank to ministers asking them to place the advertising matter of the remedy in the hands of the young women's societies of their church, adding that for the address of every prospective mother sent in the firm will pay 50 pfennigs into the church treasury. A large engraving is presented at the same time, portraying a country festival scene, with the placard, "Pre- sented to the Society in token of gratitude for aid to pros- pective mothers," signed by the proprietor of "Rad-Jo," Was- muth, Hamburg. "Still more dangerous" the *Münchener medizinische Wochenschrift* continues (April 1, 1921, p. 413), "is a circular that has reached us in which physicians are held responsible for the death of a mother and child at delivery because they advised against the use of Rad Jo. The circular is entitled, 'Sad Consequences of Births Without Rad Jo,' and it states specifically 'The physicians have the death of mother and child on their conscience because they advised against the use of Rad Jo.' In this the Rad Jo manufacturer certainly goes beyond the farthest limits of what the law allows. Unfortunately it is not possible to pre- vent him from misleading and deceiving suffering humanity by his unbridled exaggerations. But the medical profession does not have to submit quietly when physicians are accused of allowing deaths to occur from their neglect to apply his proprietary. We believe that the organized medical profession should take steps at once to prevent the further dissemina- tion of this advertising as a menace to the public health."

Some years ago THE JOURNAL (Aug. 31 and Nov. 9, 1912) reported the case of the suit that Professor Kouwer of Utrecht brought against the exploiters of "Rad-Jo" for claiming that the favorable course of a case of childbirth in the queen of Holland was due to the use of this nostrum. As obstetrician to the queen, Professor Kouwer sued the "Rad-Jo" concern. He won his suit and a fine was imposed. Later the "Rad-Jo" quacks republished the same statements and Kouwer again brought suit and was again awarded damages. "Rad-Jo" has been exploited in the United States, especially among the German-Americans. It was sold by a concern known variously as the "Institute of Reform" and also "Institute of Regenera- tion" located in Chicago. These same quacks also sold "Stroopal," also of German origin, a fake cure for cancer.

Deaths in Other Countries

Dr. **A. F. Piñero,** assistant professor of pediatrics and director of the insane asylum for women at Buenos Aires. ——Dr. **L. Launay** of the medical school at Angers.——Dr. **J. Belin,** physician to the Charité at Paris.——Dr. **A. Niemann,** professor of pediatrics at Berlin, aged 41.

Government Services

Health Work Ordered Merged

Secretary Mellon of the Department of the Treasury has ordered the centralization of all work, officers and personnel of the United States Public Health Service connected with the medical treatment of disabled war veterans with the exception of hospitals and dispensaries under the Bureau of War Risk Insurance. The reorganization will be put in effect at once. The change means that all field offices of the public health service engaged in the work of examining and finding suitable hospital beds for service men will be taken over by the Bureau of War Risk Insurance. All the contracts with private institutions for the treatment of such men will be taken over by the bureau also. The bureau proposes to establish an adequate force of medical inspectors to insure proper and effective treatment of patients of the bureau in whatever institutions they may be placed.

Changes in Navy Medical Department

Capt. Frank E. McCullough, M. C., U. S. Navy, recently on duty at the Naval Hospital, New York, has reported for duty at the bureau of medicine and surgery as inspector of the medical department activities on the East coast, the Central states and the West Indies, relieving Rear Admiral Robert M. Kennedy, M. C., U. S. Navy, who becomes a member of the Naval Examining Board, of the board of medical examiners and of the retiring board in place of Capt. George Pickerell. Captain McCullough is the personal representative of the Surgeon-General in making inspection of hospital activities, investigating complaints and examining into facilities offered for the care of war risk patients and other kindred problems.——Lieut.-Com. Joseph R. Phelps, M. C., U. S. Navy, has been relieved by Lieut.-Com. Robert F. Jones, M. C., U. S. Navy, from duty as chief of the division of preventive medicine and ordered to the U. S. S. *Oklahoma*.

Hospitalization Committee at Work

The Hospitalization Committee appointed by Secretary Mellon of the Treasury Department to decide on the location of sites for new hospitals and the enlargement of other government hospitals, expending $18,500,000 appropriated by Congress for the purpose, will make a confidential report on the result of its investigation some time in May. The committee, consisting of Drs. William C. White, Pittsburgh, Frank Billings, Chicago, Pearce Bailey, New York, and Chancellor J. G. Bowman, is now occupying quarters in the Bureau of War Risk Insurance building, and is engaged in statistical study of hospital facilities in the various parts of the country with a view of relieving the pressure in certain sections where hospitals are overcrowded with patients. All hospitals used for former service men are being classified and charted. After making recommendations on the government hospitals that should be enlarged the committee will take up the question of choosing the sites for the erection of new hospitals to be built, provision for which is covered in the congressional appropriation.

Submits Public Welfare Plan

Brig.-Gen. Charles E. Sawyer, President Harding's personal physician, has laid before the Senate Committee on Education and Labor a detailed plan for the creation of a new executive department of the government with a cabinet officer at its head. The proposed name is the Department of Public Welfare. The plan provides for an executive department with four main divisions covering education, public health, social service and veterans' service administration. It contemplates placing all the existing agencies in the government dealing with these matters in the public welfare department under the public health division, which would be in charge of an assistant secretary. General Sawyer declared that the arrangements were to coordinate research work, quarantine and sanitation and hospitalization. He insisted that there was no reason why the United States should not have the strongest public health service in the world since it has the greatest surgeons, investigators, and laboratories to make it possible. He pointed out that there was no practical reason for having existing public health service under the Treasury Department.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 28, 1921.

Anglo-French Cooperation in Teaching

The Faculty of Medicine of Paris formed a few months ago the Association pour le développement des relations médicales for the purpose of bringing the French and English medical professions into closer union. The faculty founded a bureau for supplying English physicians with all the information they require for medical study in Paris. Following the examples of Berlin and Vienna, it arranged that English-speaking professors of the faculty should lecture in English. The formation of a branch of the London Fellowship of Medicine in Paris was next projected. It was felt that this would do much to cement the union between the professions of the two countries. Under this arrangement, when a member of the fellowship goes to Paris it will only be necessary for him to present his card of membership to the secretary at the bureau of the association, and free entrance will be given to him for all the clinics of Paris. A reciprocal arrangement for French visitors to London would be made. Dr. Monod, a member of the French faculty who is well known in this country, where he has taken the membership of the College of Physicians, has visited London as a delegate from the Paris faculty and lectured at the house of the Royal Society of Medicine on the project. He was a friend of Osler, who warmly favored it. He received a cordial reception, and the project is receiving favorable consideration.

"Irresistible Impulse" as a Defense Against the Charge of Murder

The case came before the court of criminal appeal of a man convicted of the murder of a woman with whom he had been living in adultery. The murder was committed in circumstances which showed deliberation and premeditation long before, and was followed by expressions of satisfaction that he had killed the woman and regret that he had not killed her mother at the same time. The defense was that the crime was committed in a moment of impulsive insanity and was the result of irresistible impulse. The grounds of appeal were that the verdict was against the weight of evidence and that the judge had not put before the jury fully the medical evidence. The physicians hypnotized the prisoner, and one of their points was that he said the same thing in the subconscious state as in the fully conscious one. In the appeal court the lawyer for the defense said that the subconscious mind sometimes rose up like a tide and overwhelmed the peaks of the conscious mind. The president (Mr. Justice Darling) interjected a reference to the Thaw case. He said that there was a notorious case in America in which, when a rich man was in danger of the electric chair, the theory was advanced that the subconscious mind was on top; but as soon as he escaped that danger the theory was advanced that the conscious mind had come up again and that he ought to be released. Another of the appeal court judges (Mr. Justice Avory) remarked that the hypnotic experiment showed that the conscious and the subconscious mind were the same thing. There was no evidence that the latter assumed mastery over the former. In delivering judgment the president said that a great deal of evidence was called of physicians who contended that the man was insane on grounds that had never been admitted in any English court as sufficient. Theories were started and hypnotism resorted to, but quite uselessly, because when hypnotized the man said the same thing as in his ordinary state. From their own theories of the action of the mind, of the mind's

eing subdivided, and from their own talks with the man—or that was all it came to—the physicians professed that hen he killed the woman it was his subconscious mind that as acting, and that when he said afterward that he was ratified it was his subconscious mind that was acting. hese opinions founded on nothing but a theory which ppeared incapable of proof bewildered him. Possibly if the act existed it could be more clearly expounded. The phyicians would have the law of England not discriminate etween cases of premeditation, deliberation and the gratifiation of revenge and other cases in which homicide was ommitted on the spur of the moment. But the law had long aid down that these matters ought to be taken into account n determining whether homicide was murder or manlaughter. The appeal was dismissed.

"The Age of Consent"

The bill raising from 16 to 17 years the age at which "consent" on the part of a girl is a defense for indecent assault, and removing the defense that the accused had "reasonable cause to believe" that a girl was 17 years of age, has been read a second time in the House of Lords. In the committee stage the Bishop of London, who introduced the bill, in view of the discussion on the second reading accepted an amendment which retained the age of 16 but provided that reasonable cause to believe that a girl was over 16 years of age should not constitute a defense. He believed that by getting rid of that defense there would be great gain of protection for young girls, and if the measure passed through the chamber as an agreed bill there would be greater possibility of its being accepted in the other chamber. This was agreed to.

PARIS

(From Our Regular Correspondent)

April 8, 1921.

Death of Dr. Adolphe Leray

Dr. Adolphe Leray, aged 55, died at Enghien-les-Bains, a victim of the roentgen ray. He was the founder of the roentgen-ray department of the hospital Saint-Antoine, and was its director for twenty-five years. During the war he was director of the radiographic service of the military hospital of Saint-Brieuc and of the Ecole des Infirmières de la Salpêtrière. His right thumb had been amputated; his right middle finger carried an ulcer, and the hands were affected with a dermatitis. In 1920, he was made a chevalier of the Legion of Honor, with military title, in recognition of his services during the war.

Death of Dr. Charles Monod

Dr. Charles Monod, who died, aged 77, was born in Paris, Sept. 26, 1843. He graduated in medicine in 1873. Two years later he was made professor agrégé in the Faculty of Medicine of Paris. He had been a member of the Academy of Medicine since 1893, and was its president in 1916. He was also president of the Society of Surgery. His publications are represented by his Treatise on Tumors of the Testicle, written in collaboration with Dr. Terillon, and by his Operative Surgery, in the preparation of which he was assisted by his pupil, Dr. Vanverts. This book was regarded as authoritative for many years.

Anaphylaxis and Immunity

Dr. Maurice Arthus, professor of physiology in the University of Lausanne, has published a most interesting book, entitled "Anaphylaxis and Immunity." In it are set forth the experimental results obtained by the author on anaphylaxis, the proteotoxies, anaphylaxis-immunity, the venoms and antivenom serums during the last twelve years. In the preface, Arthus discusses the general considerations of experimental methods which deserve notice. He enumerates, especially, the ideals that should animate the research worker. He should be possessed of the right spirit—simple, clear and precise, and those qualities which are well manifested by the choice of work and a knowledge of his limitations, in the pronouncement of hypotheses, that is to say, of the questions or problems studied, or in the conception of experiences. The origin of many scientific discoveries is an observation made by chance—an accident—which the experimenter has seized, dissected, interpreted and discussed, and from which he has wrested the secret it has concealed. It was such a chance observation that led Pasteur to the discovery of vaccines, Charles Richet to the discovery of anaphylaxis, and Arthus to the discovery of serum anaphylaxis and proteose-anaphylaxis. But chance, in biology at least, does not bestow its favors on every one; it exacts of its protégés a quality—scientific curiosity—that is to say, a disposition not to regard as true things as they appear, and to quote them without further investigation—not to give as an interpretation the first thing which offers itself, but to examine with sustained attention, repeat the examination, and continue thus for a sufficiently long period of time to be able to detect the constants as well as the variables; investigate, analyze, measure, control, criticize, interpret, and, in order to justify his interpretation, have an experience which will be proved well founded or futile.

MADRID

(From Our Regular Correspondent)

March 25, 1921.

Authorities Dissolve Another Sanitary Syndicate

The governor of Oviedo, acting on a complaint presented by the pharmacists of that province, has ordered the dissolution of the Sanitary Union of Gijón. The pharmacists told the governor that they were compelled to become members of this union and to sign in advance an I. O. U. of 500 pesetas to guarantee the payment of any fines that might be charged against them, and another for 100 pesetas for emergency expenses. The governor declared the society illegal. This pharmaceutic union so far has served only to increase the price of drugs, compelling physicians to raise their fees and boycotting those who refused to comply.

Peculiar "Reporting" by the Physicians of Zamora

An instance of the rebellious spirit that seems to prevail among Spanish physicians is the peculiar conflict created by the Medical Association of Zamora. It is well known that medical societies want municipal physicians to receive their salaries directly from the central government instead of the municipal authorities, as these are irregular in their payments. The national government is trying to secure laws guaranteeing the payment of physicians' salaries, and the rulings lately issued by the secretary of the interior show the good faith of the government. But medical associations, in view of past disappointments, are not taking anything for granted. The Medical Association of Zamora, acting of its own accord, decided therefore to submit another protest to the government and, in order to compel acquiescence with its demands, adopted a resolution, which was published in its bulletin, to the effect that thereafter only one disease, nephritis, would be mentioned in death certificates. This resolution, although published in a bulletin which very few people read, was entirely overlooked until the Geographic and Statistical Institute called the attention of the general inspector of health to the peculiar conditions prevailing at Zamora —where, since September, all deaths were due to nephritis. This played havoc with the general statistics of Spain, a country which, according to international agreements, is obliged to add its own statistics to the statistics of other

European countries. Besides, a physician who thus certifies that a person has died from a disease when he actually knows the death is due to another cause is guilty of counterfeiting an official document. The inspector of public health so informed the governor of Zamora, asking him to enforce the laws on this subject. The physicians who are not participating in this revolutionary movement are amazed at the resolution adopted by the Medical Association of Zamora and also at their peculiar view of medical duties. It really means that in many occasions when the deceased had infectious diseases, the precautions specified in the law were not observed at all.

Imprisonment of Officers of Pharmaceutical Syndicate of Barcelona

Barcelona has been for the last few months a victim of syndicalist agitation. The revolutionary syndicate of workers has already killed more than 100 employers. In view of the absolute failure of the government to repress the outrages, the syndicalists became bolder and committed their crimes in sight of everybody in the highways. The military governor of Catalonia, because of the absence of the civil governor, assumed command over the city, and began to enforce without fear or favor the law both as regards employers and employees. The assassins' impunity came immediately to an end, and likewise that of profiteers. The majority of Barcelona pharmacists had formed a syndicate entirely unconnected with the Pharmaceutical College, which is the official association provided by law, and, imitating the methods employed by workers' syndicates, began to apply coercive methods in a way quite outside the law. Each of the members had to sign a blank check so that in case he did not obey the syndicate's orders he could be compelled to pay any fine the officers might impose, no matter how large. It seems that the syndicate specialized in maintaining the high price of pharmaceutical products and also in boycotting any druggists who refused to become members. Some of the druggists realized that an illegal association of this sort could not assume duties already entrusted legally to other agencies, and reported the fact to the governor. This official acted toward the pharmacists in the same way he had acted toward fishermen and bread sellers. So one day Barcelona saw the officers of the pharmacists' syndicate crossing the Ramblas on their way to jail. Although they are well known men and some of them influential millionaires, they were imprisoned and indicted for violation of the law. Each of them was compelled to give a bond of 10,000 pesetas to recover his freedom, pending trial.

BELGIUM

(From Our Regular Correspondent)

April 2, 1921.

The Dental Crisis

We are awaiting impatiently the royal or ministerial decree which shall modify the conditions under which dental diplomas may be secured and which shall establish a nation-wide course in modern dentistry and lead to the creation of thoroughly equipped dental schools. From this standpoint, it must be confessed that Belgium is the most backward country in the world; for, at the present time, courses in dentistry can scarcely be said to exist at all. In order to become a dentist the sole requirements are that the applicant shall be a "candidate in medicine" (an upper classman) and shall pass, before a board appointed by the provincial medical commission, a special examination, which is more or less superficial. On the other hand, we are suffering greatly from a dearth of dentists. For a population of 7,000,000 there are 600 dentists. Seven million inhabitants represent at least six million persons who are in need of regular dental attention, which would require every practicing dentist to care for 10,000 patients. To be sure, courses in dentistry are given in the medical schools of Ghent, Liége and Louvain, and there are two private dental schools in Brussels; but in the absence of an official program, of encouragment from high quarters, and in view of the uncertainty that exists in regard to the future status of the profession, the attendance at these courses is not commensurate with the needs of the public, and the schools themselves are at a loss to know what line of conduct they should advise their pupils to take. Because of this situation, the dental mechanics of Belgium have thought that the occasion offered them a good opportunity to claim the legal right to practice dentistry and to give to patients the care they need. The true solution of the dental crisis lies in the prompt establishment of a thorough course of dental study; the creation of complete dental faculties in our four universities; the encouragement of existing schools, requiring, however, that they take the official program as their minimal standard, and, in order to assure to the great masses of population the benefits of dental care, the spread in the schools of a knowledge of the elementary principles and habits required by modern dental hygiene. Furthermore, dental clinics and free dental dispensaries for pupils and the general public should be created, where not only urgent extractions may be performed but where also all forms of dental work may be done that may be required to preserve for the consultants a healthy condition of the mouth.

Action of Various Salts in Bread Making

Monsieur L. Michiels has taken up in collaboration with Monsieur R. Hennes the study of the effects of various salts on the amount of soluble constituents yielded by the various kinds of flour. The principal purpose of the inquiry is to explain the behavior of maize flour under the action of diverse salts. The authors have tried about fifteen different salts and have plotted curves showing their influence on the amount of soluble constituents yielded by various flours. A reading of this study brings out the essentially different behavior of wheat flour and maize flour under the same conditions. Certain salts, alum principally, and, to a less extent, sulphates of copper and zinc, employed in certain proportions, increase notably the amount of soluble constituents yielded by wheat flours. This fact furnishes an explanation of the better quality of bread made from flours treated in this manner. The yeast obtains, through the increase in soluble constituents, more abundant nutrition, owing to which it develops and reacts more vigorously. However, these salts act quite differently on maize flour. They decrease the yield of soluble constituents to a considerable extent.

The Pathogenesis of Arteriosclerosis

Monsieur de Waele has presented to the Academy of Medicine an article in which he gives an analytic survey of the history and the histology of arteriosclerosis; also an account of the observations that his study has brought forth. There is perhaps no problem that has been so much discussed and been the cause of so much controversy as this. From the histologic standpoint the author confines himself to a personal opinion. He believes in the tearing of the elastic tissue as the initial lesion. The academy did not show a willingness to accept this view. Van Duyse thinks that the tearing of the elastic tissue is a secondary phenomenon which follows other lesions. Temporary or persistent high blood pressure and tearing of the elastic tissue as the initial stage of the lesions do not suffice, however, in the opinion of the author to explain the pathogenesis of arteriosclerosis. Do the modifications in the blood precede the arteriosclerotic lesions? Or do the arteriosclerotic lesions contribute to the genesis of the blood changes? Or are the blood changes and the arteriosclerotic lesions concomitant and due to the same factors as the high blood pressure? De Waele merely points out these different phases of the problem.

PEKING, CHINA

(From a Special Correspondent)

March 15, 1921.

The Present Plague Situation in North China

After the epidemic of 1910-1911, when more than 60,000 aths from plague occurred, the Chinese government ointed a commission of Chinese physicians to consider w best to prevent or to prepare for future outbreaks. This mmission is known as the North Manchurian Plague Preention Service, and has had its headquarters at Harbin in ntral Manchuria. It has been constantly on the watch for gue coming down from Siberia, where it is endemic. In last decade only one outbreak of importance has occurred, at in Mongolia and Shansi three years ago, when 20,000 rsons died.

Last October in the town of Hailar in upper Manchuria, out 100 miles southeast of the Siberian border, the dreaded ague again appeared. At once, Dr. Wu Lien Teh, graduate Cambridge, England, and his associates of the Plague Preention Service investigated the situation, and in a short time scovered twenty cases of bubonic and septicemic plague in e neighborhood of that town. Suddenly the character of the sease changed. No more bubonic cases appeared, but the eumonic type developed and spread rapidly.

The town of Hailar, Manchuria, is on the section of the rans-Siberian Railroad which is known as the Chinese astern Railway. The line runs northwest from Vladivostok cross Manchuria through the city of Harbin and thence up to Siberia. From Harbin southward the railroad runs to Mukden, and from there on in three southerly directions to Korea, Port Arthur and Tientsin. The importance of this eography is evident. The terror produced by plague, with s swift death, makes its spread along railroad lines rapid. The impulse is to flee as far as possible and by the quickest oute. During November and December, cases appeared all long the line from Manchouli, on the Siberian border, down o Harbin. Plague claimed many victims in the mines of western Manchuria, and then spread east of Harbin toward Vladivostok. To the end of February it had caused 2,127 deaths in Manchuria alone.

In the first week of February, the plague suddenly appeared n a small town in the southern part of Chihli Province, just north of the Shantung border and more than 600 miles south of Harbin. This town lies a little to the east of the main railroad line from Tientsin south to Nanking. The origin of his new outbreak was traced definitely to a Chinese who went north to Tientsin to buy his daughter's trousseau. It has not been determined whether he came in contact with the disease in Tientsin or on the train from Harbin; but the latter is considered more probable, as no cases have been reported in Tientsin. In any event, on the day after his return home, he developed pneumonic plague and infected all of the members of his family, who promptly died, and more than a hundred deaths occurred in fifteen neighboring villages.

Dr. Charles Young of the Peking Union Medical College was called for consultation in this area by Dr. F. F. Tucker of the American Red Cross Famine Relief Committee. Dr. Samuel Cochran came up from the medical school at Tsi Nan Fu in Shantung. Both of these physicians had extensive experience in the plague epidemics of 1910 and 1918, and they speedily confirmed Dr. Tucker's findings. Dr. Tucker had already notified the department of the interior at Peking, and two experienced health officials were dispatched to take charge of the situation in the affected region. The latest reports indicate that it is well in hand.

METHOD OF DEALING WITH THE SITUATION

The method of approach in a situation of this kind and in small country villages away from the railroad is essentially one of isolation. The department of the interior orders the provincial officials, and they in turn the district magistrates, to obey the health officers to the letter and to help them in every way. These, with the aid of the head man of the village and the local police, seek out the houses of infected persons and mark them with a sign. The houses are then guarded by the police, and no one except the health officials is allowed to either enter or leave them. Within the house the infected individual is isolated, and the rest of the household is moved as far as possible from the patient. Those who are well must all wear masks, which are provided by the health officers. If any of the household show symptoms of the disease, they must at once leave the well and go into the room of the sick person. The onset of symptoms always means death within from forty-eight to seventy-two hours. No treatment avails. Vaccines and serums have been found to have no value either in prophylaxis or in cure. The dead are buried in coffins or ditches, which are then filled with lime. The contaminated rooms are sealed for one month if possible.

The method of supervision in larger cities and along the railroad is somewhat different. Local passenger traffic in the affected regions is stopped. At strategic points, quarantine stations are established. March 1, such a station was placed at Ch'ang Ch'un about 150 miles south of Harbin on the railroad line from Harbin south to Mukden. Here all passengers from the north of the first and second class are inspected, and all of the third class passengers are held in quarantine for five days. Ten cases have been picked up at this point within two weeks. Other stations are being established on the railroad in the neighborhood of the recent center of the disease.

In cities like Hailar and Harbin, hospitals have been established for frankly infected cases, suspected cases and contact cases. According to the number of the personnel, the whole city is canvassed daily or as frequently as possible by districts. When cases are found, the inmates of the house are distributed to the hospitals mentioned above as their condition indicates. The house is sealed. Contacts and suspected cases are kept apart individually until the period of incubation has passed. After seven days they are released, but the infected premises are not used for a month. This treatment of the infected houses seems to be more satisfactory than fumigation.

TRANSMISSION OF PLAGUE

Dr. Young states that epidemics of plague frequently start with the bubonic type of infection, which is evidently flea borne, and then change to the pneumonic type, which is evidently man borne and transmitted from patient to patient by droplet infection. This was strikingly true in this epidemic. He has never seen a case of bubonic plague develop in a person in contact with a pneumonic patient, although there must be very gross contamination of exposed surfaces of contacts. He knows of no case which has developed in those handling the dead bodies, although cases have been reported which were said to arise from contact with fomites, long after the death of the patient. He knows of no case, in which the diagnosis of pneumonic plague had been definitely made, in which the patient has recovered.

The check on transportation necessary in the prevention of spread of plague threatens to be a serious handicap to famine relief.

Marriages

WILLIAM C. MUNLY, Lieut., M. C., U. S. Army, on duty at Coblenz, Germany, to Miss Lillian May Melhuish of Brickenhead, Cheshire, England, at Coblenz, March 6.

SIMON BRETZFELDER KLEINER, New Haven, Conn., to Miss Regina Frances Wendel of Piqua, Ohio, April 19.

DAVID ALBERT LEVINE, Iron River, Mich., to Miss Hazel Miller of Chicago, April 7.

Deaths

Charles Beylard Guérard de Nancréde, Ann Arbor, Mich.; University of Pennsylvania, Philadelphia, 1869; Jefferson Medical College, 1883; aged 73; emeritus professor of surgery and clinical surgery in the University of Michigan, Ann Arbor, and Dartmouth Medical College, Hanover, N. H.; major and chief surgeon, U. S. Volunteers during the Spanish-American War; at one time surgeon to Episcopal, Jefferson, and St. Christopher's hospitals, Philadelphia; a member of the Association of Military Surgeons of the United States; a member and in 1908 president of the American Surgical Association; a well known author and contributor to literature on surgery; died, April 12.

Leo John Joseph Commiskey ⊕ Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1904; aged 42; major, M. C., U. S. Army, and discharged, March 5, 1919; gynecologist and obstetrician to Kings County and Bradford Street hospitals, Brooklyn, and Mercy Hospital, Hempstead, L. I.; died, April 15, following an operation for appendicitis.

Andrew Reginald Wentworth, Med. Dir., Capt., M. C., U. S. Navy (retired) ⊕ Kittery, Me.; Dartmouth Medical School, Hanover, N. H., 1881; aged 61; entered the Navy, April 22, 1885, and was retired, Feb. 7, 1919; died at the U. S. Naval Hospital, Portsmouth, N. H., April 13.

Perry Crittenden Williams, Siloam Springs, Ark.; Cleveland Medical College, 1891; aged 52; major, M. C., U. S. Army, and discharged, April 1, 1919; a member of the homeopathic board of medical examiners of Arkansas; died, April 3, from nephritis.

Ernest Schalck, Brooklyn; University of Wurzburg, Germany, 1882; aged 61; ophthalmologist to Wychoff Heights Hospital and Bethany Deaconess Home and Hospital; surgeon to Knapp Memorial Hospital; died, April 15, from heart disease.

William Henry Bowen, South Scituate, R. I.; Dartmouth Medical School, Hanover, N. H., 1864; aged 81; a member of the Rhode Island Medical Society; a practitioner of South Scituate for more than half a century; died, April 13.

Samuel V. Fiery, Martinsburg, W. Va.; University of Maryland, Baltimore, 1888; aged 59; died, April 8, from a gunshot wound, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health.

John M. Neel ⊕ Dallas, Texas; Memphis (Tenn.) Hospital Medical College, 1888; aged 57; at one time president of the Dallas County Medical Association; a member of the staff of Baptist Sanitarium, Dallas; died, March 19.

Joseph Fewsmith ⊕ Newark, N. J.; College of Physicians and Surgeons in the City of New York, 1874; aged 69; a member of the surgical staff of St. Michael's Hospital, Newark, for thiry-five years; died, April 8.

Alfred N. Boe, Chicago; National Medical University, Chicago, 1903; aged 61; a member of the Illinois State Medical Society; also a druggist; died at the Swedish Convenant Hospital, April 17, from pyonephrosis.

Frank Pease Howser, Otisville, N. Y.; Bellevue Hospital Medical College, 1891; aged 59; a member of the Medical Society of the State of New York; health officer of the town of Mount Hope; died, March 24.

Lawrence Chesley Chisholm ⊕ Boston; Tuft's College Medical School, Boston, 1917; aged 29; assistant surgeon, lieutenant (j. g.), U. S. N. R. F., and relieved from active duty, April 29, 1920; died, April 2.

Austin I. Harvey, Bangor, Maine; Homeopathic Medical College of Pennsylvania, Philadelphia, 1878; aged 67; a member of the Maine Board of Registration of Medicine since its organization; died, April 10.

John Gavin Morris, Boston; Harvard University Medical School, 1882; aged 64; a member of the Massachusetts Medical Society; physician to St. Elizabeth's Hospital for twelve years; died, April 14.

Frederick Kolbenheyer, Omaha; University of Vienna, Austria, 1868; aged 77; a member of the Missouri State Medical Association; a practitioner of St. Louis for forty-seven years; died, April 8.

Albert Fred Peck, Spencer, Mass.; University of Vermont, Burlington, 1887; aged 57; a member of the Massachusetts Medical Society; died, March 31, from heart disease.

⊕ Indicates "Fellow" of the American Medical Association.

Herschel Virgil Baskin, Coats Bend, Ala.; University of Alabama, Mobile, 1898; aged 46; a member of the Medical Association of the State of Alabama; died, April 8, from Bright's disease.

John Ford Hager, Newark, N. J.; College of Physicians and Surgeons in the City of New York, 1873; aged 69; a member of the Medical Society of New Jersey; died, April 1 from diabetes.

MacClarey Weeks ⊕ Galesburg, Ill.; Northwestern University Medical School, Chicago, 1902; aged 49; at one time president of the Knox County Medical Society; died, suddenly, April 19.

Norman Richards Jenner ⊕ Washington, D. C.; Howard University, Washington, D. C., 1890; Georgetown University, Washington, D. C., 1891; aged 58; died, April 14, from heart disease.

Charles Colline Stuart ⊕ Cleveland; Western Reserve University, Cleveland, 1895; aged 54; ophthalmologist to German, City and Charity hospitals, Cleveland; died, April 11.

George W. Lowry, Verona, Miss.; Kentucky School of Medicine, Louisville, 1880; aged 63; a member of the Mississippi State Medical Association; died, April 6.

George W. Chase, Portland, Maine; Eclectic Medical College of the City of New York, 1871; died suddenly, April 9, while on a fishing trip at Raymond, Maine.

Jacob William McClendon ⊕ Hot Springs, Ark.; Vanderbilt University, Nashville, Tenn., 1881; aged 63; mayor of Hot Springs since 1912; died, April 12.

George Emerson, Winfield, Kan.; Albany (N .Y.) Medical College, 1873; aged 73; a member of the Kansas Medical Society; died, April 10, from nephritis.

James W. Dickerson, Wingate, Ind.; American Eclectic Medical College, Cincinnati, 1893; aged 67; died, April 4, from carcinoma of the bladder.

Cornelius S. Eldridge, Chicago; Homeopathic Medical College of the State of New York, 1868; aged 79; a veteran of the Civil War; died, April 19.

George W. Hawley, Detroit (license, Michigan, 1900); aged 74; a practitioner of Detroit for forty-five years; died, April 6, from cerebral hemorrhage.

Oren Andrews ⊕ Gardner, Mass.; College of Physicians and Surgeons, Baltimore, 1895; aged 57; died, April 2, from cerebral hemorrhage.

Harvey J. Cristman, Herkimer, N. Y.; Albany (N. Y.) Medical College, 1864; aged 80; died, April 8, from injuries received in a fall.

George B. Thompson, Winthrop, Iowa; University of Toronto, Ont., 1880; aged 64; died, February 27, from cardiovascular disease.

Sewell S. Hepburn, Jr. ⊕ Annapolis, Md.; Medical College of Virginia, Richmond, 1897; aged 46; died, April 5, from heart disease.

George R. Hill, Kendall, Wis.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1886; aged 69; died, March 18.

Warren Sherman Webb, Memphis, Tenn.; Louisville (Ky.) Medical College, 1891; died, March 29, from tuberculosis.

John Klemanz Meyers, Grand Rapids, Mich. (license, Michigan, 1902); aged 48; died, April 5, from pneumonia.

Charles M. Brown, New Marion, Ind.; College of Physicians and Surgeons, Keokuk, Iowa, 1879; died, April 6.

W. F. Hammack, Atlanta, Ga.; Atlanta (Ga.) Medical College, 1888; aged 52; also a druggist; died, April 4.

William Thomas Boyce, Lockesburg, Ark.; Missouri Medical College, St. Louis, 1881; aged 80; died, April 1.

James A. Hubbell, Quincy, Ohio; Starling Medical College, Columbus, Ohio, 1871; aged 76; died, April 5.

Oliver Hazard Perry McNair ⊕ Oklahoma City; Rush Medical College, 1892; aged 52; died, April 3.

William T. Williamson, Harrington, Del.; Jefferson Medical College, 1856; aged 94; died March 26.

Joseph M. Vaden, Ada, Okla.; Vanderbilt University, Nashville, Tenn., 1891; aged 58; died, April 7.

Charles Frederick Elliott, Bradford, Pa.; University of Buffalo, 1902; aged 42; died, April 5.

Martin Van Buren Montgomery, Opdyke, Ill. (license, Illinois, 1878); aged 83; died, April 8.

Herman E. Lucas, Champlin, Minn. (license, Minnesota, 1883); aged 70 died, March 11.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the U. S. Department of Agriculture

Antibrule.—The Crescent Chemical Co., Fort Worth, Texas, shipped in July, 1919, a quantity of this product which was declared misbranded. The Bureau of Chemistry reported that analysis showed the preparation to consist essentially of a watery solution of picric acid and a small quantity of picrates. The labels declared that the preparation was effective as a remedy for croup, tonsilitis, carbuncles, gonorrhea, leucorrhea, eczema, nasal catarrh, itching piles, etc. These claims were declared false and fraudulent. In June, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8359; issued Feb. 19, 1921.*]

Burkhart's Vegetable Compound.—A quantity of this preparation shipped by Dr. W. S. Burkhart, Cincinnati, Ohio, in July, 1920, was declared misbranded. The Bureau of Chem-



istry analyzed the preparation and reported that it consisted essentially of aloes, capsicum (red pepper) and plant extractives, including resins, probably podophyllum. It was falsely and fraudulently recommended for "Kidney and Liver Disease, Fever and Ague, Rheumatism, Sick and Nervous Headache, Erysipelas, Scrofula, Female Complaints, Catarrh, Indigestion, Neuralgia, Nervous Affection, Dyspepsia . . . and all syphilitic diseases." Judgment of condemnation and forfeiture was entered August, 1920, and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8349; issued Feb. 21, 1921.*]

S. O. S.—In April, 1919, the S. Pfeiffer Mfg. Co., St. Louis, Mo., shipped a quantity of S. O. S. which the government officials declared was misbranded. The Bureau of Chemistry reported that the product consisted of two preparations, an "injection" and gelatin "pearls" for internal use. The injection was essentially a water-solution containing thymol, zinc and magnesium sulphates and glycerin. The pearls contained a mixture essentially of santal oil, copaiba balsam, oil of cinnamon and a fixed oil. The stuff was falsely and fraudulently represented as an effective remedy for gonorrhea and gleet whereas it was not effective." In December, 1919, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8454; issued March 11, 1921.*]

Osgood's Special Capsules.—In May and February, 1919, H. Planten & Son, Brooklyn, N. Y., are alleged to have shipped to California a quantity of this preparation which the federal authorities charged was misbranded. The chemists of the Bureau reported that it consisted of volatile gurjun oil, a phenolic compound and a sulphurated fixed oil. It was falsely and fraudulently represented as a valuable remedy for obstinate cases of gonorrhea, inflammation of the bladder and all discharges. In November, 1919, the claimants, Osgood Bros., Oakland, Cal., having consented to a decree, judgment of condemnation and forfeiture was entered and the court ordered that the product be delivered to the claimant upon payment of the cost of the proceedings and the execution of a bond in the sum of $100.—[*Notice of Judgment No. 8544; issued March 12, 1921.*]

Gin-berry Capsules.—In April, 1919, the Henry S. Wampole Co., Baltimore, Md., is alleged to have shipped a quanity of Gin-berry Capsules which the government officials declared misbranded. Analysis of a sample by the Bureau of Chemistry showed that it consisted of a mass composed essentially of cubebs, balsam of copaiba, santal oil, magnesia and alum. It was falsely and fraudulently represented as an effective remedy for clap, gonorrhea, gleet, or any discharge from the urinary organs, "whereas it was not effective." In December, 1919, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8511; issued March 12, 1921.*]

Benetol Vaginal Suppositories.—The government officials seized 162 packages of vaginal suppositories shipped by the Benetol Co., Minneapolis, Minn., in August and October, 1919. Analysis of samples showed that the suppositories consisted essentially of alpha and beta naphthol, boric acid and traces of menthol and phenol (carbolic acid) in a cacao butter base. The suppositories were falsely and fraudulently represented to be effective for the treatment of leucorrhea, vaginitis, vulvitis, cervicitis, endometritis, gonorrhea, for the treatment of sexual diseases and as a general disinfectant and local tonic "whereas it contained no ingredient or combination of ingredients capable of producing the effects claimed." In January, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8397; issued Feb. 19, 1921.*]

Mowerys Gonorrhea Paste.—The Binkley Medicine Co., Dayton, Ohio, shipped in December, 1918, a quantity of this preparation which was declared misbranded. Analysis showed the preparation to consist essentially of powdered cubebs, copaiba balsam, alum and magnesia. It was falsely and fraudulently represented as an efficient treatment for gonorrhea, gleet and all discharges peculiar to the urinary organs, no matter how long standing. In October, 1919, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8481; issued March 11, 1921.*]

Correspondence

"BASAL METABOLISM DETERMINATIONS WITH THE ORIGINAL PORTABLE BENEDICT APPARATUS"

To the Editor.—Dr. F. G. Benedict has been kind enough to call my attention to an error made by my clinical assistant in getting the data for the calculation in the case referred to in my recent article (THE JOURNAL, April 9, 1921, p. 978), and which I overlooked. The error was due to the fact that he had been calculating from the oxygen consumption for one minute, as recommended by Benedict, and adding the correction of 1 c.c. for each rise of 1 degree Fahrenheit which was, of course, in the process of the calculation then multiplied by the number of minutes of the observation. This meant that he had been adding this correction only once, and in changing the calculation to the basis of seconds instead of minutes and including the entire volume consumed, the correction was made the same as usual without taking into account the number of minutes; hence the error.

As Dr. Benedict points out, 60 c.c. (for eight and one-third minutes) should have been added instead of seven, which makes an error of about 2 per cent. While a variation of 2 per cent. in the basal metabolic rate would not change the clinical judgment in any case, it is as a matter of course

unpardonable in a mathematical calculation in which the greatest possible accuracy is desirable. It is one of the practical difficulties in the clinical application of basal metabolism determinations that the individual "norms" vary over a range of 20 per cent. It might seem on the face of it that a 2 per cent. error would be negligible; but, as I have attempted to emphasize in the article just published, such is not the case. I, therefore, hasten to make the correction with apologies.

It so happens that for a certain reason I submitted the manuscript of that paper to Dr. Benedict who, like myself, overlooked the error. For this reason he generously authorizes me to say that he shares the responsibility for it. Of course he really has no responsibility whatever, and I merely mention it to furnish some little palliation of my own carelessness in also overlooking it. It is worth noting that an expert technician from the manufacturer of the basal metabolism apparatus which I am using happened to call at my office just before the paper was sent to The Journal, looked over the calculation, commented upon it, and missed the error.

Dr. Benedict deprecates the wide popularization of the method because of the liability to technical errors, and asks whether this error, which crept into my own work in spite of all my precautions, "is not an admirable text for a sermon on the use of refined clinical methods without every precaution in check." While admitting the force of his arguments, I cannot fully coincide with his point of view, and feel that basal metabolism determinations like the Wassermann test and other very technical things "must come into their own" even though, as in other instances, they have to travel a somewhat stony road. Their importance and value are so obvious that their use is bound to become general, and in my opinion should be. The easier and simpler the technical methods can be made without sacrifice of accuracy, the better will be the results in the field of clinical medicine. It is no longer a question of their general use but rather a question of their accuracy, and this is the reason why, after a couple of years of fairly close study of the subject from a clinical point of view, I attempted, as I thought, although Dr. Benedict does not fully agree with me, to make it simpler and easier. There is, of course, no question as to the entire accuracy of the method proposed.

G. W. McCaskey, M.D., Fort Wayne, Ind.

"PROGRESS IN THE STUDY OF MEASLES"

To the Editor:—In your editorial of April 23 on progress in the study of measles, you state that "the best prospect of prevention seems at present to lie in the possibility of protective inoculation, as is true in smallpox." All those who have studied the subject are agreed that this is the only way in which the morbidity and mortality from measles can be reduced. As in smallpox it is not necessary that the virus should be identified and isolated; the infectious material is definitely known to be present in the secretion from the nasal mucous membrane. This mucus suffices for inoculation and immunization. With this in mind, I began in 1913 to immunize infants between 4 and 5 months of age, and described the method, together with a report on forty infants who were immunized, in the *Archives of Pediatrics* (**32**:503, 1915). I have also discussed the subject and reported on 122 immunized infants, in an article on measles in Abt's "New System of Pediatrics," which will be published this year, and in the discussion on Blake's paper on "Measles Experimentally Produced" (*Arch. Pediat.* **38**:100, 1921). Although the method that I have employed will require perfecting in order to make it universally applicable, I believe that the principles on which it is based are sound.

Charles Herrman, M.D., New York.

THE SHEPPARD-TOWNER BILL

To the Editor.—I wish very much that the medical profession would take up the matter of the Sheppard-Towner bill before it is too late! I believe intensely in the care of childbirth, but deplore this particular bill. Indeed, I feel peculiarly strongly the great importance of prenatal care, as the five-year experiment in prenatal care made by the Women's Municipal League of Boston from 1909 to 1914 was carried on by me, and on this experiment was founded the work of the Boston Lying-In Hospital, that of the New York Milbank Committee—which has now been taken over by the Maternity Center—Dr. Ballantyne's work in Edinburgh, as he himself wrote me, and I believe also Dr. Truby King's in New Zealand and others—and scarcely a week passes that I am not in receipt of requests for information from some one on the subject.

For corroboration of my right to speak with some knowledge I would refer you also to an article published in The Journal, Jan. 30, 1915, by Dr. Franklin S. Newell, on an experiment which I made on the blood pressure of pregnancy, and especially to the first page of Dr. J. Whitridge Williams' recent article on syphilis as a cause of infant mortality, which was published in the *Bulletin of the Johns Hopkins Hospital*, a reprint of which he recently sent me.

I mention these things merely to show you how strongly I believe in prenatal care and that I am somewhat qualified to speak on the subject.

The Sheppard-Towner bill seems to me very objectionable:

1. Because matters of public health which are not concerned in any way with foreign or interstate commerce (as, for instance, are matters of quarantine and epidemics) belong to the individual states to carry on, as they come properly under the police power, which the states have never granted to the federal government.

2. Provided that, in spite of this fact, the bill is considered constitutional, it is objectionable because the care of pregnancy, childbirth and the puerperium is clearly a medical matter, and the effort which was made at the hearing before the House committee to prove that the social and economic matters affecting pregnancy were of more importance than the medical is sheer nonsense. It reminds one of the old conundrum, "If you call a dog's tail his leg, how many legs will he have?" He will have four, because calling a tail a leg does not make it so!

The statement that "all the women in the country" endorse this bill is not true. Every woman with whom I have talked it over I have found agrees with me, and the thousands of women belonging to the Women's Municipal League of Boston have given me their endorsement in this matter. The hearings have been carried on as if the fact that a woman had borne a child, or, indeed, just happened to be a woman, entitled her per se to medical knowledge on the subject of the proper care of childbirth. As well take the opinion on digestion of every one who is in the habit of eating three meals a day.

The bill will do good. Almost any bill bearing on this subject, administered in almost any way, is sure to do good, because the conditions are now so very bad that almost any plan can hardly fail to improve them. But must we stop at an inferior thing? Must we save perhaps 50 per cent. of the women and babies who might be saved and leave the other 50 per cent. waiting probably many years to get the help they need—for a bill that will improve matters at all will make it difficult to pass any better one within any reasonable time. In order to do the 100 per cent. of good which ought to be accomplished, not only to save the lives of these women and children but, what is far more important, to make them healthy, vigorous members of the community, the very best medical knowledge is required; and if the Public Health

vice has not at present the right type of man to administer s bill, he should be found and under that service it should administered, not under a lay official head of a bureau in Department of Labor.

MRS. WILLIAM LOWELL PUTNAM, Boston.

COMMENT.—In a former editorial on this bill (THE JOURL, Feb. 5, 1921, p. 383) we pointed out that it was economlly unsound through its method of raising money; that its itralized administration was a serious fault, and that the nditions which it wished to control were clearly matters of al or state responsibility. The claim has been made that women and women's organizations are unanimously for s bill. Mrs. Putnam's letter emphasizes that the statement as has been known, actually not founded on fact.—ED.]

COURT MEDICAL SERVICE

To the Editor:—In a recent number of THE JOURNAL, under edical News from Massachusetts, it was stated that a ysician had been appointed probation officer at one of the assachusetts courts, and that with the exception of the unicipal Court of Boston, this was the only court in the untry to which a physician was officially attached. I take e liberty, therefore, of calling your attention to the medical rvice attached to the courts of Baltimore which has been existence for the last four years. This medical service vers not only the mental examination of prisoners, but so all medicolegal questions that arise under the jurisction of the Supreme Bench of Baltimore. As the chief edical officer of this service I am officially a member of e court, with a definitely recognized position in the municility. My office deals with a great number of medicolegal atters, from necropsies in cases in which murder is susicted, from the examination of blood stains and foot prints, wn to the physical and mental examination of prisoners d accused persons. In other cities the medical service ually confines itself to the mental aspects of penology. ur Baltimore medical service has, however, been founded broader lines, and is planned to embrace all questions of edical jurisprudence.

We also have a medical service in connection with our risoners' Aid Association, of which I am chief medical ficer. This medical service deals with the physical and ental condition of all persons who are before the courts r trial, and of all those persons who, having served a ntence, are released in our care. It also forms a connectg link between the court medical service and the physians who are in charge of prisoners in our jails and penintiaries. In this way we are able to cover the mental and ysical conditions of accused persons from the time of eir arrest through their trial and through their prison ntence, down to and including the time of their release, and their readaptation to the social life of the community.

JOHN R. OLIVER, M.D., Baltimore.
Medical Officer, Supreme Bench of Baltimore.

ALLERGY IN DISEASES OF THE SKIN

To the Editor:—An editorial on the phenomena of allergy diseases of the skin (THE JOURNAL, April 9), brings to my ind the possibility of some of the unfortunate reactions folwing vaccination against smallpox, being due to allergy. ne who has had occasion to vaccinate large numbers of eople occasionally observes complications that cannot be ttributed to infection or other obvious reasons. Well known riters, such as Schamberg, state that it is possible for quite variety of skin disorders to follow vaccination. Many have egarded these rare complications as a coincidence instead of result of the vaccination. Vaccine virus contains various proteins. The work that has been done by Walker and others shows that a small percentage of children are sensitive to veal, so I believe it reasonable to assume that certain of the annoying complications arising from vaccination may be due to allergy.

J. W. ROBINSON, M.D., Los Angeles.
Deputy Health Officer.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

OXALATES IN URINE

To the Editor:—Please tell me how the oxalates are formed in the urine and what is the cause of their formation. What is the significance of an increase of oxalates in the urine, and how can it be prevented? Can you suggest a diet for these patients? Please do not refer me to literature, as we are in a mining district and far from any cities.

D. J. LOUIS, M.D., San Juan, Coah., Mexico.

ANSWER.—The origin of oxalic acid in the urine is twofold: The smaller output arises presumably from carbohydrates, or, possibly, is synthesized in the body from uric acid. As a rule, it occurs normally in the urine to the extent of from 0.02 to 0.12 gm. each twenty-four hours. The greater output is from ingested food which contains oxalic acid. Foods rich in oxalic acid are rhubarb, spinach, tomatoes, carrots, celery, string beans, strawberries, cranberries and, to lesser degree, potatoes, tea, coffee, coca and plums. The occurrence of oxalates in the urine, except in very large amounts, is not to be regarded as a danger sign. An increased elimination is observed in association with various so-called dyspeptic and nervous manifestations (oxalic acid diathesis), and, sometimes, in diabetes. Constant large amounts may predispose to the formation of kidney calculus. To diminish the elimination of oxalic acid, the foods mentioned that contain oxalic acid should be eliminated from the diet.

ALUMINUM POTASSIUM NITRATE

To the Editor:—I should like to know where I may obtain some of the double salt of aluminum, namely, aluminum potassium nitrate, $Al(NO_3)_3.3KNO_3.10H_2O$, as advocated in the July 17, 1921 issue of the *Chicago Medical Bulletin*, for the treatment of osteomyelitis, under a preliminary report on the treatment of chronic infections and chronic osteomyelitis by aluminum potassium nitrate (La Porte treatment). Please omit my name.

V. W. E.

ANSWER.—We are informed that the product is not being marketed. The product, which is said to be used, has been analyzed for the Council on Pharmacy and Chemistry in the Association's Chemical Laboratory. In the *Chicago Medical Bulletin* the authors state that "a true synthetic double salt," aluminum potassium nitrate, $Al(NO_3)_3.3KNO_3.10H_2O$, was employed; later the firm supplying the preparation claimed that it is composed of one part of the double salt mixed with nine parts of potassium nitrate. However, analyses by the A. M. A. Chemical Laboratory showed the preparation to be equivalent to 2.35 per cent. of $Al(NO_3)_3.3KNO_3$ and 94.7 per cent. of potassium nitrate. For practical purposes the preparation, as submitted by the manufacturer and analyzed by our laboratory, may be regarded as a mixture of 97.5 per cent. of potassium nitrate U. S. P. (saltpetre) and 2.5 per cent. of aluminum nitrate (which may be purchased from chemical supply houses).

STERILIZATION OF SHAVING BRUSHES

To the Editor:—Having in mind anthrax contamination, I should be pleased to see in your columns a satisfactory method for sterilization of the ordinary shaving brush after its parts are assembled.

A. T. HOLBROOK, M.D., Milwaukee.

ANSWER.—A procedure believed to be effective was given in *Public Health Reports* (**34**:993 [May 9] 1919). The brush should be soaked for four hours in a 10 per cent. dilution of liquor formaldehydi. The solution should be kept at a temperature of 110 F. and the brush so agitated as to bring the solution into contact with all hair or bristles.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 10. Sec., Reg. Bd., Dr. T. J. Stout, Brinkley. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

FLORIDA: Jacksonville, June 13-14. Sec., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.

GEORGIA: Augusta, June 1-3 and Atlanta; June 8-10. Sec., C. T. Nolan, Marietta.

KENTUCKY: Louisville, May 10. Sec., Dr. A. T. McCormack, Sixth and Main Sts., Louisville.

LOUISIANA: New Orleans, May 3. Sec., Homeopathic Bd., Dr. F. H. Hardenstein, 702 Macheca Bldg., New Orleans. June 9-11. Sec., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

MICHIGAN: Ann Arbor, June 14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MISSOURI: St. Louis, June 13-15. Act. Sec., M. E. Holliway, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEBRASKA: Lincoln, June 7-9. Sec., Mr. H. H. Antles, Dept. of Public Welfare, State House, Lincoln.

NEVADA: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

OHIO: Columbus, May 31-June 1-3. Sec., Dr. H. M. Platter, State House, Columbus.

TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

VIRGINIA: Richmond, June 14-17. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

New York October Examination

Mr. Herbert J. Hamilton, assistant, professional examinations, New York State Board of Medical Examiners, reports the written examination held at Albany, Buffalo, New York and Syracuse, Oct. 4-7, 1920. The examination covered 8 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 189 candidates examined, 143, including 4 osteopaths, passed, and 46, including 3 osteopaths, failed. One candidate was licensed by reciprocity, and two candidates were licensed by endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Yale University		(1920)	2
George Washington University		(1916)	1
Georgetown University		(1913)	1
Howard University	(1914) 1, (1919) 1,	(1920) 1,	3
State University of Iowa College of Medicine		(1918)	1
College of Physicians and Surgeons, Baltimore		(1912)	1
Johns Hopkins University	(1916) 1, (1917) 1, (1918) 1, (1919) 1,	(1920) 1,	5
University of Maryland		(1920)	1
Harvard University	(1906) 1, (1913) 1, (1917) 1, (1918) 2, (1919) 1,	(1920) 2,	8
Tufts College Medical School		(1917)	1
University of Michigan Medical School	(1916) 1,	(1920) 1,	2
University of Michigan Homeo. Medical School		(1918)	1
Detroit College of Medicine and Surgery		(1917)	1
University of Minnesota		(1919)	1
Dartmouth Medical School		(1905)	1
Albany Medical College		(1920)	1
Columbia University	(1914) 1, (1917) 1, (1919) 6,	(1920) 11,	19
Cornell University	(1916) 1, (1917) 1, (1918) 1, (1919) 3,	(1920) 6,	12
Fordham University	(1915) 1, (1918) 1,	(1920) 6,	8
Long Island College Hospital	(1920)* 1,	(1920) 13,	14
New York Homeo. Med. Coll. & Flower Hospital	(1916) 1, (1917) 2, (1919) 1,	(1920) 6,	10
Syracuse University		(1920)	1
University and Bellevue Hosp. Med. College		(1920)	24
University of Buffalo		(1920)	2
Eclectic Medical College		(1920)	2
Hahnemann Medical Coll. and Hosp. of Philadelphia		(1918)	1
Jefferson Medical College	(1919) 1,	(1920) 1,	2
University of Pennsylvania	(1912) 1,	(1920) 1,	2
University of Vermont		(1919)	3
McGill University		(1920)	1
Queen's University		(1920)	2
University of Havana		(1917)*	1
University of Bologna		(1912)*	1
University of Berne		(1919)*	1
Syrian Protestant College, Beirut		(1905)*	1
University of Caracas, Venezuela		(1915)*	1
College	**FAILED**	**Year Grad.**	**Number Licensed**
Howard University Med. Coll.	(1911) 1, (1912) 1,	(1920) 2,	4
University of Louisville	(1902) 1,	(1914) 1,	2
University of Maryland	(1918) 1,	(1920) 1,	2
Harvard University	(1918) 1,	(1919) 1,	2
University of Michigan Medical School		(1919)	1
Albany Medical College		(1916)	1
Columbia University		(1919)	1
Cornell University		(1919)	1
Fordham University	(1916) 1, (1917) 1,	(1920) 2,	4
New York Homeo. Med. College and Flower Hospital	(1914) 1, (1915) 1, (1916) 1, (1918) 2,	(1920) 1,	6
University and Bellevue Hosp. Med. Coll.	(1917) 1,	(1920) 2,	3
Eclectic Medical College	(1915) 1,	(1920) 2,	3
University of Oregon		(1920)	1
Hahnemann Med. Coll. and Hosp. of Philadelphia		(1920)	2
Jefferson Medical College	(1915) 1,	(1919) 2,	3
Medico-Chirurgical Coll. of Philadelphia		(1916)	1
Vanderbilt University		(1914)	1
University of Vermont	(1916) 1,	(1918) 1,	2
Medical College of Virginia		(1915)	1
McGill University		(1915)	1
Syrian Protestant College, Beirut		(1912)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciproc with
University of California		(1902)	Califorr

College	LICENSED BY ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorseme with
Queen's University		(1919)*	Cana
University of Lemberg		(1914)*	Aust

* Graduation not verified.

Hawaii January Examination

Dr. Guy C. Milnor, secretary, Hawaii Board of Medic Examiners, reports the written examination held at Hon lulu, Jan. 10-13, 1921. The examination covered 8 subjec and included 40 questions. An average of 75 per cent. wa required to pass. Of the 9 candidates examined, 8 passe and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Pe Cer
College of Physicians and Surgeons, Los Angeles		(1919)	88
Northwestern University		(1912)	75
Jefferson Medical College	(1911) 82,	(1920)	87
University of Pennsylvania		(1920)	83
University of Texas		(1920)	75
University of Virginia		(1895)	75
University of Munich		(1910)*	81
	FAILED		
Osaka Prefecture Higher Medical School		(1914)*	30

* Graduation not verified.

Social Medicine, Medical Economics and Miscellany

PUBLIC HEALTH ACTIVITY AND PRIVATE PRACTICE IN VENEREAL DISEASE CONTROL

JOHN H. STOKES, M.D.

Chief of the Section of Dermatology and Syphilology, Mayo Clinic

ROCHESTER, MINN.

The tremendous impetus imparted by the war to every form of public activity has been shared by governmental participation in the control of disease. Enormous resources in fund and organization have been concentrated on the medical problems involved in the physical welfare of the belligeren nations. In no field has the influence of this extension bee more beneficent than in that of the venereal diseases. Thi particular movement through the generous appropriation o Congress and the efforts of civilian, military and Publi Health organizations, both state and national, has develope a kinetic energy at least as great as that of any other out standing campaign against a problem in disease. The energ back of this movement is all too little understood or appre ciated by many physicians. Immeasurable good has and wil come of it.

A movement so new and so vigorously prosecuted mus inevitably disturb the conservatism of the old establishe sources of authority and action in its field. Problems wil arise which can be met only by a frank declaration of principles from both the new and the old groups, and a frank adjustment of misconceptions and points at issue. The fiel of the medical control of venereal disease is at this time, I believe it is safe to say, nearer to socialization than is any other field of medicine.

A tremendous and, on the whole, disinterested public spirit is seeking, through public health officers, to sweep a group of controllable infections out of existence. A large body of equally well intentioned, though perhaps less energetic, private agents in the form of the medical profession at large and of specialists in private practice derives its livelihood, at least

part, from the same source. An antagonism between public ivity and private interest, which might so easily develop such a situation, would be wholly unnecessary and deplor- e. A spirit of mutual consideration and cooperation can lize the energy of the public attack and the skill of the perly equipped man in private practice to the advantage both.

The United States Public Health Service and the associated nereal disease divisions of various state boards of health ve recognized the implications of their entry into this field medical practice, and with a commendable frankness have awn up and submitted to the state venereal disease control cers of all the states a declaration of principles and inten- ns in the form of resolutions for the consideration of the dical profession at large. The substance of these resolu- ns may be thus summarized:

They indorse and urge the continuance of a campaign of blic education.

They urge the evaluation of the propaganda thus far carried in as exact social, psychologic and medical terms as ssible.

They give preference to education and persuasion over legal ocess in connection with the enforcement of laws and regu- tions. One of the resolutions adopted is worded as follows, d expresses what every worker, public or private, in this ld acknowledges to be the fundamental steps for making e future of venereal disease work better than the past:

Resolved, That the venereal disease control movement cannot reach ll effectiveness without the intelligent and sympathetic cooperation of e medical profession. This cooperation can best be obtained by:

1. The rapid extension of teaching facilities for medical students hereby knowledge of the medical, social and public health aspects of ese diseases may be taught by actual contact with patients in the inic under the direction of qualified teachers.

2. By making available to all physicians by means of clinics, lectures, monstrations and institutes the most recent developments in medical d social knowledge of the veneral diseases.

3. By the development of state diagnostic facilities for the use of the acticing physician.

Having accepted its share of responsibility for developing n appropriate equipment, the Public Health Service and its filiated state organizations urge physicians at large to move or a general raising of the standard of treatment of the enereal diseases. To no one whose daily work or special aining forces on him an appreciation of the reality of the roblem will this seem an unreasonable or unwarranted emand. In the words of the resolution:

This implies that a physician who is unfamiliar with or unprepared o employ modern methods in the management of these diseases should ot accept such cases for treatment, but should refer them to some rivate or public physician who is properly equipped.

If the effectiveness of private effort can be raised by a com- ination of expertness in the individual physician and better acilities, to the point where victims of the venereal diseases an receive adequate treatment at private hands, the United States Public Health Service and the state boards of health ledge themselves so to conduct their activities as not to nvade the field of private practice in this phase of medical work. In the words of the resolution:

Resolved, That while the United States Public Health Service and he state boards of health recognize their public duty to see that every victim of a contagious disease receives adequate treatment for his own nd the public's safety, they have no intention of supplanting effective rivate effort in this field.

The representatives of the public health services concede nd define the value and the basic requirements of training or this work. The words of the resolution, formulated as it s, at a time when the American Medical Association is seek- ng to raise the standard of postgraduate medical education, leserve quotation in full.

Resolved, That the development and maintenance of a competent med- eal personnel under effective leadership in the field of venereal disease ontrol demands training whose duration and character is varied with the work for which preparation is sought; from six months for the routine performance of the technical work of treatment to three or more years for the preparation of men who are to assume the full medical and administrative responsibilities of the expert. For the purpose of such training, special postgraduate courses in association with medical schools and teaching centers providing liberal and accessible clinical material are essential. The development of such schools should be encouraged and active participation of their graduates in this work should be sought. The maintenance of an efficient personnel further requires the provision of inspiration and incentive to individual development and reward for initiative comprised in (*a*) adequate material equipment for laboratories and clinics; (*b*) adequate technical and medical assistance for the handling of routine work; (*c*) sufficient freedom from routine and provision of funds to make possible the conduct of research; (*d*) much more generous provision for the salary of personnel than is now the rule.

The public health authorities have frankly conceded that under existing conditions the Public Health Service cannot hope to offer a career with adequate returns to those who devote themselves exclusively to the work of venereal disease control. They recognize with equal justice the right of the highly trained man to seek in private practice the material return for special training and proficiency which public parsimony now denies him. By implication, the obliteration of private practice would destroy a major incentive to the thorough training and high efficiency on which the movement must depend for successful leadership.

So sincere and genuine an effort at cooperation as these resolutions represent, made by those who have unselfishly and often at large personal sacrifice devoted their whole energy to this movement, deserves the warmest response from the medical profession at large. It should be our privilege to bring our influence to bear to dignify public service in medicine with the recognition and emoluments which it deserves and which will attract leaders and supply the incentive for careers.

It is also our duty and to our interest to cooperate in the development of educational and diagnostic facilities and to raise the standard of the treatment accorded the patient with a venereal disease. A fair demand is made of us, *a demand that the medical practitioner shall practice modern diagnostic medicine in the venereal disease field or leave the work to those who can, and that he shall refuse to accept patients with syphilis and gonorrhea for treatment unless he has had an amount of training adequate for the work he attempts.* If he has the technical proficiency but lacks the experience he should seek the aid of expert advice and centralized facilities, public or private as the circumstances direct. No better method for obtaining these facilities could be suggested than, for example, the establishment of the health centers proposed by Dr. Billings.[1]

To continue to make the care of venereal disease an incidental among incidentals in private practice, and a sport for any tyro, will ultimately invite a public condemnation and discrediting of the medical profession at large whose severity will be great in proportion to the large share of public attention being concentrated on this field.

The extinction of private practice in venereal disease is not a consummation to be wished, but it will be one to be deserved if we cannot measure up by a process of internal organization and adjustment, to the standards of the most altruistic and energetic public agent in the field. It need never be said of us in the words of a widely known physician, that "any measures which make the treatment effective and tend to bring it into the hands of experts . . . will have to be carried out over the dead bodies of the medical profession." The United States Public Health Service and the state venereal disease bureaus, backed by one of the most powerful public sentiments now concentrated on any health problem, have expressed a desire for our cooperation and indicated a way for its achievement.

1. Billings, Frank: The Future of Private Medical Practice, J. A. M. A. **76**: 349 (Feb. 5) 1921.

Miscellany

VACCINATION FROM A NEWSPAPER'S POINT OF VIEW

The Washington, Iowa, *Evening Journal* is not a metropolitan newspaper, either in size or in circulation, but it is a newspaper that feels its responsibility to its readers as a truthful purveyor of truth and wisdom. The following editorial is copied from a recent issue.

OBJECT TO VACCINATION

A recent article in the *Journal* touching upon the advisability of vaccination as a preventive of smallpox results in the receipt in the *Journal* office of a protest, the protest in the form of a copy of a magazine, the whole issue devoted to the condemnation of the practice of vaccination.

The magazine cites instances where vaccination has failed to prevent smallpox and gives instances also where vaccination has resulted in deaths. No doubt the citations are true. It is conceivable that among the many millions of people vaccinated there may be some who die from the effects. A pin scratch sometimes results in death to the person injured.

The statement is made in the publication sent us that vaccination kills more people in the countries in which it is largely practiced than does smallpox. That is logical. Vaccination may eventually eliminate smallpox entirely, or at least temper its effects down to the point where there will be no deaths from smallpox, but an occasional death still from the effects of vaccination.

The greatest possible care should be taken in the preparation of the vaccine. Absolute cleanliness and a virus free from other contaminations are essential if the process of vaccination is to be robbed of its dangers. Millions upon millions of people have been vaccinated, and as they have been vaccinated the menace of smallpox epidemics has decreased. There may be other causes for the decrease of virulent smallpox epidemics; we don't know.

But, the charge made in this magazine to the effect that the vaccination method of fighting smallpox is based upon the selfish desires of medical practitioners to fatten their pocketbooks does not seem well founded to this writer. The same issues of the magazine cite instances where doctors who had been vaccinated took smallpox. Well, they took their own medicine. If they had not believed in vaccination why would they vaccinate themselves and carefully vaccinate their children and dearest friends?

The charge of dishonesty, selfishness, etc., is not well founded. Even doctors do not take the chance of murdering their best beloved for gain. Vaccination, or something, is depriving smallpox of its erstwhile questionable glory of being one of the most menacing of human contagions. Something is getting the smallpox "goat." Glory be for that!

The fact is that this attack upon vaccination is but one of the many attacks that is made by revolutionary zealots who are in for a general condemnation of medical science. Medical science makes its mistakes; has made them through all the centuries, but its course has been along an up-going trail. Medical science has made the waste places to blossom; has discovered the bases of many infections and removed them; brought joy and gladness to millions by its simple little ministrations; directed the processes that have made it possible for human beings to live in jungle lands and live comfortably and happily. Medical science will yet do much toward opening up the many millions of acres of tropical, miasmal lands that are not yet appraised at their full possible values; medical science does not hesitate to expose itself to danger, if necessary, in pioneering efforts to remove the danger; medical science does not seek out the easy places in which to make its bed but faces the danger zones in every corner of the earth and seeks to improve the health conditions everywhere. The mild little purgative, the lance, the forceps, the disinfectant, the anesthetic, all have been and are world blessings. They are the products of the ingenuity of medical science seeking to lessen the miseries of human life. They have accomplished all that.

Book Notices

INSECTS AND HUMAN WELFARE. An Account of the More Import Relations of Insects to the Health of Man, to Agriculture, and Forestry. By Charles Thomas Brues, Assistant Professor of Econo Entomology, Bussey Institution, Harvard University. Cloth. Pr $2.50. Pp. 104, with 42 illustrations. Cambridge: Harvard Univer Press, 1920.

The author is assistant professor of economic entomolo in the Bussey Institution of Harvard University. It is cle therefore, that he is concerned primarily with the study insects as they affect the life of man from a material poi of view. As he points out in his introduction, "there a many more different kinds of insects than there are of oth animals, and it follows from this that they will cross o path at many places." Unfortunately, he says, most inse are not directly useful to man. Only two, the honey bee a the silkworm, have a definitely useful purpose. A lar majority of insects are harmful and, so far as appears toda cannot be diverted to any useful purpose. They must ther fore be destroyed. The first chapter, the one of greate interest to the physician, is concerned with insects and publ health. This chapter appeared in the *Scientific Monthly;* b for book purposes it has been amended, and numerous illu trations have been added. It is an excellent discussion the cost of our insect competitors in terms both of lives a of cash. The second chapter deals with food supply, t third with forest insects, the fourth with household insect and the concluding chapter with the outlook for the futur The most promising outlook which the entomologist can enj is the decreasing prevalence of several of the most importa insect-borne diseases, but the author believes that oth disease-bearing insects may be expected to extend their ran in the same way that all other insects are migratin "Unpleasant surprises are doubtless now hidden in litt known parts of the world," he says, "from whence they ma spread without warning." Professor Brues' book is print in easily readable type, is artistically arranged, and all of th illustrations actually illustrate.

THE ENDOCRINES. By Samuel Wyllis Bandler, A.B., M.D., F.A.C.S Professor of Gynecology in the New York Post-Graduate Medical Scho and Hospital. Cloth. Price, $7 net. Pp. 486. Philadelphia: W. Saunders Company, 1920.

Few subjects have attracted the interest of physicians an medical scientists to the extent that endocrinology has durin recent years. There is something infinitely attractive in th mystery of the subject. Although there are textbooks and vast periodical literature on the ductless glands, that whic is unknown far surpasses in quantity the actually demon strated facts relative to these structures. According t the preface, "what is known of the endocrine glands is bear ing more than sufficient root to form a working basis for th understanding of numerous hereditary, physical and psychi questions. Only by therapy and by the use of the extracts o these glands," he says, "can we be led to definite conclusions. The latter view must be considered as representing pur empiricism, and as we read Dr. Bandler's book, we realiz that his point of view is throughout an empiric one. Thi book is really not a textbook, it is a series of essays givin the author's view on all kinds of human problems—heredity habits and instincts, emotions, phobias, disease of body an mind—all reduced to terms of plus or minus in regard t some endocrine function or other. Like the Freudians, th author constructs a system of philosophy of his own. H makes use of some of their views and phraseology: "Repres sion of an act or function associated with or supposed t complete an emotion implies that some endocrine outpouring instead of being used in the completion of the act and i supplying the stimulus or energy associated with that act, i exerting its action elsewhere and in other channels so tha internal combination is going on instead of an explosion' (page 16). Analogous to Freudian symbols is the nucleus o a syllabus of endocrine symbolisms: "Judgment, wisdom taste for books and literature, interest in the important prob lems, attract attention to a good anterior pituitary." "Fond ness for children, normal libido, and feminine traits point t the posterior pituitary." Varicose veins suggest posterio

itary overactivity, as do uterine fibroids, "wanderlust," ding gums, pyorrhea, and exophthalmos, while a poor lopment of the outer half of the eyebrows implies a lack hyroid. We all know the Freudian meaning of red. To its place as an endocrine symbol the author raises the stion (page 271): "Why is it that a red rag irritates a ?" Bandler's answer is that certain retinal cells in this nal by their autonomic nerve connections with the supra- al glands transmit a stimulus which rouses these and asso- ed glands with the resulting production of the instinct of nacity and the emotion of anger. (Incidentally, is the nise correct? Does a red rag irritate a bull any more n any other colored rag?) Tumors, benign and malignant, all due to endocrine action, as are neuroses and psychoses ept those caused by syphilis.

he author evidently expects this endocrine gospel to ead rapidly, for he ventures the prophesy that in five years re will be few new cases of mental defect, of insanity, iors, diabetes and renal diseases. "When the next war nes, if it does at all, soldiers before going over the top will be given alcohol: they will be given endocrine cocktails, l the adrenal cortex will be an important ingredient. And he world in the near future administers to its diplomats, its highest officials, to its legislators, and to its peoples the per endocrines, especially anterior pituitary, and inhibits adrenal cortex a little bit, there may be no more wars." spite of (and partly because of) its many extravagances, ts of the book repay reading. The very bizarre way in ich established clinical facts are correlated to fit new and proved theories is stimulating to the imagination—a psychic d which grows hard, dry and covered with refuse if not casionally plowed up. In justice to the author, it should be d that in applying his principles to his own field, that of necology, he uses his large clinical experience to good vantage and keeps in closer contact with the facts.

On the whole, however, the book is typical of the kind scientific study which has made most physicians view the ld of endocrinology with doubt and distrust. Progress can- t be made when theory so far outdistances that which actually known.

La Epidemia de Grippe de 1918-19. Tesis Presentada para Optar al tulo de Doctor en Medicina. Por Jose W. Tobias. Paper. Pp. 207. enos Aires: Libreria y Casa Editora de A. Guidi Buffarini, 1920.

The influenza epidemic of 1918-1919 is continually inspiring w studies which reflect the deep mark it made on the med- al profession throughout the world. In this work, which ceived a prize from the Buenos Aires Medical School, the thor has summarized the recent literature on influenza, mbining at the same time observations of his own. Sep- ate chapters are devoted to epidemiology, etiology, pathol- y and bacteriology, symptomatology, clinical types, and ophylaxis. Attention is called to the professional change ward this disease since the days of Broussais' *boutade,* Grippe is an invention of penniless people and patientless hysicians, who, having nothing else to do, have amused emselves creating this *farfadet.*" Dr. Tobías does not con- der Pfeiffer's bacillus as the specific agent of the disease, it a filtrable virus, as suggested by Nicolle and others. The ost interesting chapter is the one devoted to pathology, com- rising fifty-four pages, with twenty-five illustrations, in hich the author reports his own and Dr. Ruiz' cases. Alto- ether the book is an interesting review of influenza as it peared in Argentina.

Repressed Emotions. By Isador H. Coriat, M.D. Cloth. Price, $2. p. 213. New York: Brentano's, 1920.

The author has said many things, the proof of which is ot as clearly shown as is desirable. There is much that is erely time-consuming repetition. The chapter on repressed motions in "primitive man" contains a number of very inter- sting observations, but beyond the statement that repressed motions show themselves in the myths of primitive peoples, here are no noteworthy deductions. It seems stretching a oint to affirm that psychanalysis alone can cure a neurosis, s does the statement that dementia praecox is amenable to sychanalysis. When the wonders of psychanalysis are her- lded as they are in the introduction, they deserve a more onvincing thesis than is contained in this book.

Medicolegal

Complaint for Not Obeying Order of Health Officer—Proof of Order

(City of Roslyn v. Pavlinovich (Wash.), 192 Pac. R. 885)

The Supreme Court of Washington says that the complaint charged that on or about Oct. 23, 1918, the defendant committed the offense of violating Section 1 of Ordinance 161 of the city of Roslyn in that he did wilfully and unlawfully refuse, fail and neglect to comply with the legal order of the health officer of the city, in that he permitted people to congregate at his place of business at No. 12 Pennsylvania Avenue, in said city, and play cards therein, etc. Section 1 of the ordinance mentioned provides that it "shall be unlawful for any person to refuse, fail or neglect to comply with any legal order of the health officer" of the city. It seems plain to the court that the complaint very directly charged that the defendant violated that ordinance by failing and refusing to obey certain health orders and regulations made by the city health officer. That was sufficient to charge a misdemeanor. The complaint was sufficient.

However, before the court could determine whether the defendant violated the order of the health officer, it must know what that order was. The order was in writing. It was given to the constable, who caused the inhabitants to become acquainted with its contents. The health officer testified that it had been sent to the state health officer; that he had tried to secure it for the purpose of this trial, but that it had not been returned to him; that there was no copy of the original order, unless it was in the hands of the mayor. No effort was made to show whether the mayor had a copy. The court considers that the testimony failed to show any reasonable effort to have the order in court, and that it was error to allow oral testimony as to its contents, in consequence of which the defendant must be granted a new trial. Oral testimony of the contents of a written instrument is not admissible until a satisfactory explanation is given for the failure to present the writing itself. The rule is that a reasonable effort must have been made to obtain the written instrument. As to what will be considered a reasonable effort is dependent to a considerable extent on the importance, in the case, of the written instrument. Nothing was shown in this case except that the city health officer had tried to get the written order, and that it had not been sent to him. Reasonable effort means much more than that. The court is entitled to know what was done, what effort was made. Likewise, it was error to permit the city attorney to testify that he had written to the state health officer for the original order, and had received a letter from him stating that it was not on file with him, no sufficient excuse being given for not having the letter itself in court.

Validity of Contract for Services

(Butler v. Oldham (Ark.), 224 S. W. R. 985)

The Supreme Court of Arkansas, in affirming a judgment for $150 in favor of the plaintiff, a physician, against the administrator of the estate of a Dr. Abbott, says that Dr. Abbott became seriously ill with pneumonia, and was removed to a hospital, where he remained until the date of his death under the constant care of nurses and two physicians. The plaintiff and Dr. Abbott were personal friends. During the afternoon of the day before Dr. Abbott died, one of the nurses at the hospital telephoned to the plaintiff, stating that Dr. Abbott asked him to come to see him. After finishing his professional calls for the day, the plaintiff procured an automobile and driver and went to the place where Dr. Abbott was, arriving at about 11 o'clock at night. He went immediately to see Dr. Abbott at the hospital, and remained with him until he died the next morning at about 7 o'clock. After the plaintiff reached the bedside of Dr. Abbott, the latter drew a check for $1,000, payable to the plaintiff, and gave it to the man who accompanied the plaintiff, with instructions to deliver the check subsequently to the plaintiff as compensation for his services in attending him from then until his death,

or for a period of ten days, if he lived that long. On the trial of the case the plaintiff adduced testimony tending to show that after he reached the bedside of Dr. Abbott and had talked with him to a considerable extent, he was about to return to his home when Dr. Abbott requested him to remain there in attendance, and it was agreed that he should receive $1,000 for his services. On the other hand, the testimony introduced by the defendant administrator tended to show that at that time Dr. Abbott was not mentally capable of transacting business. One of the attending physicians testified that Dr. Abbott was unconscious the most of the time during the week preceding his death, but that he had lucid intervals. One of the nurses testified that he had a high fever, and was irrational the most of the time, and that it was apparent from about 5 o'clock on the evening before his death that the end was very near. There was other evidence in the case and circumstances proved which warranted the conclusion that Dr. Abbott was not of sufficient mental capacity on the night before his death to enter into any business transaction. This being true, there was no express contract between the plaintiff and Dr. Abbott for compensation for the services of the former, and he could recover only the reasonable value of his services. In other words, the supreme court, after careful consideration, is of the opinion that there was evidence sufficient to warrant the finding that Dr. Abbott was not mentally capable of transacting business at the time he gave the check; with the legal result stated. The trial court found the value of the plaintiff's services to be $150, and allowed his claim to that extent; and he appealed from the judgment. As no appeal was prosecuted by the defendant administrator, the supreme court deems it unnecessary for it to pass on the question of the correctness of the ruling allowing $150, further than to say the evidence was sufficient to warrant the finding by the court that the value of the plaintiff's services did not exceed that amount. The supreme court denied a rehearing.

Right of Child to Damages for Prenatal Injuries

(Drobner v. Peters (N. Y.), 184 N. Y. Supp. 337)

The Supreme Court of New York, Special Term, New York County, in denying the defendant's motion for a judgment on the pleadings, says that the question was squarely raised as to whether a child, injured for life through the negligence of the defendant before it was born, may recover damages for the injuries thus received. The court's attention was not called to any similar case in which a recovery of damages had been had. The question of a child's right to recover for prenatal injuries was considered for the first and only time in the courts of the state of New York in *Nugent* v. *Brooklyn Heights R. R.*, 139 N. Y. Supp. 367. In that case the unborn child was injured through the negligence of the defendant, while the mother was a passenger alighting from a street car. Through its guardian appointed for the purpose, it sued for damages, and the appellate division of the second department held unanimously, affirming the court below, that damages could not be recovered in such a case. The court of appeals did not pass on the question. In the prevailing opinion it appears that the decision was based on the fact that, while the mother was a passenger, the child was not, inasmuch as the railroad company had no knowledge of the existence of the child, and hence never contracted for its safe carriage. But it would seem that the harsh rule there applied should not be extended, but rather confined strictly to the limits set in that case. Indeed, the opinion itself is a strong argument for the validity of a claim for damages to an unborn infant under other than the particular circumstances then under consideration. Here the mother fell into a coal hole on a public sidewalk. Surely the reasoning in the Nugent case does not apply, any more than if the mother was carrying her infant in her arms. It is our boast that the common law is elastic enough to fit itself to new conditions and to progress along with advancing civilization and our ever-growing humanitarianism; and it is but a manifestation of this spirit of the law to recognize the responsibility of the defendant to this child, doomed to go through life permanently injured in head, body and limbs.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.

American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2
American Association of Physicians, Atlantic City, May 10-11.
American Climatological and Clinical Association, Lenox, Mass., June 3
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston, June 3-6.
American Radium Society, Boston, June 6-7.
American Society for Clinical Investigation, Atlantic City, May 9.
American Surgical Association, Toronto, Canada, June 14-16.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Arkansas Medical Society, Hot Springs, May 3-5.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
California, Medical Society of the State of, San Diego, May 10-12.
Conference of State and Provincial Health Authoritics, Boston, June 3
Connecticut State Medical Society, Hartford, May 18-19.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Illinois State Medical Society, Springfield, May 17-19.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Iowa State Medical Society, Des Moines, May 11-13.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Mississippi State Medical Association, Laurel, May 10-11.
Missouri State Medical Association, St. Joseph, May 24-26.
National Tuberculosis Association, New York, June 13-17.
Nebraska State Medical Association, Lincoln, May 9-12.
Nevada State Medical Association, Elko, June 24-25.
New Hampshire Medical Society, Concord, May 25-26.
New York, Medical Society of the State of, Brooklyn, May 3.
North Dakota State Medical Association, Fargo, May 26-27.
Ohio State Medical Association, Columbus, May 3-5.
Oklahoma State Medical Association, McAlester, May 17-19.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
South Dakota State Medical Association, Aberdeen, May 24-26.
Texas, State Medical Association of, Dallas, May 10-12.
West Virginia State Medical Association, Charleston, May 24-26.

ASSOCIATION OF CARDIAC CLINICS, NEW YORK ACADEMY OF MEDICINE

Meeting held Jan. 26, 1921

Etiology of the Cardiovascular Affections

DR. JOSEPH H. BARACH, Pittsburgh: This paper appears i this issue, p. 1211.

Diagnosis of Chronic Valvular Disease

DR. PAUL D. WHITE, Boston: This paper appears in thi issue, p. 1207.

DISCUSSION

DR. LEWIS A. CONNER, New York: The question whethe one is justified in diagnosing organic mitral insuffi ciency on the presence of an apical murmur alone is still a debatable one. No matter how characteristic the murmur may seem to be in its location, quality and direction of transmission, it is unsafe to make such a diagnosis in the absence of other confirmatory evidence, such as cardiac enlargement or a distinct history of rheumatic fever. The value of an accentuation of the second pulmonic sound in the diagnosis of mitral disease is sometimes overestimated. In young individuals this sound is normally much louder than the corresponding aortic sound and is readily intensified by excitement or exercise, so that it is not easy always to say what is a pathologic accentuation. Any really significant accentuation is practically always associated with a distinct palpable shock corresponding in time and place with the intensified sound.

I should hardly agree that a murmur strictly presystolic in time is rare in mitral stenosis. While not the most frequent type, it seems to me that it is not uncommon, especially in the early and mild cases. When auricular fibrillation supervenes in mitral stenosis, the replacement of the presystolic, crescendo

murmur by one earlier in the diastole is not nearly so generally understood as it deserves to be. I am skeptical as to the existence of a presystolic thrill without the characteristic murmur. The accurate timing of thrills is, for me at least, muct more difficult than the timing of murmurs, and I believe that, especially with a rapid heart beat, it is often quite impossible to distinguish between a systolic and a presystolic thrill. I have seen very few cases of aortic insufficiency in which I felt convinced that the presystolic murmur at the apex was the Flint murmur of relative mitral stenosis. The great rarity of such presystolic murmurs in aortic leakage of syphilitic origin seems to support the view that a true Flint murmur is very uncommon.

The murmur of aortic insufficiency, when faint, is often heard more distinctly with the naked ear than with the stethoscope. As Cole pointed out many years ago, the diastolic murmur is sometimes heard more distinctly well to the left of the apex than at or within the apex.

It is perhaps well to point that in the syphilitic form of aortic insufficiency, associated as it usually is with a considerable degree of thickening of the arterial wall, the pulse often shows only indistinctly the waterhammer character which is so striking a feature of the rheumatic cases. Although "accidental" diastolic murmurs are exceedingly rare, I have seen three undoubted cases of diastolic cardiorespiratory murmur heard over a circumscribed area at the base of the heart and in each instance mistaken for the murmur of aortic insufficiency.

A word about the diagnosis of aortic stenosis: It is well to remember that when there is a high degree of decompensation, the characteristic rough, loud murmur may become very faint and the thrill may disappear, and that these characteristic signs may reappear if the heart regains some of its strength.

DR. ALEXANDER LAMBERT, New York: In listening to Dr. Barach's paper, one realizes that in the given histories of patients there is nothing to show that the origin of the cardiac disease has anything to do with the disease which is brought out prominently in the patient's history. Certainly, in a long hospital experience, typhoid fever has not produced cardiac complications in the proportion as here shown. It is interesting, however, to differentiate as a matter of record, how many patients had tonsillitis and how many gave articular rheumatism as the cause of the septic infection of early life. The same hospital experience forces one to divide the causes of cardiac disease into four main groups, that of sepsis or rheumatism, in which both the valves and muscles are involved and at times the pericardium. This is the main cause of cardiac disease in the early years of life, and the younger the child is, the more likely is it that the pericardium is involved or all three structures at once. It is also a noticeable fact that it is the left side of the heart that is predominantly involved. The aortic lesions are not nearly as common as the mitral. In cardiac disease beginning in middle life, we find the aortic valves predominantly involved; this is due almost invariably to syphilis. Syphilis also involves the myocardium in a characteristic manner. In the later years of life, after 50, the aortic lesions arising are most often due to the lesions coming under arteriosclerosis; and the most frequent murmur coming under the aortic arteriosclerotic group is the aortic systolic that is heard loudest over the aorta or, not infrequently, loudest over the apex and often heard with almost equal intensity at the aortic and apex region. It is very commonly called a mitral murmur, but has nothing to do with the mitral valve.

We have another type of cardiac disease as represented by the toxin in diphtheria, which affects both the conducting and contracting systems of the heart muscles and frequently is a cause of death. These are four types of cardiac involvement which, in the main, impress one clinically.

Dr. White was wise in designating the diseases of the mitral valve as mitral involvement, but it is well to remember that all acute conditions in the mitral valve produce regurgitation, and that mitral stenosis is the result of chronic scar tissue at that point, and does not occur in acute conditions. In differentiating in the early stages of mitral stenosis and when there is a slight diastolic thrill with a slapping first sound emphasizing the first sound and ending sharply with it, one must depend largely, as to whether or not stenosis exists, on the exaggeration of the second pulmonic sound. I do not think that the value of this second pulmonic sound is given sufficient attention, nor is it sufficiently appreciated. Often, besides the exaggeration of the second pulmonic, a reduplication of this sound occurs, and this is particularly characteristic under mitral stenosis. The later mitral diastolic murmur heard in what Mackenzie calls the second stage of the disease is, in my experience, best heard over the third left space, increasing in loudness downward and inward to the fourth left space near the sternum and outward to the apex in a crescent shaped line and changing near the apex from a mid-diastolic to a rolling late diastolic or presystolic murmur. Flint's functional presystolic murmur, in my mind, is best differentiated by the absence or exaggeration of the second pulmonic sound. This, I think, was also in Thayer's mind when he wrote his paper discussing the same murmur. I do not believe that, with any aortic regurgitant murmur, mitral stenosis can be accepted unless the second pulmonic sound is exaggerated or reduplicated. As to the proportion of the occurrence of the Flint murmur in aortic regurgitation, in my experience, it is not at all a frequent occurrence. How frequent, in figures, I cannot say, but I know that it is not common.

The murmur of aortic regurgitation produced by the stretching of the aortic ring, which has been specially emphasized by Anders, does exist but it is not a common occurrence.

I do not believe that the condition of aortic stenosis can be diagnosed by any murmur or thrill combined. Unless the pulse shows aortic stenosis, the diagnosis is not justified whether the murmur exists or not. It is usually a peculiarity of aortic stenosis that the murmur increases from the aortic area as one listens upward toward the neck.

As to the lesion of the tricuspid valve, Sansom's discussion and statistics have always interested me. He states that tricuspid murmurs are not heard above the third rib. In my experience, tricuspid stenosis has been very rare. I have made a diagnosis once, proved postmortem. I have seen postmortem examinations in which I failed to make it, but I have seen very few examples of this occurrence. The lesion of tricuspid regurgitation is not uncommon, and it can be easily differentiated. The murmur is heard near the tip of the sternum to the right or to the left, and differs in character and value of sound from the mitral regurgitation which frequently accompanies it. The enlarged and throbbing liver also justifies the belief in the existence of the regurgitation, even when one is doubtful as to the existence of the murmur.

As to the lesion of the pulmonary valve of infected origin, I have seen two hearts in which the pulmonary valves were buttonhole slits; but, unfortunately, I did not listen to the patients in life. I have seen two cases in which I believed there had been a pulmonary regurgitation of rheumatic origin in which I was not allowed to have a postmortem examination. I am skeptical about the frequency of the occurrence of pulmonic valve lesions.

DR. EMANUEL LIBMAN, New York: The studies made by Dr. Barach are of interest and value. Such studies could, of course, be expanded so as to include some of the other less commonly studied causes of myocardial insufficiency. I am accustomed to use the term myorcardial insufficiency (or myocardial disease) and to try to determine in each case the cause of the myocardial insufficiency. A definite myocarditis is one of the causes of myocardial insufficiency. Among the other subjects that could be taken up would be anemias, kyphoscoliosis, myoma of the uterus, adiposity, and special infections, particularly of the gallbladder.

The question of the relationship of disease of the thyroid gland to myocardial disturbances is a most interesting one. The disturbances due to so-called hyperthyroidism (with or without enlargement of the thyroid gland) are well known, as are also the phenomena due to large goiters lying in the usual situation, and not causing hyperthyroidism. The typical substernal goiter has also been investigated a great deal, although it is not often enough searched for as a cause of otherwise unexplained auricular fibrillation. Auricular fibrillation not infrequently occurs in connection with a goiter which may be of very small size (even as small as a walnut), which lies in a particular location, namely, behind the sterno-

clavicular joint. The more common location is on the right side. This goiter can, of course, extend above the joint and constitute a perfectly movable mass. What Dr. White has stated concerning auricular fibrillation in patients under the age of 40 holds true in most cases. But if a mitral stenosis or other cause cannot be found to explain an auricular fibrillation, it is important to slip the finger down behind both sternoclavicular joints, and not infrequently such a thyroid enlargement as I have described will be found. From a study of such cases one gets the impression that the cardiac disturbance is due in some way to pressure on nervous structures, because these patients may have few, if any, evidences of hyperthyroidism.

The subject of disease of the valves of the heart in connection with scarlet fever is not clear to me. There is, of course, no doubt that in scarlet fever an acute bacterial endocarditis, due to a secondary general infection, may occur. I have seen on two occasions hearts from patients who had scarlet fever in their previous history, and the mitral valve in these two instances showed peculiar changes which put them in a class by themselves. The free margins of the valves were thickened and rather translucent, and beyond this, there was a peculiar whitish thickening. The physical signs in the two cases were the same, there being a very sharp first sound followed by a systolic murmur. It is difficult to describe just in what way these physical signs differ from those one gets in other cases of mitral disease, but I was able, from the physical signs, to suspect the condition in the second case. On taking the history we found that the patient had had an attack of scarlet fever about eight years before. At the postmortem examination the valve showed exactly the same condition as that which was present in the first case.

The points brought out by Dr. Lambert concerdning the location of the murmurs and abdominal sounds in cases of mitral stenosis is worthy of emphasis, and should be more widely taught in medical schools. The sharp first sound in mitral stenosis is generally best heard at the apex, the presystolic murmur at the apex or somewhat to the inner side of it, and the third sound just to the left of the sternum. The combination heard at the left border of the sternum, in a number of cases of mitral stenosis, of a sharp first sound followed by a second sound and then a third sound (and perhaps also a diastolic murmur) is most important for the diagnosis of mitral stenosis. Such a finding is often made when there are slight murmurs or none to be heard at the apex.

The question of tricuspid lesions is one of great interest. Insufficiency of the tricuspid valve due to mitral disease is, of course, very common, but organic lesions of the valve are not as infrequent as is generally believed. The reason that an organic lesion is somewhat overlooked is that the organic lesion of the tricuspid valve does not always involve the entire circumference of the valve.

Besides jaundice and polycythemia, which have been referred to, there are other clinical phenomena. Tenderness of the lower sternum occurs in cases of tricuspid disease. The diagnosis is sometimes difficult between a subacute streptococcus endocarditis in the bacteria-free stage and a tricuspid lesion. In both conditions the sternum is tender, and there is a peculiar color of the face. The peculiar color of the face which is found in cases of tricuspid disease is often by error called the mitral facies. The patients develop the familiar olive brownish or olive tan. In the cases of endocarditis in the bacteria-free stage, the color is more of a real brown. It is, of course, difficult to make this point clear without a presentation of patients. In cases of tricuspid disease, there is often present a peculiar odor of the breath, which occurs in a variety of hepatic diseases.

The point which Dr. White brought out, basing his statement on the experience of Dr. Levine, is one that is quite useful clinically. In cases of valvular disease in which the liver is enlarged, and particularly if it is hard, without marked general evidences of cardiac insufficiency, one must be suspicious of a lesion of the tricuspid valve. The open ductus arteriosus, instead of giving both a systolic and diastolic murmur to the left of the sternum, may give only a systolic murmur. Occasionally, after observing a case for a long time in which only a systolic murmur is present, a diastolic murmur may develop.

Pulmonary regurgitation due to mitral stenosis must be a very rare condition. I have not encountered a definite case. The murmur produced by pulmonary stenosis at the valve is usually heard at the left of the sternum. In pulmonary stenoses behind the conus (growths, adhesions) the systolic murmur is heard to the right of the sternum.

I have seen two definite cases of functional aortic insufficiency. Both cases were proved to be such by the postmortem examination. The first case was one of chronic nephritis (contracted kidney) in a young boy. There was present a marked enlargement of the heart in all directions, and there was heard a loud systolic and diastolic murmur over the entire cardiac area. On rest in bed, the diastolic murmur first disappeared, the heart became smaller, and then the systolic murmur completely disappeared. At the postmortem examination an aortic insufficiency was not present. The other case was one of the type described by von Leube, a functional aortic insufficiency in a case of pernicious anemia.

Stenosis of the isthmus of the aorta may give physical signs which are mistaken for mitral insufficiency. I am not referring now to cases of real so-called coarctation of the aorta, but to cases of more moderate degree. These are not at all rare, especially in children. The physical signs that are present are hypertrophy of the left ventricle, a soft systolic murmur at the apex that may be transmitted for a shorter or a longer distance to the left, a second accentuated aortic sound, and a palpable pulsation in the jugular notch. The diagnosis is generally not simple.

The murmur of aortic stenosis is heard most frequently over the sternum at the level of the third rib. It may also be heard in the second interspace to the right of the sternum or to the left of the sternum. There are cases in which it is heard only at the apex. It may be entirely absent, especially when, as pointed out by one of the previous speakers, the heart becomes enfeebled. While the apex usually partakes to a certain extent of the characteristics of the apex beat as found in cases of aortic insufficiency, the thrust is likely to be a slower one. The bisferiens pulse has already been mentioned. A point that I employ and which is of importance, I believe, in establishing the diagnosis of a real aortic stenosis is the absence of pulsation in the jugular notch. (Of course, examinations of pulsations of the jugular notch are of value only if the apex beat is neither above nor below its normal situation). It is an interesting fact that if one examines the aorta of a patient dying of aortic stenosis, even in a patient between 50 and 60, one usually finds the aorta thin and free from any changes. In other words, in a real stenosis the aorta is never distended as fully as normally.

It is important in examining patients for the presence of aortic insufficiency to listen for the diastolic murmur as far down as to the left of the upper end of the ensiform process. This is particularly important in the examination of atonic women.

The Equivalent of Ordinary Exertion

Dr. May G. Wilson, New York: This paper appears in this issue, p. 1213.

DISCUSSION

Dr. Theodore B. Barringer, M.D., New York: It is interesting and significant that a paper with the title "The Equivalent of Ordinary Exertion" should be read at this meeting. It shows the increasing importance which physicians are attaching to functional heart diagnosis. We are not content to learn only the kind of valve lesion, the type of arrythmia; the size of the heart—we want to know something about the way in which the heart functions—in other words, something about the heart's reserve power. The way in which the patient tolerates exercise gives us a very correct idea of the cardiac reserve power. Dr. Wilson has performed a signal service in formulating these standards of the tolerance normal children show for stair-climbing and dumb-bell swinging. To make this standard valid requires a great number of painstaking observations, and the technic employed must be beyond criticism. I am familiar enough with Dr. Wilson's work to vouch for all these essential points. Either of the tests described, stair-climbing or dumb-bell swinging, is well adapted to give us a standard test exercise in cardiac clinics. I have used them both for a number of years, and found them most satisfactory.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

March, 1921, **28**, No. 3

Effect of Potassium Permanganate on Mesenchyme Cells of Tissue Cultures. W. H. Lewis, Baltimore.—p. 431.
Development of Connective Tissue in Amphibia. G. A. Baitsell, New Haven, Conn.—p. 447.

American Journal of Diseases of Children, Chicago

April, 1921, **21**, No. 4

*Malt Soup Extract as Antiscorbutic. H. J. Gerstenberger, Cleveland.—p. 315.
*Aneurysms of Thoracic Aorta in Children. Report of Two Cases. J. K. Calvin, Chicago.—p. 328.
*Congenital Malformations of Esophagus. Report of Two Cases. R. P. Reynolds and W. W. Morrison, New York.—p. 339.
Use of Supports in Obscure Abdominal Conditions. L. T. Brown and F. B. Talbot, Boston.—p. 347.
Keratosis Diffusa Fetalis (Ichthyosis Congenita). J. H. Hess and O. T. Schultz, Chicago.—p. 357.
Studies of the Inorganic Constituents of Milk. W. R. Sisson and W. Denis, Boston.—p. 389.
*Infantile Scurvy Following Use of Raw Certified Milk. H. K. Faber, San Francisco.—p. 401.
*Indicanuria in New-Born. B. E. Bonar, Chicago.—p. 406.
*Postoperative Recurrence of Intussusception. M. Cohen, New York.—p. 410.

Malt Soup Extract as Antiscorbutic.—A report is made by Gerstenberger of a rapid and marked cure, such as is experienced with orange juice, of three cases of severe infantile scurvy by the administration of 100 gm. malt soup extract. In two of these the malt soup extract was given in the form of Keller's soup, in the third, in conjection with S. M. A. The explanation offered for the presence of the antiscorbutic property in this lot of malt soup extract is that it was, in all probability made from barley of the proper age and state of germination or from a lot of barley possessing an unusually high amount of potential antiscorbutic material. The suggestion is made that all malt soup extract could be manufactured from barley of an age and state of germination that would insure its large and adequate content of the antiscorbutic factor, and that in this manner another antiscorbutic of value also in other respects to infants and children, could be added to the list of regular and dependable antiscorbutics.

Aneurysms of Thoracic Aorta.—Calvin has collected thirty-one cases from the literature and adds two cases due to acute infectious aortitis. In one case definite history of five severe attacks of chorea was given. During the third attack the heart was involved. This attack was followed by diphtheria. During the fifth attack the aneurysm was diagnosed five years after the initial chorea. The second patient developed symptoms of "heart trouble" after an operation for appendicitis, with a postoperative pneumonia, which in turn was followed by arthritis.

Congenital Malformations of Esophagus.—In one of the cases cited by Reynolds and Morrison, the esophagus was patent as far as the level of the fourth dorsal vertebra, where it ended blindly in a dilated pouch. This pouch was situated just at the bifurcation of the trachea, and just above the arch of the aorta. From this point on, the esophagus was represented as a fibrous band, to within about 1 inch of the stomach, where it again became a patent tube to empty into the stomach. In the second case, a congenital obliteration of the esophagus was found below a point opposite the second dorsal vertebra. At this point there appeared to be a connection between the esophagus and trachea.

Infantile Scurvy on Raw Milk Diet.—Faber cites the case of an infant aged 10 months fed almost from birth on modified raw certified milk, to which small amounts of sodium citrate were added, who developed scurvy at the aged of 6 months. It is possible but not proved, that sodium citrate may have partly destroyed the antiscorbutic vitamin.

Indicanuria in New-Born.—Indicanuria in the new-born occurred in twenty-eight, or 8.2 per cent., of 338 examinations made by Bonar and in twenty cases of fifty examined. In all probability the condition may be considered physiologic, as it could not be associated with any pathologic findings clinically.

Postoperative Recurrences of Intussusception.—Four cases of postoperative recurrences of intussusception at intervals of ten months, thirty hours, four months and fourteen months, respectively, are reported by Cohen. Seventeen other cases are recorded in the literature.

American Journal of Ophthalmology, Chicago

March, 1921, **4**, No. 3

Proliferating Chorioretinitis. M. Danis, Brussels, Belgium.—p. 153.
Microscopie Findings in Asteroid Hyalitis. F. H. Verhoeff, Boston.—p. 155.
Mooren's Ulcer of Cornea. M. Feingold, New Orleans.—p. 161.
Microscopy of Living Eye with Slit Lamp of Gullstrand. R. Von Der Heydt, Chicago.—p. 171.
Study of Onehocercosis. R. Pacheco-Luna, Guatemala, C. A.—p. 175.
Spasm of Retinal Arteries. W. H. Crisp, Denver.—p. 188.
Significance of Syphilis as Etiologic Factor in Acute Iritis. C. A. Clapp, Baltimore.—p. 194.
Disorders of Lacrimal Drainage. H. D. Lamb, St. Louis.—p. 197.
Diagnosis of Trachoma Granules on Limbus of Cornea. K. Hiwatari, Kagoshima, Japan.—p. 200.
Posterior Sclerotome. A. G. Bennett, Buffalo.—p. 202.
Anomalous Spiral Looping of Retinal Artery. L. M. Francis, Buffalo.—p. 202.
Pulsating Exophthalmos. D. Hallett, New York.—p. 203.
Amaurotic Family Idiocy. J. A. Kearney, New York.—p. 203.

American Journal of Tropical Medicine, Baltimore

January, 1921, **1**, No. 1

Medical Notes on Dominican Republic and Haiti. J. M. Swan.—p. 19.
Attempt to Explain Greater Pathogenicity of Plasmodium Falciparum as Compared with Other Species. C. C. Bass, New Orleans.—p. 29.
Natural Malaria Infection in Anopheles Mosquitoes. W. V. King.—p. 35.
Prevalence of Carriers of Endameba Dysenteriac Among Soldiers Returned from Overseas Service. C. A. Kofoid and O. Swezy, Berkeley, Calif.—p. 41.
*Yaws, Contracted by American Soldier in France. J. F. Schamberg and J. V. Klauder.—p. 49.
*Case of Bacillary Dysentery with Diphtheritic Membrane in Vagina and Edema of Abdominal Wall. I. I. Lemann, New Orleans.—p. 53.

Yaws in France.—The lesions in the case reported by Schamberg and Klauder in general were distinctly fungated and granulomatous in appearance, sharply circumscribed, varying in size from a large pea to a nut. They were present on the scalp, soles of the feet, palms of the hands and the palmar aspects of the fingers, and on the prepuce. A dark field examination of the serum obtained from the surface of some of the lesions disclosed many trephonemas having the morphologic characteristics of *Spirochaeta pallida*. A Wassermann performed with cholesterolized, alcoholic syphilitic liver and acetone insoluble lipoid antigens was 4 plus. Neo-arsphenamin, 0.9 gm., caused a disappearance of many of the lesions and a marked improvement in others. Sixteen days later, a second dose was given which caused a complete disappearance of the remaining lesions. Since the administration of neo-arsphenamin, weekly Wassermann reactions have been positive. The last degree of positive reaction obtained has been 3 plus with a cholesterolized antigen; 2 plus with an alcoholic syphilitic liver antigen and 2 plus with an acetone insoluble lipoid antigen. One of the skin lesions was excised and was used to inoculate four rabbits intratesticularly. In two rabbits, positive results were obtained after an incubation period of thirty-four days. A second strain has been grown in rabbits, six out of eight being successful; average period of incubation, twenty-four days. Ten cubic centimeters of the patient's citrated blood was injected intravenously into rabbits with negative results. Attempts to inoculate the anterior chamber of the eye in rabbits were negative. Attempts to inoculate a monkey's eyebrow have been unsuccessful so far. Complement fixation tests were performed with an antigen made from a yaws nodule from an infected rabbit's testicle. Salt solution was used in making the antigen rather than alcohol. The reaction with the serum of the yaws patient yielded slight but definite degree of complement fixation. A duplicate test performed with the pooled serum of three syphilitics whose Wassermann reaction was 4 plus, yielded negative reactions. Further immunologic study of the yaws lesion showed the following: hyperkeratosis of the acanthosia of the epidermal tissues; extensive lymphoid and polymorphonuclear infiltration of corium. Absence of blood vessel

changes. Spirochetes in the leukocytic areas of the apices of the papillae, subjacent to the rete. The difficulty in staining the spirochetes is suggestive of its being pertenuis rather than pallida.

Bacillary Dysentery with Diphtheritic Membrane in Vagina.—The croupous pseudomembrane in the vagina in Lemann's case corresponded exactly with the membrane universally described as occurring in the bowel of dysentery patients; in other words the bacilli seem to act on the vaginal mucous membrane as they do on the intestinal. Undoubtedly, contamination was directly from the rectal discharges by proximity, especially as the inflammatory process was most extensive and intense at the introitus and seemed to be ascending. Or the infection may have been by contiguity within the pelvis. Another theory may be suggested, namely, that the infection was carried to the vagina by the blood stream.

Archives of Dermatology and Syphilology, Chicago

April, 1921, **3**, No. 4, Part 1

*Biologic Study of Latency in Syphilis. XXI. M. F. Engman and F. Eberson, St. Louis.—p. 347.
Syphilis of Intestine. U. J. Wile, Ann Arbor, Mich.—p. 372.
*Creeping Eruption (Larva Migrans). Report of Case Contracted at Wildwood, N. J. J. V. Klauder and S. S. Greenbaum, Philadelphia.—p. 377.
Pathology of Rhus Dermatitis. J. B. McNair, Washington, D. C. p. 383.
*Dermatologic Etymology. G. H. Fox, New York.—p. 404.
*Picric Acid in Treatment of Severe Epidermophyton Infection. XXII. R. S. Weiss, St. Louis.—p. 413.
*Comparison of Wassermann and Sachs-Georgi Reactions in Serologic Diagnosis of Syphilis. R. A. Kilduffe, Pittsburgh.—p. 415.

Latency in Syphilis.—In the study made by Engman and Eberson *Spirochaeta pallida* has been isolated in five instances from latent syphilitic patients—three times from inguinal glands (two females and one male) and twice from the semen. The stains produced typical syphilitic lesions in rabbits' testicles and could be recovered and propagated for an indefinite number of generations. *Spirochaeta pallida* was isolated from patients who gave a history of syphilis dating back eleven and thirteen years in two instances and one year in three instances. An inguinal gland and the semen proved positive for spirochetes in the two first cases mentioned and the glands and semen in the last named. In this series of positive results, a gland was found to be infectious in the case of a man whose Wassermann reaction had been negative, following treatment, and at the time of taking a specimen for the experiment gave 2 plus reaction in the cholesterin antigen only. A second instance of this nature was found in the case of a specimen of semen which proved positive for *Spirochaeta pallida*. It appears from this investigation and from that of others that the blood and other body fluids, excepting semen, are not infectious in latent syphilis, or if so, rarely. Incubation of blood from latent syphilitic patients did not favor any infectious property which might have existed. One third of the total number of spinal fluids from latent syphilitic patients gave evidence of lymphocytosis, and one gave a positive Wassermann reaction. The groups studied were composed of untreated patients, as well as of those who had received no treatment within the last two years. Between the time of taking specimens for inoculations of rabbits and the first symptoms or a suggestive history of syphilis in these patients, from one to forty years had elapsed. Of a total of 500 cases of syphilis, seventy-five, or 15 per cent., were definitely latent. These investigations demonstrate the fact that those who give a history of a syphilitic infection may harbor active virulent *Spirocheata pallida* for years, and this in the face of irregular negative Wassermann reactions or slight reaction in the cholesterin antigen only.

Creeping Eruption.—In the case reported by Klauder and Green baum the disease was entirely cured in about five days after the daily applicaton of tincture of iodin to the entire length of the burrow.

Dermatologic Etymology.—Fox presents a glossary of about 150 terms employed in dermatology as selected from a textbook.

Picric Acid Treatment of Epidermophyton Infection.—Weiss strongly recommends the application of a saturated solution of picric acid in water in the treatment of this disease but cautions that it be not used for more than a week at the longest because of the danger of poisoning.

Comparison of Wassermann and Sachs-Georgi Tests.—The results of 296 parallel Wassermann and Sachs-Georgi reactions are reported by Kilduffe. They indicated that the Sachs-Georgi reaction is not as delicate or as trustworthy as the Wassermann reaction in the serodiagnosis of syphilis. It may be positive with Wassermann negative serums and negative with Wassermann positive serums. The number of nonspecific reactions is sufficiently high to render the test unreliable as a means of diagnosis.

April, 1921, **3**, No. 4, Part 2

*Histologic Changes Produced Experimentally in Rabbits. I. Arsphenamin. J. A. Kolmer and B. Lucke, Philadelphia.—p. 483.
*Id. II. Neo-Arsphenamin. J. A. Kolmer and B. Lucke, Philadelphia. p. 515.
*Id. III. Mercurial Compounds. J. A. Kolmer and B. Lucke, Philadelphia.—p. 531.
*Clinical Commentary on Studies of Histologic Changes in Organs Induced by Arsphenamin, by Neo-Arsphenamin and by Mercury. J. F. Schamberg, Philadelphia.—p. 571.

Histologic Changes Produced by Arsphenamin.—The intravenous injection of lethal doses of acid nonneutralized solutions of arsphenamin in experimental animals produces widespread and severe vascular injury characterized by congestion, thrombus formation and hemorrhage; later cellular degeneration and necrosis take place. The intravenous injection of single large doses of solutions of disodium arsphenamin (ten times larger than the maximum amount administered to human beings at one time) produce severe vascular and tissue alterations, particularly in the liver, kidney, suprarenals and spleen. The intravenous injections of multiple therapeutic doses of solutions of disodium arsphenamin corresponding to doses of 0.6 gm. per 60 kilograms of body weight, produce inconspicuous tissue alterations that do not appear to be sufficiently pronounced to interfere with the functions of the organs. Detailed descriptions of the histologic changes found in the brain and meninges, heart, lungs, liver, kidneys, suprarenals and spleen are given.

Histologic Changes Produced by Neo-Arsphenamin.—The intravenous injection of single massive and multiple smaller doses of neo-arsphenamin into rats and rabbits produces vascular injury, cellular degenerations and necrosis similar to those produced by solutions of disodium arsphenamin. The histologic changes found in the cerebrum, cerebellum, brain stem, meninges, heart, lungs, liver, kidneys, suprarenals and spleen are described. The tissue changes produced by neo-arsphenamin are less severe than those produced by solutions of disodium arsphenamin when considered in relation to dosage per kilogram of body weight. The changes described were produced in equal degree and with equal frequency by neo-arsphenamin prepared by different laboratories.

Histologic Changes Produced by Mercury.—The administration to rabbits of different soluble and insoluble mercurial compounds commonly employed in the treatment of syphilis, by intramuscular and intravenous injection, inunction and oral administration, and in amounts analogous to the maximum doses given to human beings, resulted in the production of tissue changes in all organs examined, namely, the brain, heart, lungs, spleen, liver and kidneys. The most conspicuous changes were found in the brain in the nature of perivascular round cell infiltrations, and in the kidneys, as tubular and capsular glomerulonephroses of varying degrees of severity. The degree of tissue injury caused by the different preparations of mercury appears to bear a direct relation to the actual amounts of pure mercury absorbed, irrespective of the kind of preparation and route of administration.

Arsenic and Mercury Compounds in Syphilis.—Schamberg expresses the opinion that vigorous mercurial treatment is often responsible for arsenical intoxication when arsphenamin and mercury are used at the same time. Large doses of both ought not to be employed synchronously. When the two are used jointly their respective dosages should be inversely proportional to each other. It would appear best to give the courses of mercury subsequent to that of arsenic.

Boston Medical and Surgical Journal

March 31, 1921, **184**, No. 13

Rat in Health and Economics. A. T. Leatherbee, Boston.—p. 319.
Modifications of Technic in Gallbladder Surgery. G. F. Martin, Lowell.—p. 325.
Energy Requirements of Girls from 12 to 17 Years of Age. F. G. Benedict and M. F. Hendry, Boston.—p. 329.
Bornhardt's Formula. H. Gray, Boston, and F. B. Allen, North Wales, Pa.—p. 334.

April 7, 1921, **184**, No. 14

Ancient Empiricism vs. Modern Evidence. J. B. Deaver, Philadelphia.—p. 345.
*Basal Metabolism as Index of Treatment in Diseases of Thyroid. F. H. Lahey and S. M. Jordan, Boston.—p. 348.

Value of Basal Metabolism Studies in Thyroid Disease.—From an experience in metabolism studies in connection with thyroid disease, involving 304 metabolism estimations on 135 patients Lahey and Jordan conclude that active hyperthyroidism probably does not exist without an increase in the metabolic rate. Such study is of great value in separating those cases of neurasthenia and associated neurologic and cardiac lesions, such as effort syndrome, which often present signs closely simulating those of hyperthyroidism, in that these conditions show metabolism estimations within normal limits. It is of value, further, in determining the presence of secondary hyperthyroidism in those cases of adenoma of the thyroid in which the symptoms of hyperthyroidism are not markedly evident. Even slight degrees of secondary hyperthyroidism are demonstrable by increases in the rate of metabolic activity. Metabolism estimation, correlated with the clinical examination, is also of marked value in indicating the ability of a patient to withstand surgical procedures of various magnitudes; for example, in deciding whether the ligation of a single thyroid pole should be employed, whether it would be wise to ligate both thyroid poles, or whether it would be safe to employ partial thyroidectomy as a primary procedure. It is of further value in deciding when to follow the preliminary pole ligation with the partial thyroidectomy. Up to recently it has been the authors' custom to ligate the superior thyroid poles and then send the patient home for eight weeks, at the end of which time the patient returned to the hospital for the complete operation. As the result of their metabolism investigations, they have been finding that in some cases, by waiting eight weeks, they have passed the period of maximum improvement, as indicated by a rise in the metabolism rate from the rate representing the maximum drop after pole ligation. They have, therefore, come to the conclusion that during the intervals between pole ligation and partial thyroidectomy, metabolism estimations should be made every two weeks, and partial thyroidectomy employed as soon as the maximum gain indicated by a drop in metabolism and pulse is made. Partial thyroidectomy may be employed as a primary measure, unpreceded by ligations, in most cases showing increases in metabolic rates of not over +35 In all such cases, however, careful consideration must be given to the apparent degree of toxicity of the disease, as evidenced by the clinical signs, and this consideration must not be biased by the degree of increase in basal metabolic rate, however moderate it may be. Careful consideration must also be given resulting or associated lesions, such as myocarditis and renal lesions. Most patients showing basal metabolic rates above +50 are safest when submitted to primary ligation of one or both of the superior thyroid poles. In patients showing metabolic rates of from +75 up, extreme caution must be exercised in the extent of the surgical treatment given.

April 14, 1921, **184**, No. 15

Fecal Units and Intestinal Rate, Basis for Study of Health and Intestinal Indigestion. F. L. Burnett, Boston.—p. 371.
*Acute Inversion of Uterus. J. L. Huntington, Boston.—p. 376.
Case of Traumatic Myositis Ossificans Developing from Torn Coracoclavicular Ligament Without Other Bony Fracture. H. W. Marshall, Boston.—p. 380.
Case of Tubercular Mesenteric Glands. J. M. Lynch, Boston.—p. 384.
*Aneurysm of Splenic Artery, Rupturing Simultaneously with Paracentesis Abdominis. J. Garland, Boston.—p. 385.
Case of Congenital Cystic Kidneys and Other Congenital Anomalies. L. W. Smith, Boston.—p. 386.

Acute Inversion of Uterus.—In a case cited by Huntington labor was terminated by easy, low forceps. Fifteen minutes later, gentle pressure on the fundus revealed the placenta at the introitus. Pressure given at the sides of the fundus with extreme care and the placenta was easily delivered. There was moderate bleeding after the birth of the placenta, and ergot and pituitary extract were given subcutaneously. Bleeding continued and ergot was repeated. Bleeding seemed to be increasing, and while preparations were being made for a transfusion, Huntington decided to pack the uterus. On introducing his hand into the vagina, a smooth mass was found projecting through the cervix, the cervix hugging it tightly like a collar. The entire body of the uterus seemed to be in the vagina. More careful examination revealed a roughened area over the fundus, evidently the placental site. On an attempt being made to replace the fundus by pressure from below, blood poured from the vagina. Immediate, laparotomy was decided on, without further attempts at reduction from below. Bit by bit the uterus was drawn back through the ring. It appeared firm, but rather pale, but the color returned rapidly, and no attempt was made to fix it. The patient made an absolutely uninterrupted convalescence. In another case of normal primiparous labor, lasting nine hours, the patient had slight postpartum hemorrhage. A small piece of placenta was removed. The patient went into shock, although there was not enough hemorrhage to account for it. A diagnosis of inversion of the uterus was made. Under ether, an attempt was made to replace the body of the uterus. This was unsuccessful; the patient went into extreme shock. Another attempt was also unsuccessful. Laparotomy was decided on. The uterus was completely inverted, the tubes being drawn in with the fundus. An attempt to stretch the ring above and push the fundus up from below, failed. The posterior vaginal wall was finally split; the uterus was pushed up, and a hysterectomy performed, a small portion of the cervix being left in situ. The patient recovered from shock of operation, but died sixteen days later of sepsis and exhaustion.

Aneurysm of Splenic Artery.—In over 4,100 necropsies at the Massachusetts General Hospital, aneurysm of the splenic artery has been found three times. Garland has found seventeen cases mentioned in the literature, the most recent of which, reported by Hogler, is said to have been diagnosticated during life. Garland's patient complained of dyspnea on exertion and edema. The abdomen was distended and tympanitic, with a definite fluid wave and shifting dullness. The temperature varied from 98 to 103 F. Finally, abdominal paracentesis was performed, the trochar being inserted in the midline about midway between the umbilcus and the symphysis pubis. After 1,200 c.c. of slightly cloudy, reddish fluid had been withdrawn, the flow stopped. As there still seemed to be fluid in the abdomen, the tap was repeated, the trochar being inserted one-half inch lower. Immediately the patient experienced a sharp pain in the abdomen, and the needle was withdrawn. Slight bleeding from the puncture wound followed, and the patient became pale and showed signs of collapse, with a weak and thready pulse and cold extremities. Death occurred three hours later. The necropsy disclosed a ruptured aneurysm of the splenic artery not due to trauma, however.

Illinois Medical Journal, Oak Park

April, 1921, **39**, No. 4

Compulsory Health Insurance and Allied Dangers. J. J. A. O'Reilly, S. C. Henry and D. M. Gallie.—p. 293.
Etiology of Pulmonary Tuberculosis. R. S. Berghoff, Chicago.—p. 310.
Symptoms and Diagnosis of Nasal Accessory Sinus Disease with Special Reference to Their Complications. W. D. Black, St. Louis.—p. 313.
Present Tendencies in Federal Public Health Legislation. F. R. Green, Chicago.—p. 317.
Nonsurgical Drainage of Biliary Tract. Its Usefulness as Diagnostic and Therapeutic Agent. F. Smithies, Chicago.—p. 325.
*Case of Cardiospasm with Enormous Dilatation of Esophagus. T. J. Snodgrass, Janesville, Wis.—p. 339.
Standardization of Methods of Treatment in Orthopedic Surgery and in Industrial Surgery of Extremities and Spinal Column. R. B. Osgood, Boston.—p. 342.
Treatment of Inoperable Parovarian Cyst Adenoma by Laparotomy and Radium. R. L. Markley, Rockford.—p. 353.
Defects in Present Method of Attempts to Control Venereal Diseases; Suggestions. A. E. Mowry, Chicago.—p. 354.

Cardiospasm with Enormous Dilation of Esophagus.—Snodgrass reports the case of a man, aged 66, who gave a history of having had trouble in swallowing since he was 14. He said that food would stay in his esophagus several hours and then he would have to spit it out. This continued with-

out treatment for forty years. Seven years ago, he had influenza from that time he grew steadily worse in regard to his swallowing. It required enormous pressure to force food into the stomach. He found that he could eat practically a whole meal before swallowing it. It would then be necessary for him to leave the table, throw his arms back, grasp something firmly, take a drink of water, throw his head back and thus, with enormous pressure, force the food into his stomach. It would shoot in with a very audible whistling sound. The esophagus, however, was never entirely emptied and every morning he would throw out a large amount of food that had been taken the night before. The patient's appetite was good; he belched practically not at all, but was continually troubled with a large amount of gas which passed out through the bowel. He had no particular distress after eating; he never vomited, but simply regurgitated the food out of the esophagus, which he was unable to swallow. His bowels were regular; he had a slight brassy cough; no pain; was somewhat nervous and ill nourished. His general physical condition was fair for a man of his age. On giving him a bismuth meal it was found that the esophagus was enormously dilated, was narrowed down to a small stricture in the region of the cardia about 1½ inches long and one-eighth inch wide. By means of gradual dilation of the stricture the esophagus regained its tone somewhat. Several months after treatment examination under the fluoroscope showed still some delay in the food passing from the esophagus into the stomach. He was able to swallow food with very little difficulty, his weight increased, he never regurgitated food, he belched freely, and was thereby relieved of the distressing bowel symptoms.

Journal of Comparative Psychology, Baltimore

February, 1921, **1**, No. 1

Integration of Movements in Learning in Albino Rat. Study of Adjustment of an Organism to an Environment. J. L. Ulrich.—p. 1.
Psychological Effects of Oxygen Deprivation. E. Bagby.—p. 97.

Journal of Biological Chemistry, Baltimore

March, 1921, **46**, No. 1

Detection of Volatile Alkylamines in Presence of Ammonia and of Volatile Tertiary Alkylamines in Presence of Volatile Primary and Secondary Alkylamines. H. E. Woodward and C. L. Alsberg, Washington, D. C.—p. 1.
Studies on Digestibility of Proteins in Vitro. I. Effect of Cooking on Digestibility of Phaseolin. H. C. Waterman and C. O. Johns, Washington, D. C.—p. 9.
Ribohexosaminic Acids. P. A. Levene and E. P. Clark, New York.—p. 19.
*Biochemistry of Iodin. IV. Effect of Thyroxin on Growth in White Rats and in Rabbits. A. T. Cameron and J. Carmichael, Winnipeg, Can.—p. 35.
Comparative Results with Scales' Method and Devarda's Alloy for Reducing Nitric Nitrogen. A. P. Harrison, Washington, D. C.—p. 53.
Alkali Reserve of Blood of Certain of Lower Vertebrates. J. B. Collip, Edmonton, Can.—p. 57.
*Acid-Base Exchange Between Plasma and Red Blood Cells. J. B. Collip, Edmonton, Can.—p. 61.
Synthesis of Hippuric Acid in Animal Organism. IV. After Exclusion of Bile from Intestine. H. B. Lewis, Philadelphia.—p. 73.
Nutritional Requirements of Yeast. III. Synthesis of Water-Soluble B by Yeast. V. E. Nelson, E. I. Fulmer and R. Cessna, Ames, Ia.—p. 77.
*Available Carbohydrate in Thrice Boiled Vegetables. L. O'Reilly and E. H. McCabe, Montreal, Can.—p. 83.
*Factors Governing Excretion Rate of Urea. J. H. Austin, E. Stillman and D. D. Van Slyke, New York.—p. 91.
Vitamins and Yeast Growth. R. J. Williams, Eugene, Ore.—p. 113.
Use of Edestin in Determining Proteolytic Activity of Pepsin. J. F. Brewster, Washington, D. C.—p. 119.
Acidity of Goat's Milk in Terms of Hydrogen-ion Concentration, with Comparisons to that of Cow's and Human Milk. E. W. Schultz and L. R. Chandler, San Francisco.—p. 129.
Size of Fat Gluobules in Goat's Milk. E. W. Schultz and L. R. Chandler, San Francisco.—p. 133.
Chemical Nature of Tissue Coagulins. C. A. Mills, Cincinnati.—p. 135.
Action of Tissue Extracts in Coagulation of Blood. C. A. Mills, Cincinnati.—p. 167.
Fatty Acids of Lecithin of Egg Yolk. P. A. Levene and I. P. Rolf, New York.—p. 193.
*Chemistry of Neo-arsphenamin and Its Relation to Toxicity. G. W. Raiziss and M. Falkov, Philadelphia.—p. 209.
*Certain Chemical Changes in Blood After Pyloric Obstruction in Dogs. A. B. Hastings, C. D. Murray and H. A. Murray, Jr., New York.—p. 223.
*Parathyroidectomized Dogs. A. B. Hastings and H. A. Murray, Jr., New York.—p. 233.
*Variation and Statistical Constants of Basal Metabolism in Men. J. A. Harris and F. G. Benedict, Washington, D. C.—p. 257.

Effect of Thyroxin on Growth.—Using decrease of growth rate in growing rats, hypertrophy of heart, liver, kidneys and suprarenals, and decrease of growth rate of thyroid as tests, thyroxin, when administered by mouth, produces the same qualitative effects as does desiccated thyroid. Quantitatively, when compared on a basis of iodin content, the effects of thyroxin are distinctly less. This is probably due to bacterial decomposition; thyroid acts as a shield. The hypertrophy of heart lymphatic tissue resembles that observed in cases of hyperthyroidism.

Acid-Base Exchange Between Plasma and Blood Cells.—Confirmatory evidence is given by Collip of the acid-base transfer between the red cells and the plasma of the serum of vertebrate blood with fluctuating carbon dioxid tension. The solution of the ash of serum or of whole blood has a greater carbon dioxid combining power than the original serum or whole blood. This fact indicates that part of the alkali of the blood is bound by an organic substance (probably with protein for the most part) which functions as a weak acid. The hypothesis that sodium bicarbonate rather than carbon dioxid combinations with proteins is the transporting vehicle for carbon dioxid in the body is supported.

Carbohydrates in Boiled Vegetables.—Only in the case of a few thrice boiled vegetables were O'Reilly and McCabe able to free them completely from available carbohydrate as determined by takadiastase. The use of 20 parts of water, as compared with 10, for each boiling makes the carbohydrate extraction more complete. By this latter method vegetable marrow, lettuce, and celery can be completely freed from available carbohydrate, and canned spinach, canned asparagus, turnips, beets and onions can be rendered approximately carbohydrate-free. Canned string beans, cauliflower, pumpkin, cabbage and carrots still retain about 0.5 per cent. of available carbohydrate. Sodium bicarbonate added in 0.05 and 0.1 per cent. concentration markedly favors the completeness of the carbohydrate extraction in most vegetables. This is very marked in the case of cauliflower.

Factors Governing Urea Excretion.—The physiologic studies presented by Austin and others afford a basis for detecting abnormalities in urea excretion, but not for interpreting the significance of such abnormalities.

Toxicity of Neo-Arsphenamin.—It is suggested by Raiziss and Falkov that the variation in the completeness of substitution in the amino groups accounts for the irregularity of the toxicity and therapeutic effect of neo-arsphenamin.

Blood Changes After Pylorus Closure.—The operation of closure of the pylorus was performed on eight dogs in an attempt to reproduce the clinical condition known as gastric tetany. Great disturbances in certain fundamental physicochemical equilibria took place in the blood after this operation: (1) A marked increase in the carbon dioxid combining power of the blood; (2) a striking fall in the concentration of chlorin ions; (3) a slight increase in the concentration of calcium in the serum; (4) the p_H of the plasma, after operation, showed only an insignificant rise; at death it fell rapidly; (5) the concentrations of sulphur and phosphorus were markedly increased, and (6) the concentration of sodium was diminished in two out of three cases. The explanation for the blood changes observed seems fairly clear. The alkalosis is evidently an exaggeration in duration and extent of the alkaline tide occurring normally after meals. The formation and secretion of hydrochloric acid by the cells of the gastric mucosa necessitate the removal from the blood stream of hydrogen-ions and chlorin ions. The former exist in the blood mostly as carbonic acid, the latter in the form of sodium chlorid. This process of selective secretion liberates bicarbonate ions and sodium ions which unite to form sodium bicarbonate and, in this fashion, bring about an increase in the alkaline reserve.

Effect of Parathyroidectomy on Blood Chemistry.—The effects of parathyroidectomy on the calcium, sugar, combined carbon dioxid, and hydrogen-ion concentrations of the blood were studied by Hastings and Murray. The previously observed calcium deficiency in parathyroidectomized dogs was verified, but no support is found for theories based on a disturbed acid-base equilibrium. General theoretical considerations are outlined which may be of some value in explaining the relationship between tetany and the relative concentration of certain ions in the blood.

Variations in Basal Metabolism.—Harris and Benedict investigated the variability in the basal metabolism of the normal individual. The metabolism of the "normal" subject is not constant even with practically constant body mass but it is to some extent in a state of flux.

Journal of Orthopaedic Surgery, Lincoln, Neb.

March, 1921, **3**, No. 3

Hallux Valgus, Rigidus and Malleus. M. Jensen, Leyden, Holland.—p. 87.
Congenital Torticollis. H. W. Meyerding, Rochester, Minn.—p. 91.
Curative Play System of Children's Mercy Hospital of Kansas City, Mo. R. E. McE. Schauffler, Kansas City, Mo.—p. 98.
Case of Loose Osteocartilaginous Bodies in Knee Joint. P. Blanco, Rochester, Minn.—p. 104.

Congenital Torticollis.—Only twenty-six of more than 212,000 patients examined in the Mayo Clinic from January, 1910, to October, 1919, had a diagnosis of congenital torticollis and operation. The average age of these patients was 17. Twenty-three of the twenty-six had had no previous treatment. Eight patients had been traumatized at birth, five by the use of forceps or by unusually long and difficult labor, two in breech presentations, and one in transverse presentation. One ascribed the cause to injury soon after birth. Seventeen gave no definite cause for the condition or history of trauma. The treatment of congenital torticollis is surgical. Divide all contracted structures, overcorrect the deformity and maintain the new position by means of plaster casts. Unless the patient is seen in the early stages subcutaneous tenotomy should be avoided, and even early it is attended by the danger of hemorrhage and incomplete operation. The sternoclavicular route is preferable to the mastoid, although the scar from the latter is less noticeable because of the covering of hair. The Mikulicz operation of removing the lower two thirds of the sternoclaidomastoid and the cervical fascia leads to the danger of damaging the spinal accessory nerve and vessels and has not been found necessary in any of the Mayo Clinic cases.

Curative Play System.—Schauffler maintains that curative exercises prescribed by the orthopedic surgeon, and supervised by a special teacher, by being made attractive by the choice of apparatus, by the introduction of competition and by the final submerging of the exercise in real play, have a therapeutic value not otherwise obtainable.

Medical Record, New York

April 9, 1921, **99**, No. 15

Fundamental Principles of Thoracic Surgery. W. Meyer, New York.—p. 593.
*Routes of Access to Heart. R. Matas, New Orleans.—p. 595.
*Advantage of Mental Therapy in Organic Nervous Disorders. L. P. Clark, New York.—p. 599.
Clinical Syphilis of Central Nervous System; A Preliminary Study. J. W. Stephenson, New York.—p. 605.
Diagnosis of Stomach Conditions. C. F. Morsman, Spokane, Wash.—p. 608.
Tubal Pregnancy; Report of Case. J. W. Winston, Norfolk, Va.—p. 611.

April 16, 1921, **99**, No. 16

Jaundice. J. B. Deaver, Philadelphia.—p. 639.
Tonsillectomy and Adenoidectomy. L. M. Hubby, New York.—p. 641.
Clinical and Laboratory Tests in Hyperthyroidism. H. R. Harrower, Glendale, Calif.—p. 645.
Reestablishment Insurance. Organization for Purpose of Adding Materially to Length of Days and Enhancing Productivity. J. M. Taylor, Philadelphia.—p. 648.
Triple Calcium Phosphate as Stimulant for Bone Reproduction (Healing) in Fractures. R. J. Behan, Pittsburgh.—p. 650.
Concept of Roentgen-Ray Pathology. XI. Esophagopathy. A. J. Pacini, Washington, D. C.—p. 652.
Contributions of Press to Lay Concept of Mental Ill Health. D. A. Laird, Iowa City, Iowa.—p. 655.

Operation for Foreign Body in Heart.—Judging by statistics on surgical intervention for the removal of foreign bodies from the heart, Matas says, it plainly follows that nonintervention should be the rule. Evidently, however, the indications for operation cannot be formulated by mere statistics. The indications for operations are not amenable to rules. The indication must be based on the individual prognosis from the point of view of the condition of the patient, the degree and duration of his disability. It is only when life is threatened by the presence of the projectile, and the patient thoroughly undestands his danger as well as the risks of the operation that this can be regarded as justifiable. If an operation is decided on, it is then that the advances and the new knowledge of the technic acquired by the experience of the late war will prove to be an invaluable acquisition.

Mental Therapy.—Clark is convinced that sufficient data are at hand to show that improved principles of pure mental therapy have already shown how all sorts of spasmodic disorders, constitutional or functional in origin, and many psychotic syndromes supposedly of analogous somatic basis may be helped radically or cured by such therapy. Further, various other visceral disorders may not only be cured or brought to a practical arrest by mental treatment but this whole psychic approach in general medicine bids fair to offer one of the best rational explanations of some organic disease. By due heed and caution in the earliest application of mental therapy the method may offer one of the greatest advances to preventive medicine of recent times.

Military Surgeon, Washington, D. C.

March, 1921, **48**, No. 3

Second Division at Chateau Thierry, June, 1918. L. C. Duncan.—p. 253.
Pneumonia Following Influenza in Camps in United States. E. F. Irons.—p. 275.
Report of Sixty Operations Performed Under Local and Regional Anesthesia. A. M. Hanson, Faribault, Minn.—p. 306.
Use of Surgical Solution of Chlorinated Soda, Dichloramine-T, and Eusol, in Treatment of Suppurating Wounds. Lieutenant Wyant.—p. 310.
Experiences of a Medical Officer in 1849. L. C. Duncan.—p. 314.
Plan of Medical Evacuation. M. A. W. Shockley.—p. 319.
Factors Making for High Venereal Rate of U. S. Army in China. I. A. Pelzman.—p. 329.
Casualty Clearing Station. A. H. Safford.—p. 334.
Tonsillectomy in Military Service. R. Reynolds.—p. 341.
Doctors in Uniform. H. W. Dana, Boston.—p. 347.

Minnesota Medicine, St. Paul

April, 1921, **4**, No. 4

Regional Anesthesia in Surgery of Head. G. L. Labat, Rochester.—p. 195.
Ocular Tuberculosis. F. E. Burch, St. Paul.—p. 198.
Methods of Meeting So-Called Shortcomings of Local Anesthesia. R. E. Farr, Minneapolis.—p. 209.
Present Concept of Local Anesthesia Technic. S. R. Maxeiner, Minneapolis.—p. 215.
Present Status of Local Anesthesia Problem. A. F. Bratrud, Minneapolis.—p. 218.
Delayed Union and Nonunion of Radius and Ulna. H. W. Meyerding, Rochester.—p. 323.
Surgical Tuberculosis in Children. W. H. Cole, St. Paul.—p. 228.
Ocular Imbalance (Heterophoria). J. H. James, Mankato.—p. 237.
Physical Examination of Normal Heart of Child. M. Seham, Minneapolis.—p. 240.
*Spina Bifida. H. W. Woltman, Rochester.—p. 244.
*Tuberculous Peritonitis. C. H. Mayo, Rochester.—p. 259.

Spina Bifida.—Woltman reviews 187 cases, including three associated cases of myelodysplasia without demonstrable bony defect. Cord involvement was found in 67 per cent. of the cases. The cases were divided as follows: Spina bifida cystica, 138 cases; 7.9 per cent. cervical, 5 per cent. dorsal, 65 per cent. lumbar, 21 per cent. sacral; cord involvement, 69 per cent. Spinal bifida occulta, 46 cases; cord involvement, 59 per cent. Heredo-familial developmental defects were present in ten cases. The chief complaints of the 187 patients were: tumor, 112 cases; incontinence, 35 cases; paralysis, 31 cases; foot deformity, 28 cases; hydrocephalus, 16 cases; trophic ulcer, 9 cases; tired legs, 4 cases; faulty gait, 3 cases; symptoms cerebral origin, 2 cases; Friedreich's ataxia, 1 case; enuresis, 1 case; unrelated, 30 cases. Tardy appearance of symptoms and progressive loss of function was present in 14.4 per cent. of patients. The operative results in 57 cases were: cure, 22 cases; improved, 23 cases; operative deaths, 12 cases (21 per cent.); postoperative hydrocephalus, 2 cases.

Tuberculous Peritonitis.—Mayo considers cases of tuberculous peritonitis very favorable for cure in most instances at least if the abdominal condition is the main factor. The possibility of cure of such forms of tuberculosis is due to its being confined where it can be attacked by nature's forces, as a gland is destroyed by disease and undergoes caseation and calcification in the curative process. In areas that can be spared without destruction to life, surgical elimination is

of great benefit. Thus nature can cure tuberculous peritonitis in pure form. Mixed infection destroys tissue, but added toxins are destructive to life as well as to tissue and are more chronic and difficult to treat or control. If ascites in tuberculous peritonitis adds so enormously to the surface area involved in a tuberculous process and must be overcome by changes in the peritoneum by changing the exudate from serous to fibrinous and plastic adhesions before cure occurs, such surgical treatment as will hasten the process is advisable. The important question is with regard to the permanency of cure and restoration to health. Death or even ill health rarely comes from obstruction due to the adhesions. When acute obstruction develops it is due to a single band or the hyperplastic variety without ascites. By removing the focus of disease in tuberculous peritonitis, especially when such a focus involves a tuberculous mucous membrane, a high percentage of permanency of cure with a very low primary operative mortality is secured.

Neurological Bulletin, New York

March, 1921, **3**, No. 3

Statistics of Epidemic Encephalitis. I. S. Wechsler, New York.—p. 87.
*Morbid Anatomy of Epidemic Encephalitis as Regards Endocrine System. H. S. Howe, New York.—p. 92.
Lethargic Encephalitis with a Progressive Paralysis Agitans Syndrome. G. A. Blakeslee, New York.—p. 100.
Postencephalitic Involuntary Movement. A. Polon, New York.—p. 106.
Epidemic Encephalitis with Tachyrespiria. L. S. Aronson, New York. —p. 113.
Delayed Diagnosis in Case of Epidemic Encephalitis. A. S. Maclaire, New York.—p. 117.
Case of Hemidystonia; Dystonia Musculorum Deformans. C. Rosenheck, New York.—p. 120.

Epidemic Encephalitis and Endocrine Glands.—In four cases of epidemic encephalitis studied clinically and postmortem with reference to the effect of the disease on the glands of internal secretion, some clinical manifestations that might be interpreted as endocrine disturbances were found. Among these are profuse sweating, weakness and low blood pressure, menstrual disturbances and impotence, and disorders of metabolism resulting in marked increase of weight. It seems probable to Howe that further study will show these disturbances to be dependent primarily on the lesions in the nervous system or the direct effect of the disease toxins on the individual internal secretory organs causing altered functions without distinct histological changes. With the exception of the anterior lobe of the pituitary, there were no definite pathologic alterations found in any of the glands of internal secretion which could have been the result of the terminal illness. In the pars anterior of the pituitary two kinds of alterations were observed: first, a predominance of basophilic cells, and second, areas of focal necrosis and capillary thromboses. The focal necroses and capillary thrombi are somewhat similar to the condition found in the liver in typhoid fever and in some cases of sepsis. These necroses were not prominent in any of the specimens studied, and it is doubtful if they were sufficient to cause much alteration in the function of the gland.

New Jersey Medical Society Journal, Orange

March, 1921, **18**, No. 3

Essential Uterine Hemorrhage. W. A. Dwyer, Paterson.—p. 73.
Focal Infections in Relation to Eye Diseases. W. D. Olmstead, Trenton.—p. 77.
Compulsory Health Insurance. P. Correll, Easton, Pa.—p. 83.
Placenta Praevia—Plea for Prophylaxis Based on Its Etiology. J. F. Condon, Newark.—p. 86.
Summary of Reasons Why Medical Profession Is Opposed to Compulsory Health Insurance. F. C. Hammond, Philadelphia.—p. 94.
Plea for Breast Feeding and Medical Supervision During Infancy and Childbirth. W. London, Perth Amboy.—p. 95.
Case of Enterovesical Fistula. F. H. Glazebrook, Morristown.—p. 97.
Cauliflower Cancer of Cervix in Woman Aged Twenty. W. F. Darnall, Atlantic City.—p. 98.

New Orleans Medical and Surgical Journal

March, 1921, **73**, No. 9

Reminiscences of Dr. Andrew W. Smyth of Subclavian Aneurysm Fame. E. Souchon, New Orleans.—p. 352.
Gospel of Error. C. E. Kells, New Orleans.—p. 358.
Classification of Râles. J. B. Guthrie, New Orleans.—p. 370.
Solitary Abscess of Kidney. H. W. E. Walther, New Orleans.—p. 376.
Scarlet Red Emulsion for Treatment of Ozena. J. H. Powell, Atlanta, Ga.—p. 383.

April, 1921, **73**, No. 10

Subacute Infective Endocarditis. I. I. Lemann, New Orleans.—p. 410.
*Acute Nephritis in Syphilis. D. N. Silverman, New Orleans.—p. 415.
Hemorrhagic Osteomyelitis of Femur. P. G. Lacroix, New Orleans. —p. 420.
Case of Retinitis Proliferans. J. Dupuy, New Orleans.—p. 423.
Vaccine Therapy Most Rational and Effective Method of Preventing Whooping Cough in Public Institutions. C. J. Bloom and G. J. De Reyna, New Orleans.—p. 426.
Demonstration of Plates Made with Bucky-Potter Diaphragm. E. C. Samuel and E. R. Bowie, New Orleans.—p. 427.

Acute Nephritis in Syphilis.—Silverman reports two cases of acute nephritis, in which clinically the kidney lesion was in close relation to the existing syphilis. There was no other accountable cause, and the disease responded promptly to antispecific medication. One of the patients could not be followed to note the ultimate results of treatment and thereby prove its undisputed syphilitic nature. However, neoarsphenamin was beneficial, and the signs of nephritis gradually subsided under its use.

New York Medical Journal

April 6, 1921, **113**, No. 11

Phases of Visceral Displacements in General Practice. C. A. L. Reed, Cincinnati.—p. 497.
Interpretation of Blood Pressure Variations. H. Wheelon, St. Louis. —p. 505.
Effect of Digestive Period and Other Factors in Reactions After Blood Transfusions. J. L. Butsch and W. Ashby, Rochester, Minn.—p. 513.
Value of Pneumothorax Treatment of Pulmonary Tuberculosis. E. P. Boas, New York.—p. 517.
Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. B. Stivelman, Bedford Hills, N. Y.—p. 521.
Measures for Control of Tuberculosis in Cattle. C. J. Marshall, Philadelphia.—p. 525.
Surgical Complications of Pneumonia. M. Behrend, Philadelphia. —p. 527.
Generator of Constant Current for Production of Roentgen Rays. S. Tousey, New York.—p. 529.
Advanced Pathologic Conditions Observed in South China. J. O. Thomson, Canton, China.—p. 530.
Elephantiasis with Reference to Syphilis. J. Lintz, New York.—p. 535.
Pathology of So-Called Sprains of Wrist. E. F. Cyriax and S. Melville, London.—p. 538.
Lesion of Occipital Lobe Simulating Cerebellar Involvement. A. Gordon, Philadelphia.—p. 540.

Northwest Medicine, Seattle

March, 1921, **21**, No. 3

Certain Problems Connected with Surgery of Gallbladder. G. W. Crile, Cleveland.—p. 53.
Early Gallbladders. J. R. Corkery, Spokane.—p. 56.
Injuries of Pancreas; Report of Case of Subcutaneous Injury. M. C. Stuart, Portland.—p. 58.
Untoward Symptoms Following Intravenous Injection of Arsphenamin. D. R. Ross, Salem.—p. 63.
Simplified Technic for Administering Arsphenamized Serum. C. L. Shields, Salt Lake City.—p. 65.
Importance of Surgical Removal of Teeth, or Work of Minor Oral Surgeon. W. C. Shearer, Portland.—p. 66.
Quick and Safe Method of Choosing Donors for Blood Transfusions. G. W. Millett, Portland.—p. 68.
Dislocation of Carpal Semilunar Bone. C. R. McClure, Portland. —p. 70.

Oklahoma State Medical Assn. Journal, Muskogee

March, 1921, **14**, No. 3

Report of Case of Sinus Thrombosis Complicating Mastoid. A. W. Roth, Tulsa.—p. 45.
Nasal Hydrorrhea. F. S. King, Muskogee.—p. 48.
Involvement of Maxillary Sinus in Acute Rhinitis. L. A. Newton, Oklahoma City.—p. 50.
Etiological Importance of Focal Infection in Ophthalmic Practice. A. C. McFarling, Shawnee.—p. 54.

Texas State Journal of Medicine, Fort Worth

March, 1921, **16**, No. 11

Chronic Gastric and Duodenal Ulcers. W. B. Russ, San Antonio. —p. 475.
Perforating Gastric and Duodenal Ulcers. C. C. Cade, San Antonio. —p. 477.
Drainage of Abdominal Cavity, with Special Reference to Use of Rubber Glove. M. F. Bledsoe, Port Arthur.—p. 478.
Acute Dilatation of Stomach Following Gynecologic Operations. P. I. Nixon, San Antonio.—p. 481.
Fractional Estimation of Gastric Contents During Duodenal Alimentation. M. D. Levy, Galveston.—p. 483.
Hunger Pain, or Food Relief. F. A. Wapples, Houston.—p. 486.
Endocrine Interrelation and Ovarian Function. C. Rosser, Dallas. —p. 488.
Rôle of Pituitary Body in Etiology and Therapy of Diabetes Insipidus. D. W. Carter, Jr., Dallas.—p. 491.
Organized Medicine: Its Ideals and Accomplishments. C. M. Rosser, Dallas.—p. 495.

U. S. Naval Medical Bulletin, Washington, D. C.

April, 1921, **15**, No. 2

Treatment of Influenza. J. L. Neilson.—p. 259.
Intravenous Use of Magnesium Sulphate and Calcium Chlorid in Severe Pneumonia Complicating Influenza. J. J. Hogan.—p. 277.
Accidental Injuries from Electric Currents. W. J. Zalesky and W. T. Brown.—p. 279.
Methods of Sterilization in Dentistry. H. E. Harvy.—p. 282.
Peptic Ulcer. C. S. Norburn.—p. 285.
Survey of Fifty General Court-Martial Prisoners. C. H. Castle.—p. 291.
Systematized Hospital Training of Apprentices. A. H. Ehrenclou.—p. 296.
Methods of Instructing Hospital Corpsmen. W. M. Kerr.—p. 302.
Plan for a Standard Treatment of Venereal Disease as a Prophylactic Measure. W. D. Owen.—p. 308.
Plan of Organization for Naval Hospital of 300 Beds and Over as Utilized at Great Lakes, Illinois, 1920. R. P. Crandall and W. A. Angwin.—p. 316.
Surgery in Middle Ages. J. S. Taylor.—p. 347.

Sodium Salicylate Intravenously in Treatment of Influenza.—Sodium salicylate, used properly, Neilson found, can be given intravenously without harmful effects and produces a favorable result in that it relieves pain and restlessness and saves the patient from the wear and tear of a severe toxemia and places him in a better position to fight more serious developments of the disease. In progressing to health without complicating pneumonia the patients so treated showed rapid convalescence with a minimum of sequels. Sodium salicylate should not be used if there is evidence of beginning pneumonia. Magnesium sulphate used properly can be given intravenously without harmful results and on most patients produced a most marked improvement in general condition and relieved edema of the lung and brain. Its best effect is produced when administered at the start of pneumonia and edema and if used at this time its effect on blood count is more apt to be permanent. When used late and when the patient is deeply cyanosed and unconscious with lungs full, its favorable action was transient. Patients recovering after the use of magnesium sulphate showed rapid convalescence with minimum of sequels. The great advantage of the magnesium sulphate solution lies in the readiness of materials, simplicity of equipment required, brevity of preparation, and the fact that it can be prepared in advance and kept for long periods. Blood transfusion, using whole blood by the citrate method, can with care be used safely under even unfavorable conditions as regards asepsis. Tests, previous to use, for syphilis, isohemolysins and isohemagglutinins are essential to safety. Results in pneumonia cases even of several days' duration, unconscious and deeply cyanosed, were markedly favorable (edema cleared, pneumonic process localized, brain symptoms disappeared, white count rose) and the general condition improved and rapid convalescence followed, with a minimum of complications. For the treatment of the acute respiratory infection, blood transfusion has produced better results than any other one method. Absolute rest in bed is the most essential element of treatment. White-blood counts are essential guides to proper treatment. In general a stationary white count either high or low is favorable. A falling white count is a danger sign. A falling white count with rising temperature shows a seriously ill patient, and, if cyanosis is added, a critically ill patient.

Magnesium Sulphate and Calcium Chlorid Intravenously in Influenzal Pneumonia.—Of 220 cases of influenzal pneumonia in the navy yard, Mare Island, Calif., and in Vallejo, Calif., fifty, or 22.7 per cent., were treated by the intravenous use of magnesium sulphate and calcium chlorid with a mortality of 16 per cent. Of pneumonia patients treated by symptomatic measures at the naval training camp 41.7 per cent. died, and at the civilian hospitals 42.8 per cent. died. Hogan is convinced that the intravenous use of magnesium sulphate and calcium chlorid is justified.

West Virginia Medical Journal, Huntington

March, 1921, **15**, No. 9

Infant Feeding. C. L. Holland, Fairmont.—p. 321.
Heat and Cold in Treatment of Superficial Inflammation. W. W. Strange, Huntington.—p. 326.
Organotherapy as Aid in Gynecology, with Special Reference to Pituitary Gland. M. V. Godbey, Charleston.—p. 328.
Coexistence of Gallbladder and Appendiceal Infection. W. A. Quimby, Wheeling.—p. 330.
Use of Nitrous Oxid-Oxygen as Anesthetic of Choice. Hays.—p. 332.
Appendicitis Complicating Pregnancy. R. K. Buford, Hansford.—p. 335.
Prophylaxis and Treatment of Eclampsia. C. A. Grooms, Daris.—p. 338.
Epidemic Encephalitis (Miscalled Lethargic). T. A. Williams, Washington, D. C.—p. 340.

Wisconsin Medical Journal, Milwaukee

March, 1921, **19**, No. 10

Special Field of Neurologic Surgery After Another Interval. H. Cushing, Boston.—p. 501.
Rehabilitation of Undernourished Child. J. P. Koehler, Milwaukee.—p. 521.
Public Health Problems of Childhood and How They May Be Attacked. C. A. Harper, Madison.—p. 524.
Some Aphorisms of Endocrines. H. M. Brown, Milwaukee.—p. 527.
Basal Metabolism in Hyperesthetic Rhinitis. F. J. Novak, Chicago.—p. 534.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

March, 1921, No. 248

Some Uses of Infrequently Interrupted Faradic Current. J. N. Leitch.—p. 290
Diagnosis and Differential Diagnosis of Tuberculosis in Bones and Joints. G. Forssell.—p. 293.
Bucky Diaphragm Principle Applied to Roentgenography. H. E. Potter.—p. 310.

British Medical Journal, London

April 2, 1921, **1**, No. 3144

Treatment of Fractures. S. A. Smith.—p. 483.
*Etiology of Eclampsia and Pre-Eclamptic State. J. Young and D. A. Miller.—p. 486.
*Cardiac Peristalsis and Mitral Stenosis. D. W. Samways.—p. 490.
Bilharzia Disease in Egypt. J. B. Christopherson.—p. 491.
Five Hundred Cases of Malaria in Pensioners. J. Hoskin.—p. 493.
Surgical Uses of Fascia Lata. C. H. Cuff.—p. 494.
Incubation Period of Scarlet Fever. A. M. Watts.—p. 495.
Measles, Intussusception and Appendicectomy in a Baby Seven Months Old. B. W. Gowring.—p. 495.
Sarcoptic Mange of Dog in Man. W. H. Coates.—p. 495.

Etiology of Eclampsia.—A study of forty cases of toxemia and associated conditions made by Young and Miller confirmed previous findings that eclamptic and the pre-eclamptic toxemia is dependent on a placental necrosis. When time is allowed for the elaboration of toxic elements from the detached placenta toxemia develops. In concealed accidental hemorrhage, therefore, toxemia is conspicuous. Absorption of placental poisons only occurs if and while part of the placenta remains attached to the uterine wall. Toxemia occasionally accompanies placenta praevia for the same reasons. The toxemia develops after the hemorrhage; it is therefore not the cause of the bleeding in accidental hemorrhage. The major symptoms of eclampsia are prabably due to the flooding of the mother's system with the breaking-down products of liver cells (and perhaps of other tissues), which were killed some hours or days previously by the placental poison. Recent investigations on shock (Quenu, Delbet, etc.) support by analogy this conception of eclampsia.

Cardiac Peristalsis and Mitral Stenosis.—Samways states that there is considerable evidence to show that the contraction of the auricle normally overlaps that of the ventricle, lasting probably till the moment of opening of the aortic valves. In cases of mitral stenosis this overlapping tends to be still further prolonged, invading, therefore, the expulsive portion of the ventricular systole. The ventricle could not prevent the auricle sending its residual blood into it, if their contractions overlapped, because at that time the auricle, being small, would have few units of area of blood to contract on, and a thickened mass of muscle to exert the necessary pressure, whereas the ventricle would be in exactly the reverse position at the time. In cases in which the mitral valve was stenosed, the auricle would be further helped by hypertrophy of its walls and thinning of those of the ventricle. The murmur of mitral stenosis ("presystolic") goes up to and into ventricular-systolic time because the blood flow does likewise. The murmur is "crescendo" in character because the auricle can exert an ever-increasing pressure on its contents as it contracts. Theoretically, the pressure can increase inversely as the cube of the decrease in diameter. Regurgitation through

an incompetent mitral orifice is prevented, probably for years, by the contraction of the auricle behind that orifice during the expulsive portion of the ventricular systole. The presystolic murmur is replaced by a systolic murmur when the auricle cannot decrease its size in time to become a sufficiently small chamber to defeat the oncome of the intraventricular resistance, but on the contrary is defeated by it. This will allow regurgitation, the auricle will speedily dilate, fibrillate, and compensation will break down. Temporary recovery by rest or bleeding will probably mean that the auricle becomes again, for a short time, master of the situation.

Edinburgh Medical Journal

April, 1921, **26**, No. 4

Prenatal Death. A. Robinson.—p. 209.
Physical Therapeutics from Surgical Standpoint. J. S. Ross.—p. 232.
Human Gestation and Our Embryologic and Morphologic Data. J. Oliver.—p. 245.
Case of Primary Brachial Neuritis Treated by Stretching Cervical Plexus. D. M. Greig.—p. 247.
*Case of Peripheral Neuritis Occurring in Pregnancy. W. E. Foggie.—p. 250.

Peripheral Neuritis During Pregnancy.—Foggie's patient, aged 26, had always enjoyed good health, although she was of a somewhat nervous temperament. At the end of the first month of her pregnancy, sickness, pain, and vomiting set in very violently and continued for two months. She become very exhausted and emaciated. Her memory failed and she was at times delirious. After two months the condition of hyperemesis passed off, but she noticed that she was unable to move her legs; she had also a numbness about the hands, and in the legs. There was pain in gripping the calves firmly, and this was also present to a slight degree in the arms. There was an impaired feeling to touch over the hands and fingers up to the wrists. In the legs this impairment extended up to the knees. An electrical examination was not possible. The grasp was feeble. As the patient lay in bed she was able to pull up the thighs but could only get them down by a side movement. There was no difficulty in resisting this or any other movement in the lower limbs. She was unable to extend the leg at the knee and could only flex feebly. She had slight power of moving the feet and the toes. If seated, she had great difficulty in rising. There were no reflexes at the wrist. The knee jerks were absent, and also the Achilles jerks. No ankle clonus could be elicited. The patient was delivered of a healthy living child at full time. The various symptoms continued throughout the pregnancy but cleared up completely about four months after the birth.

Journal of Trophical Medicine and Hygiene, London

March 15, 1921, **24**, No. 6

Some Cosmopolitan Sudan Skin Affections. A. J. Chalmers and N. McDonald.—p. 69.
*Two Cases of Gangosa in Natives of the Solomon Islands, Western Pacific. N. Crichlow.—p. 74.
Histology of Goundou. W. A. Young.—p. 76.
Development of Leishman-Donovan Bodies. J. E. R. McDonagh.—p. 77.

Antimony Intravenously in Gangosa. — Two different methods of treatment were employed by Crichlow in these cases. In one case colloidal antimony, 0.5 c.c., was injected intravenously twice weekly, with an interval of three days between the injections. The ulceration was bathed daily with a weak solution of potassium permanganate. After the first week the ulceration showed signs of healing. The secretion became less and was not so foul smelling, and the ulceration became "clean." After the second week the ulceration was nearly healed and after the third week the ulceration was completely healed. A perforation in the hard palate had closed up. Six injections of colloidal antimony were given. As an adjunct treatment, potassium iodid, 5 grains, three times daily, was also given. In a second case galyl was used instead of antimony. It was administered intramuscularly. One dose of 15 cg. was given weekly. Only three injections were necessary, as after the third injection the ulceration was completely healed. The ulceration was also washed daily with a weak potassium permanganate solution and potassium iodid was also given. The result of the treatment in these two cases made Crichlow come to the conclusion that gangosa is a disease caused either by a spirochete or by a leishmania.

Lancet, London

April 2, 1921, **1**, No. 5092

*Idioventricular Rhythm, and Theory of Disturbed Reflexes. J. Mackenzie.—p. 679.
Medico-Military Training. H. E. R. James.—p. 683.
*Treatment of Infectious Diseases by Leukocytolysis; Produced by Roentgenization of Spleen. I. I. Manoukhin.—p. 685.
Typhoid Carrier Case. J. R. Carver.—p. 687.
*Vascular Change During Uterine Involution. G. Evans.—p. 689.
Two Cases of Perinephric Abscess. O. Wilberforce and W. Harris.—p. 691.
Herpes Zoster and Varicella. J. Watt.—p. 691.

Idioventricular Rhythm. — Mackenzie describes certain abnormal states of the heart in which the principle embodied is not the question of the action of the auricle during the irregular action of the ventricle, but the question of the action of the ventricle itself and he demonstrates the application of the theory of disturbed reflexes in certain obscure cardiac conditions. He also shows the effect of an abnormal rhythm on the functional efficiency of the heart. Mackenzie says that the best method, in fact the only method, for obtaining a knowledge of the heart's efficiency in a person who is able to get about, is by appreciation of response to effort. This knowledge can be obtained not by any form of exercise in the doctor's consulting room, but by eliciting a clear account of the manner in which the patient responds to those efforts made in his daily life where the circumstances cannot be imitated by any artificial method, such as the sensations experienced on walking up a hill, or on walking after a full meal or in the cold air. When there is impaired efficiency of the heart, these experiences give rise to certain very definite sensations, and these sensations are of the nature of disturbed reflexes. Thus the vast majority of people whose heart's efficiency is impaired suffer at times from one of two kinds of sensation, breathlessness or pain, with their accompanying sensations. In breathlessness the respiratory reflex is disturbed, and in pain the viscerosensory reflex peculiar to the heart is disturbed.

Treatment of Infectious Diseases by Leukocytolysis.—Leukocytolysis, produced by radiating the spleen with a stimulating dose of roentgen rays, Manoukhin regards a sure method of governing the blood reaction of the organism. Experimental work on monkeys infected with tuberculosis led to the adoption of this principle of treatment in human cases. The human spleen is radiated by a dose of roentgen rays equal to one hour as measured by the Sabouraud and Noire radiometer, using the Holtzknecht scale. In the case of weak patients a smaller dose is given. The rays are filtered through 1 mm. of aluminium. Manoukhin obtains this dose during five minutes at 1 ma. and 5-7 a. with rays whose hardness is 8 on Benoist's radiochromometer and 10 on Wehnelt's criptometer (the hardness of the rays and duration of radiation are varied in relation to the gravity of the case), and with the anticathode at a distance of 25 cm. from the body. The method has been used in cases of pulmonary tuberculosis, typhoid, tetanus, and other infectious diseases.

Vascular Changes During Uterine Involution.—The condition of the arteries in a uterus removed twenty-four days after delivery of a dead fetus was studied by Evans. The sections showed the usual changes in the vessel walls characteristic of normal arterial involution. The most striking changes occurred in the intima; there was a cellular proliferation and hyaline swelling of the subendothelial layer, together with a swelling and splitting of the internal elastic lamina. In the media there was the appearance of a granular atrophy of the muscle fibers and a hyaline swelling of the intermuscular connective tissue fibrils.

Practitioner, London

April, 1921, **106**, No. 4

*Nasal Sinus Infection Causal Factor in Appendicitis. P. Watson-Williams.—p. 229.
Nasal Obstruction and Its Consequences. F. Muecke.—p. 236.
Deflection of Nasal Septum. J. Donald.—p. 250.
Diagnosis of Acute Appendicitis. E. T. C. Milligan.—p. 257.
Postoperative Treatment of Abdominal Cases. E. R. Flint.—p. 266.
Three Cases of Diverticulitis of Colon. F. D. Saner.—p. 276.
Review of Tropical Diseases. R. T. Hewlett.—p. 282.
Incontinence of Urine in Childhood. C. E. Sundell.—p. 293.

Nasal Sinus Infection as Cause of Appendicitis.—Watson-Williams claims that nasal accessory sinus infection is not

infrequently associated with appendicitis. Of ninety cases seen by him no less than fourteen had undergone appendicectomy; that is over 15.5 per cent. Cases in which symptoms of appendicitis were reported were excluded unless appendicectomy was performed. Of the fourteen cases of appendicectomy, two patients were also operated on for duodenal ulcers, while of those not included in the appendix group, there were also among the series of ninety patients two cases of gastric ulcer (one short-circuited), and several others with a history of colitis and gastric catarrh.

Archives des Maladies du Cœur, etc., Paris

January, 1921, **14**, No. 1

Auricular Extrasystoles. R. Lutembacher.—p. 1.
Alternating Beat of the Auricles. C. Pezzi and E. Donzelot.—p. 5.
Cerebral Anemia from Carotid Maldevelopment. J. De Meyer.—p. 11.

Archives Médicales Belges, Liége

September, 1920, **73**, No. 9

Hemianopsia from Wound at Base of Skull. Elewaut.—p. 739.
*Appendectomy as a Routine Procedure. R. Lévy.—p. 750.
Radiography Early in Pulmonary Tuberculosis. Dautrebande.—p. 755.

Appendectomy as a Routine Procedure.—Lévy protests against the assumption that microscopic changes in the appendix call for systematic removal of the appendix.

January, 1921, **74**, No. 1

Small Epidemic of Dysentery. Keersmakers.—p. 1.
*Treatment of Digestive Disturbances. Bienfait.—p. 9.
Brazilian Medicinal Plant, Davilla. G. Batta.—p. 15.
Physiologic Electrocardiogram. H. Fredericq.—p. 21.

Treatment of Digestive Disturbance.—Bienfait emphasizes the importance of the nervous element in all digestive disturbances. The slightest derangement of the stomach immediately affects the nervous system. The resulting symptoms may include migraine, headache, palpitations, neuralgia, tremor or general depression. Many persons with ptosis, dilatation, and deficient or excessive gastric secretion get along without any disturbance; radiography and analysis of the gastric juice would seem to point to derangement which must entail severe symptoms, but there are none. He ascribes the reason for this anomaly to the fact that the nervous system is in a tranquil condition, resting, as it were. This proves, he says, that in treatment of dyspepsia the main thing is to reduce it to a latent stage by rendering the nervous system less sensitive, giving the digestive derangement a chance to heal. Of all measures he has tried, he has found electrotherapy the most active and the most convenient method for accomplishing this, as he describes.

Bulletin de l'Académie de Médecine, París

March 15, 1921, **85**, No. 11

*Physiologic Reserve Forces. Coutière.—p. 344.
*Medical Responsibility in Anesthesia Fatalities. Courtois-Suffit and Bourgeois.—p. 348.
Mushroom Poisoning. L. Azoulay.—p. 350.
Chemistry of Fasting Stomach. L. Pron.—p. 353.

General Physiology and Reserve Forces.—Coutière comments on the remarkable range of auxiliary or vicarious organs, and he applies the term "tutiorism" to this system of reserve forces, duplication of organs and nerve tracts, and the great reserve energy of even the single organs.

Medical Responsibility in Anesthesia Fatalities.—Summarized in Paris Letter, p. 1117.

Bulletin Médical, Paris

March 5, 1921, **35**, No. 10

*Hemorrhagic Pancreatitis. A. Chauffard.—p. 191.
Orthopedic Treatment of Pott's Disease in Children. A. Trèves.—p. 193.

Hemorrhagic Pancreatitis.—Chauffard reports a case in a woman of 32 with a history of gallstone colic. Sudden pain a few hours after a meal brought her to the hospital, with her fifth babe at the breast. The symptoms suggested hemorrhagic pancreatitis, but the woman died the third day, and the discovery of retroperitoneal hemorrhage explained the clinical picture, the symptoms from this predominating over those from necrosis of the fat tissue. The pain had not been the agonizing pain common with pancreatitis. The collapse in this case was too sudden and too severe to allow surgical intervention.

March 12, 1921, **35**, No. 11

*The Brain and Meninges in Pneumonia in Children. P. Nobécourt.—p. 209.
*Treatment of Mucomembranous Enteroneurosis. G. Lyon.—p. 214.

Cerebral Reactions in Pneumonia.—The two children of 7 and 15 presented delirium and extreme excitement; in the older girl preceded by a stage of torpor suggesting coma. The symptoms seemed to indicate acute meningitis, but the spinal fluid was comparatively normal and the symptoms of pneumonia cleared up the diagnosis, and both recovered. These brain disturbances may take the form of convulsions, delirium or somnolency; the latter is most frequent and may accompany the rise in temperature. There is usually extreme hyperesthesia of the entire skin, and ocular disturbance is frequent, from ptosis to mydriasis and choked disk. The outlook is grave with suppuration in the meninges and somewhat serious even with serous meningitis. The latter may be followed by chronic hydrocephalus. Treatment must be prompt and vigorous. The main indication is to relieve the congestion of the nerve centers; hot baths are the best for this, given every four or six hours, or hot packs. Potassium bromid or chloral should be given to combat the cerebral agitation, with camphor in case of torpor. Lumbar punctures may relieve, but there is little use to repeat them in serous meningitis. If there is pus, the lumbar puncture should be repeated daily and antiserum injected, although the therapeutic action of this has not yet been decided.

Mucomembranous Colitis.—Lyon emphasizes the necessity for causal treatment and for treatment of the nervous soil and the reflex hyperexcitability of the sympathetic. The motor, sensory and secretory reactions sometimes persist after suppression of the cause. The effect of causal treatment is most brilliant when chronic appendicitis was responsible, but success is also the rule, although less rapidly, with proper treatment of ptosis, kinks, gallstones, gastric ulcer, adnexitis or neurasthenia and constipation. General treatment is of primary importance when the nervous disturbance is the main factor. A course at an appropriate watering place may prove very useful. Attacks of acute colitis require restriction to a water diet at first, with measures for coprostasis and tepid baths.

Bulletins de la Société Médicale des Hôpitaux, París

March 4, 1921, **45**, No. 8

*Tracheobronchial Adenopathies. D'Oelsnitz and Carcopino.—p. 297.
*Pneumococcus Infection. G. Caussade and A. Tardieu.—p. 300.
Wassermann Reaction in Cirrhosis of Liver. Sakorafos.—p. 304.
Clinical Exploration of Duodenum. G. Parturier and P. Vasselle.—p. 305.
*Benzoin Reaction in Spinal Fluid. E. Duhot and P. Crampon.—p. 307.
*Inguinal Lymphogranulomatosis. P. Ravaut and Scheikevitch.—p. 310.
*Hirsutism with Diabetes. P. Emile-Weil and Plichet.—p. 312.

Emergency Roentgen-Ray Treatment of Tracheobronchial Glands.—For some years D'Oelsnitz has been advocating roentgen-ray exposures in treatment of suffocation from enlarged tracheobronchial glands, and he here adds two more cases to the list, in children of 3 and 2. The sudden development of the suffocation and its almost equally sudden subsidence show that a wave of mere congestion or inflammation must have been responsible, and that the roentgen rays dispelled this transient congestion.

Pneumococcus Infection.—Caussade and Tardieu traced the pneumococcus infection from an operation on chronic dacryocystitis to the secondary pneumonia. This last localization seemed to act by revulsion, a complete cure soon following.

The Benzoin Reaction in Cerebrospinal Fluid.—Duhot and Crampon never obtained precipitation of the colloidal benzoin suspension by the cerebrospinal fluid in 52 normal persons, while it was constantly positive in 32 cases of general paresis and in 84 per cent. of 45 cases of neurosyphilis. They say that tincture of tolu can likewise serve for the test, which is rapid, simple and practical.

Granulomatosis of Inguinal Glands.—Ravaut and Scheikevitch have recently encountered six cases of this kind. In none of the cases was anything found to suggest syphilis, soft chancre, tuberculosis or plague. In the case described, the whole mass was resected, almost clearing out the triangle of Scarpa. Bacteriologic and microscopic examinations were negative.

Hirsutism.—Necropsy in Weil and Plichet's case showed complete fibrous transformation of the ovaries in the woman of 38 with a heavy beard. The other organs seemed approximately normal. The hirsutism had developed at 26 after a normal childbirth; obesity followed at 29 and diabetes at 31, galloping phthisis closing the clinical picture. They have found two similar cases on record of coincident hirsutism and diabetes mellitus. In the discussion that followed, Halle told of a young woman who had 2 liters of gangrenous pus removed from the small pelvis, where it had been laving the ovaries for some time. After recovery, coarse black hairs grew on the trunk and limbs of the blonde girl, but when the menses returned, five months later, the hirsutism disappeared. In a case in Achard's practice, the bearded woman developed diabetes but this afterwards subsided completely. Necropsy showed fatty atrophy of both ovaries, and a goiter, but menstruation had kept up beyond the age of 60.

Médecine, Paris

March, 1921, **2**, No. 6

*Cardiovascular Pathology in 1920. P. Ribierre.—p. 421.
*Action of Digitalis. H. Vaquez.—p. 432.
*Masked Forms of Rheumatismal Heart Disease. O. Josué.—p. 438.
*Quinin in Heart Disease. A. Clerc and G. Pezzi.—p. 443.
*Hemoptysis Versus Pulmonary Edema. L. Gallavardin.—p. 448.
*Infarct in the Myocardium. C. Lian.—p. 450.
*Pernicious Anemia. J. Rieux.—p. 456.
*Residual Nitrogen in Nephritis. F. Rathery.—p. 462.
*Elimination of Urine and Renal Secretion. J. Cottet.—p. 467.
*Acute Nephritis Without Nephritis. P. Ameuille.—p. 473.
*Benzene in Treatment of Leukemia. C. Aubertin.—p. 479.
*Anemia in Infants. L. Tixier.—p. 483.
*Treatment of Arterial Hypertension. Leconte.—p. 489.

Cardiovascular Pathology in 1920.—Ribierre discusses in particular radiology of the heart and the vessels at the base, electrocardiography, and the data from measurement of the blood pressure and pulse. Other progress during the year is his discovery that the signs of tricuspid insufficiency have not the pathognomonic significance that has been attributed to them. Also the advantage of ouabain in cases of dilatation of the heart with coupled rhythm in which digitalis is contraindicated. The *crise hémoclasique* has attracted much attention during the year, and the advantage of mixing blood with a 1 to 200 solution of acetic acid for the leukocyte count. This swells the nuclei in a 1 per cent. dilution and much facilitates the count. Another improvement is the rinsing with distilled water for half an hour after staining with the rapid Giemsa stain for half a minute, for dry preparations of blood. There has been much discussion during the year of the non-ureic nitrogen in the blood plasma in relation to the symptoms of uremia. This has been facilitated by the Fosse method of determination of the urea in the blood with xanthydrol. It has also been found that intravenous injection of hypertonic sugar solution reduces diuresis in azotemia.

Action of Digitalis.—Vaquez explains that we need not expect any action from digitalis when the cardiac insufficiency is the result of acute distention of the heart from loss of myocardium tonus. By lengthening the diastole it may even aggravate the symptoms. Digitalis is also useless with impaired conductivity; by still further checking conduction it might increase arrhythmia. The major indication for digitalis is complete arrhythmia, whatever its cause; the drug checks the activity of the sinus, blocks weak contractions, and allows only the strong contractions to proceed. By this means the ventricle gets filled more completely and is able to contract with more energy. By lengthening the diastole the myocardium is able to contract with greater energy, and thus the peripheral and renal circulation is benefited.

Masked Forms of Rheumatismal Heart Disease.—Josué describes the misleading conditions when articular rheumatism is developing as usual but the heart does not seem to be involved; also when the joint attacks are masked or incomplete while the cardiopathy is pronounced, or the cardiopathy presents an unusual aspect in the total absence of joint disturbances. A correct diagnosis is of vital importance to allow effectual treatment. The rheumatism may yield to the salicylates but the cardiac insufficiency may require digitalis.

Quinin in Heart Disease.—Clerc and Pezzi regard quinin as one of the few drugs which modify the rhythm of the heart Recent research has shown its advantage as a moderator of overexcitability of the myocardium, but they have not found it successful in the arrhythmia from extrasystoles. Given with digitalis, it seems to reduce the toxicity of the latter, or by alternating the two drugs they can reenforce each other. Quinin may aid in maintaining the relative balance in patients menaced with tachycardia or complete arrhythmia, by combating the tendency of the auricle to tachysystolia, which may lead to fibrillation. They suggest further the possibility that quinin might ward off chloroform syncope, which in many cases seems to be due to ventricular fibrillation. They have confirmed the fact that auricular fibrillation in dogs can be arrested by intravenous injections of quinin, the heart rhythm becoming normal at once instead of the previous complete arrhythmia.

Hemoptysis as Equivalent for Pulmonary Edema.—Gallavardin regards the case described in which the woman of 62 had been having recent attacks of suffocation and profuse hemoptysis as the equivalent of acute pulmonary edema in chronic insufficiency of the left ventricle.

Infarct in the Myocardium.—Lian urges to bear in mind the possibility of infarction of the myocardium when a vigorous, elderly person is taken suddenly with symptoms suggesting angina pectoris or lipothymia with small pulse and vomiting or frequent nausea.

Pernicious Anemia.—Rieux comments on the varied etiology, the obscure pathogenesis and uncertain effect of treatment of progressive pernicious anemia. Serotherapy has proved useful in regenerative anemia but much less so in the aplastic form. The finest results realized to date have been with transfusion of blood. When associated with splenectomy, improvement was noted in more than 50 per cent. of the cases. With arsenic treatment alone, improvement has been noted in only 7 per cent.

Residual Nitrogen in Nephritis.—Rathery concludes from his study of the residual nitrogen that when this is high the prognosis is grave in chronic nephritis. At the same time, a low figure does not preclude a grave prognosis.

Elimination of Urine and Renal Secretion.—Cottet objects to the common tendency to confound the elimination of urine with the secretion in the kidneys. They are not synonymous; the renal secretion is only one of the elements of the elimination of urine. The functioning of the kidney varies according to circumstances which modify its secretory conditions, but this functional variation, wide in the healthy, is almost totally absent in the diseased kidney, its functioning varying less the more of its parenchyma is destroyed. The output of urine is determined further by the thresholds of excretion, and these may vary from extrarenal factors. The exaggeration of the permeability of the kidney for methylene blue in nephritis with dropsy has ceased to be a mystery since we know that the elimination of sodium chlorid in the urine—a threshold substance—and that of the blue—which has no threshold—obey different mechanisms. Among the extrarenal factors is the circulation of water in the organism; when water does not reach the kidneys in normal amounts, the elimination of waste cannot proceed properly. The heart as well as the kidneys must be considered, as for example when the urea in the blood shows a certain degree of azotemia in a patient with oliguria. Before incriminating the kidneys, we should ask whether the azotemia is not in reality the consequence of the oliguria and if the oliguria is not due to factors other than the kidneys. If the urine is dark colored and rich in urea, while the amount is small and there is little or no albumin, we can ascribe a cardiac origin to the oliguria. There is usually hyposystolia in this case, but this may be masked by the lack of heart symptoms.

Acute Nephritis Without Nephritis.—Ameuille insists that the clinical picture of acute nephritis may develop without kidney disease at first, an acute nephritis without nephritis. The kidney shares in the production of the clinical picture in time, but the oliguria, albuminuria, azotemia or edema, or a combination can develop without this. They are not accompanied by symptoms in every case, the patients sometimes not complaining of any subjective disturbance. There is no necessity to assume blocking of the kidneys to explain them. There

may be some upset in the colloidal status of the blood; if certain materials which the kidney normally excretes, cling more solidly to the plasma under the influence of this upset, they do not reach the kidney, and hence the urine may be abnormal without the kidney being at fault. The acute nephritis may thus be merely a physicochemical derangement of the entire organism under the action of some toxic substance. The kidney, normal at first, in its efforts to exclude from the blood the too adherent materials, wears out like a machine pushed above its normal capacity. The nephritis which develops finally, instead of being the source of the disturbance, is only the consequence of it.

Benzene in Leukemia.—Aubertin reiterates that in leukemia benzene (benzol, C_6H_6) cannot be expected to cure, but the prolonged remissions are a great gain. Benzene treatment requires close supervision.

Anemia in Infants.—Tixier analyzes simple anemia, anemia of the chlorotic type and pernicious anemia showing how each of these require different treatment. As a rule, anemia in infants is curable. The outlook is grave only when the anemia is of the splenic type or the result of a hemolytic tendency in debilitated infants.

Treatment of High Blood Pressure.—Leconte recalls that it is much easier to prevent the evil effects of hypertension than to reduce the tension itself. With paroxysmal hypertension from acute distention of the left heart with pulmonary edema, venesection, morphin to relieve the pain and the vascular spasm, and heart tonics are called for. With cardiac asthma and pain of angina pectoris type: amyl nitrite and local revulsion, moist heat, mustard plaster over the sternum and wet cupping, followed by tonics for the heart. With permanent chronic hypertension, the harmful influence of physical and mental overexertion must be realized. If hypnotics are given, their injurious action on the kidney must be borne in mind; the frequency of syphilis in the antecedents must not be forgotten.

Gynécologie et Obstétrique, Paris

1920, **2**, No. 6

*Cesarean Section in Infected Cases. M. Brouha.—p. 385.
*Tuberculosis of Uterine Adnexa. Lenormant and Moulonguet.—p. 396.
*Salpingitis After Ventrifixation of Uterus. J. Caraven.—p. 424.
*Treatment of Infected Abortion. E. Douay.—p. 428.

Cesarean Section in Infected Cases.—Brouha offers as an argument against the assumption that abdominal cesarean section must be reserved to the clean cases, his experience with 60 cases of conservative abdominal cesarean section since 1914. Only 12 of the cases were free from suspicion of infection. In the 48 others, labor had been under way for some time, and in most of them internal examination had been done repeatedly. In 66 per cent. the membranes had ruptured from two hours to five days before. The cervix was more or less dilated in all. As there was no fever or sign of infection he did not hesitate to apply the classic technic in 39 cases, and the transperitoneal method above the symphysis in 25. The 2 deaths were in the 12 clean cases; all the others in this group healed by primary intention, and the 48 probably contaminated cases all recovered. Healing was by primary intention in 50 per cent. (membranes still intact), and even in 10 cases in which they had ruptured. In the others, there was more or less fever, with some suppuration in the abdominal wound, but no infection of the peritoneum in any instance. No difference in the outcome could be detected between the classic and suprasymphyseal technic. The results obtained justify waiting long for the natural forces to act, before the case becomes too contaminated for cesarean section.

Tuberculosis of Uterine Adnexa.—Lenormant and Moulonguet give the details of 16 operative cases. Abdominal hysterectomy was done in 13 with recovery of all but one, and recovery in the 2 treated by unilateral salpingectomy. The remote results are generally good and the recoveries permanent in cases of this kind. Olivier has reported 72 in perfect health out of 80 followed for years, and others equally good results. Of the 16 cases here reported, 2 of the 4 in which the outcome is known are in good health among those operated on before 1914.

Salpingitis After Ventrifixation of the Uterus.—Caraven gives an illustrated description of a case of purulent salpingitis with hernia of the tube through the omentum, consecutive to Doleris' intraparietal fixation of the round ligaments to correct retroversion. The traction on the portion of the round ligament close to the uterus pulls the tube with it, and the operator may have trouble in reducing the tube to its place. The case of intraparietal and extraparietal salpingitis here reported confirms the danger from this technic.

Treatment of Infected Abortion.—Douay warns that a chill is the most important symptom of extension of the infection beyond the uterus. The general aspect, even in grave cases, may keep satisfactory. If there is no discharge, and no reason to assume retention, there is no advantage in curetting, while it exposes to grave dangers. He urges to prepare for vaginal hysterectomy, and then to explore the cavity of the uterus. If only insignificant débris are found, he advises vaginal hysterectomy at once, without delay. But if, on the other hand, a piece of placenta is found, it is better to wait for a few days. A fixation abscess is useful not only for diversion of the infection but as an indication of the gravity of the case; the reaction shows whether the organism is capable of defending itself. The uterus cleared out, repeated and abundant lavage of the uterine cavity or continuous irrigation is useful if it is not traumatizing. He never obtained any better results with strong disinfectants than with boiled water with hydrogen dioxid. In a case with complications, intra-uterine injections should be suppressed and the patient kept absolutely quiet, with ice to the abdomen. If the adnexa are swollen, colpotomy, unless the inflammation is subsiding. If the fever persists, vaginal hysterectomy should follow unless there is phlebitis in the pelvis. In this case, the abdominal route should be selected to allow ligation of the thrombosed veins before removing them with the uterus and the adnexa. In the grave cases, even after removal of the principal focus, streptococci are still left in the pelvis, and the whole arsenal of medical measures may have to be applied. Possibly vaccines and serums may give us more powerful weapons than we yet possess.

Journal de Chirurgie, Paris

March, 1921, **17**, No. 3

*Perineal Hysterectomy. B. Cunéo and G. Picot.—p. 193.
*Rectal Tumors. R. Bensaude and A. Cain.—p. 211.

Perineal Hysterectomy.—Cunéo and Picot give twelve large illustrations of the technic for removal of the uterus by the perineal route in treatment of cancer of the cervix. This technic may be preferable for obese women. The perineum is free from the deposits of fat encountered elsewhere, and the transverse incision, gently curving, 2 cm. back of the fourchet, allows ample access without injury of the anal or vulvar sphincters. The shock from perineal hysterectomy is minimal, in comparison with the abdominal route. It is a much less dangerous operation than abdominal hysterectomy, as they show by a case in which a very obese diabetic woman, with emphysema, was thus easily relieved of an advanced epithelioma. The remote results are likewise favorable; the interval since has been up to ten years in some of their cases, the patients still free from recurrence. The parametrium can be removed by this route as thoroughly as at a laparotomy, and the vagina is more readily resected. The glands cannot be removed so completely, but they add that the satisfactory results of perineal hysterectomy may have to be accepted as demonstrating that excision of the glands is of subordinate importance in operative treatment of cancer.

Rectal Tumors.—Bensaude and Cain discuss the indications, the technic and the interpretation of the findings in diagnostic examination of a scrap of tissue removed from a suspected rectal tumor. They warn that biopsy may be dangerous, and should not be attempted unless there is an actual protrusion of the wall of the rectum, as this wall is relatively thin. Also when there is much hyperemia, grave hemorrhage may follow excision of a scrap. Biopsy may be dangerous likewise if there are grave dysenteric or anaerobic infectious processes; extreme care is necessary here. Photomicrograms are given of the various microscopic findings likely to be encountered. It is possible, they remark, that biopsy in the intervals may be useful as a guide in radium treatment.

Paris Médical

March 19, 1921, **11**, No. 12

Serotherapy Aborts Typhoid. G. Étienne.—p. 225.
Physiologic Effects of Exercise. M. Boigey.—p. 231.
*Sialorrhea in Epidemic Encephalitis. E. Gelma.—p. 235.

Sialorrhea in Epidemic Encephalitis.—Gelma says that profuse salivation may be an early symptom and persist throughout the entire course of the disease. He noted it more in children than in adults.

Presse Médicale, Paris

March 16, 1921, **29**, No. 22

Perimandibular Phlegmons of Dental Origin. P. Sebileau.—p. 213.
Measurement of the Blood Pressure. A. Mougeot.—p. 216.

March 19, 1921, **29**, No. 23

Necessity for Individualization in Treatment of Bone and Joint Tuberculosis. C. Lenormant.—p. 221.
Radiologic Diagnosis of Pulmonary and Glandular Tuberculosis in Children. H. Méry, G. Détré and A. Desmoulins.—p. 221.
*Aortic Stenosis in the Young. L. Gallavardin.—p. 224.
Strophanthin and Ouabain. L. Cheinisse.—p. 226.

Aortic Stenosis.—Gallavardin describes ten cases in men between 17 and 37. The physical signs were pronounced, but there was nothing to suggest an arterial or congenital or rheumatismal origin. The defect was perfectly or fairly well tolerated.

March 23, 1921, **29**, No. 24

*Fixation of Right Colon. P. Duval and R. Grégoire.—p. 233.
Influence of Nitrous Oxid Anesthesia on the Uterus. H. Vignes and G. Moreau.—p. 234.
*Surgical Treatment of Prognathism. L. Dufourmentel.—p. 235.

Fixation of Right Colon.—Duval and Grégoire show in two illustrations their method of fastening the ascending colon by suturing it to the tissues after resection of a triangle in the posterior peritoneum. It soon becomes adherent to the denuded tissues. The transverse colon is fastened in place in the same way, only the anterior peritoneum is resected for this, and the colon is sutured to the anterior wall.

Treatment of Prognathism.—Dufourmentel has corrected prognathism preventing proper mastication in five cases in the last four years. He resected the condyles on each side, and the results were perfect. A plate was worn over the teeth for a few weeks to guide them into correct apposition. After section of the surgical neck, the condyle is easily removed and the jaw slides back to fit the upper jaw. The 3 cm. V incision in front of the upper part of the ear is above the condyle, but with retractors gives ample access, and is practically invisible.

Progrès Médical, Paris

March 5, 1921, **36**, No. 10

*Puerperal Thrombosis. R. Crémieu and P. Gauthier.—p. 101.
From Obsession to Delirium. Laignel-Lavastine.—p. 104.
Medical Responsibility. Garçon.—p. 106.
Manganates in Treatment of Tuberculosis. C. Ferry.—p. 108.

Thrombosis in the Brain from Puerperal Infection.—Syphilis, gout, lead poisoning, etc., attack the arteries but in puerperal infection the veins are the vessels usually involved. "The streptococcus loves the veins." In both the cases reported, the foci of softening in the brain seemed to be the result of a puerperal cerebral thrombosis, preceded by pelvic or femoral phlebitis. The focus of softening entailed progressive hemiplegia fifty days after delivery in the first case. It developed insidiously, without ictus, and gradually retrogressed in a few months almost completely. The heart findings were normal throughout. In the second case, facial hemiparesis with aphasia and transient mental impairment developed gradually, without ictus, the eighteenth day after delivery. By the fourth month there was much improvement.

Revue Médicale de la Suisse Romande, Geneva

February, 1921, **41**, No. 2

*Placenta Praevia. C. Thélin.—p. 65.
Early Treatment of Primary Syphilis. G. Cornaz.—p. 101.
*Anguish Neurosis. M. Christin.—p. 109.
Volvulus with Malformation of Peritoneum. Kotzareff.—p. 117.
*Fatal Hemorrhage from Cancer. H. Koechlin.—p. 124.

Placenta Praevia.—Thélin reiterates that fever is an absolute contraindication to cesarean section. When the woman has bled a great deal at the beginning of labor, it is important to spare her further hemorrhage, and cesarean section is called for, unless the tissues are elastic and dilatation far advanced. "With total placenta praevia, operate; with partial, refrain." With the death of the fetus there is less reason for operating.

Anguish Neurosis.—Christin refers to the condition in neurasthenics in which the innervation of the viscera has been upset by some mental or emotional stress. Ambition, duty or pride may be the pathogenic factor, but in the majority of cases some disturbance in the sexual life is the cause, not necessarily abstention. It is a synthesis of sensations from various organs, accompanied by worry and dread. Treatment must bear in mind that the whole is primarily a disturbance in the visceral nervous system, of psychic origin, and that it develops in paroxysms with the worry and dread persisting in the intervals.

Fatal Hemorrhage from Cancer.—Koechlin describes six cases in which fatal hemorrhage occurred from the stomach, bowel or uterus; in some it was the first manifestation of the malignant disease.

Schweizerische medizinische Wochenschrift, Basel

March 3, 1921, **51**, No. 9

Production of Cells in Adult Organism. H. K. Corning.—p. 193.
*Photographic Test for Bromids in Blood Serum. F. Merke.—p. 200.
*Thread Test for Gastric Ulcer and Cancer. G. G. Moppert.—p. 202.

Photographic Test for Bromids in Blood Serum.—Merke recalls that in developing photographs the presence of bromids retards the process. The blood serum of epileptics taking bromids responds differently to the action of light. The test is so sensitive that positive findings are obtained even with the cerebrospinal fluid.

Thread Test for Gastric Ulcer and Cancer.—Moppert's conclusions from study of the Einhorn thread method in forty-four men and fifty-four women are that no reliance can be placed on the findings. The distance from the teeth to the pylorus may vary by 20 or even 30 cm. in different persons, and even at different times in the same person. The method may affirm the presence of an ulceration when there really is none, or it may deny the existence of a cancer when malignant disease really exists. In certain cases of vagotonia without ulceration, the findings were as pronounced as in any ulcer case, the blood stain on the thread pointing to a lesion in the esophagus, stomach or duodenum. In fifty-six normal persons, the thread showed the stain in 41 per cent.; in twenty-two cases of gastric ulcer the thread was blood stained only in 36 per cent., and in none of the four cases of duodenal ulcer.

March 17, 1921, **51**, No. 11

*Climate and Pathologic Metabolism. A. Oswald.—p. 243.
*Poliomyclitis Suggesting Acute Appendicitis. J. Dubs.—p. 248.
Bacteria of Paratyphoid Group. Tsakalotos.—p. 250.
Cesarean Section with Twins in Case of Grave Valvular Defect; Recovery. A. Sträuli.—p. 252.

Climate as Adjuvant in Treatment of Pathologic Metabolism.—Oswald remarks that obesity, diabetes, gout, etc., have always ranked as diseases of nutrition and excretion, but we have learned that certain organs must be mainly incriminated for them. Weakened functioning of the nervous elements reduces the total of the nerve impulses that sustain the chemical activity of the tissues. Hence the latter slow up and the tissues suffer. The deranged metabolism here is secondary to the impaired nervous system, especially the vegetative system. A general quickening of the chemical processes in the cells acts indirectly on the general metabolism, and through this on the organs primarily involved. The mountains and the seashore are potent aids in this line.

Poliomyelitis with Onset Suggesting Acute Appendicitis.—Dubs reports three cases in which the symptoms of acute appendicitis proved to be the forerunner of epidemic poliomyelitis in a young woman and two boys. Oehmig has reported a similar set of symptoms in a case which later was demonstrated to be epidemic encephalitis. Leukopenia, hyperesthesia in various parts of the body, sweating and headache should suggest caution in accepting the diagnosis of appendicitis.

Chirurgia degli Organi di Movimento, Bologna

February, 1921, **5**, No. 1

Arthrotomy of the Knee. V. Putti.—p. 1.
Treatment of Flexor Retraction of Knee. V. Putti.—p. 11.
Post-Traumatic Spondylitis. A. Rossi.—p. 17.
Paralysis of the Shoulder. D. Maragliano.—p. 32.
Amputation Above the Malleoli. R. Minervini.—p. 43.
Development of Tendons. G. Faldino.—p. 51.
Operative Treatment of Twisted Foot. L. De Gaetano.—p. 97.
Coracoclavicular Articulation; Three Cases. F. Frassetto.—p. 116.

Arthrotomy of the Knee.—Putti gives nine illustrations of ne technic he has used in twenty-five cases of ankylosis of ne knee, and in four of a tuberculous process. After a orse-shoe incision with a supplementary perpendicular axial ncision, the triangular flaps turned back expose the tendon of ne quadriceps which is cut in a long Z. This allows the engthening of the tendon after the patella flap has been urned back and the joint inspected.

Treatment of Bent Knee.—Putti ascribes this deformity to etraction of the popliteal capsule of the knee, and gives llustrations of his method of capsulotomy. Six of the patients vere children and two were adults. In all, the normal play f the joint was restored.

Traumatic Spondylitis.—Rossi states that the spondylitis ad developed at the exact seat of the trauma in five of his ight cases; in one it was nearby, and in one it was at some listance. He explains it as chronic ankylosing rheumatism f the vertebrae, occurring in the predisposed at the point of esser resistance created by the trauma. Treatment on this asis included radiotherapy to relieve the pains, especially vhen these followed the course of the nerves involved, ncluded in or irritated by the osteophytes. Also phototherapy nd prolonged galvanic treatment, the positive pole on the umbar region. Kinesitherapy aided in restoring the mov- bility of the spine. In the eight cases described, the pain vas completely or nearly completely cured but the function- ng of the spine was merely more or less improved.

Paralysis of the Shoulder.—Maragliano has found signs of njury of nerves in all his cases of obstetric paralysis of the shoulder. The trauma is generally accompanied with injury f the bone or joint, sometimes even fracture of the clavicle. He says it is never too late in the obstetric cases to improve conditions by simple immobilization in hypercorrection. In a case described the girl of 16 had never had the functional use of the arm. After six weeks of abducting and outward rota- tion, the forearm flexed and the hand and fingers extended, almost normal functioning was realized. With paralysis of the shoulder from poliomyelitis, the arm should be immobil- i ed in abduction and outward rotation, without delay after the attack. It favors restoration of function in muscle fibers still capable of recuperation. When the muscles are hope- lessly atrophied, he drives in a long peg of bone taken from the tibia.

Operative Treatment of Twisted Foot.—Gaetano's illus- trated descriptions of eight cases show the fine results that can be realized in advanced forms of twisted feet, congenital and paralytic, by wedge resection and plastic procedures.

Policlinico, Rome

March 14, 1921, **28**, No. 11

Reflex Mechanism of Cerebellum Region. C. Minerbi.—p. 359.
*Calculus in the Urethra. S. Bivona.—p. 365.
Abortive Treatment of Syphilis. E. Vecchia.—p. 366.

Analgesia to Aid in Expulsion of Calculus in the Urethra.—Bivona had hematuria for a few days, then kidney colic for three hours. The calculus responsible for this then passed into the bladder and urethra. As he was remote from a sur- gical center he injected into the urethra a 4 per cent. solution of cocain. When the bladder was distended he squeezed together the meatus, and then with a sudden violent strain to urinate he released the meatus, and the calculus was swept out in the jet of urine. The cocain had obviated all tendency to spasm, so that the calculus slipped readily along.

Riforma Medica, Naples

Feb. 26, 1921, **37**, No. 9

Electrocardiography as Aid in Diagnosis. D. Pace.—p. 194.
Behavior of Leukocytes in Immunity Reactions. G. Tiscornia.—p. 196.
*Syphilitic Chancres on the Hand. Gaviati.—p. 197.
*Foot Sign in Organic Paralysis. P. Boveri.—p. 198.
*Treatment of Vesico-Uterovaginal Fistula. F. Nicolieff.—p. 199.
*Occupational Amyotrophy. V. Giordano.—p. 202.
Dermatosis from Arsphenamin. R. Rummo.—p. 205.
The Blood in Jaundice. E. Aievoli.—p. 206.

Chancres on the Hand.—Three primary chancres on the right hand were the aftermath of a fist fight.

Foot Sign of Paralysis.—The patient lies prone, the thighs horizontal, the legs flexed at a right angle on the thighs, and the feet at a right angle to the legs. In the normal, irritation of the sole on the median line causes the toes to be drawn together and retracted. With injury of the cortical motor zone, there is extension of the foot on the leg or dorsal flexion of the foot, while the foot is rotated inward, with adduction. The movement of the foot in this abnormal response to irri- tation of the sole occurs by jerks, so Boveri calls this the jerk-foot sign of organic paralysis. It cannot be elicited unless the subject is in this Z position.

Vesico-Uterovaginal Fistula.—The opening was so large that to avoid traction on the suture the prevesical portion of the ureters had to be dug out of the cicatricial tissue. The suture was horizontal instead of vertical. The transperitoneal operation through a median laparotomy in the case illustrated was simple and a complete success, without reaction on the part of the peritoneum.

Occupational Amyotrophy.—Giordano ascribes the progres- sive amyotrophy to the special handwork done by the young man in a munitions factory. The bones of the hands also showed pronounced atrophy.

Tumori, Rome

Aug. 31, 1920, **7**, No. 3

*Cystic Neuroglia of Pineal Gland. A. Businco.—p. 173.
*Large Sarcoma in Middle Ear. G. Bilancioni.—p. 200.
*Surgical Bone and Joint Disease. A. Borzini.—p. 215.
*Syringoma of Eyelid. L. Martinotti.—p. 242.

Cystic Neuroglioma of Pineal Gland.—Businco says that the case described is the fourth to be published. He cites literature and gives photomicrographs of the growth. It was found at necropsy of a woman who had died from pneumonia, and there did not seem to have been any pathologic influence or special symptoms from the tumor except those from mechanical compression.

Sarcoma in Middle Ear.—The sarcoma had evidently orig- inated in the tympanic cavity but had grown out behind the ear until it covered nearly half of the lower side of the head, as can be seen in the illustrations. The boy of 5 did not survive the extensive operation. The growth was deemed inoperable from the first, but the family insisted upon "some- thing being done," and it was partially resected.

Bone and Joint Disease.—Borzini refers to solitary cysts in the bones and to the proliferation of the fatty processes of the synovial membrane, describing an instructive example of each. Treatment can be only surgical, and he describes the clinical picture and the indications and technic, comparing them with the literature.

Syringoma of Eyelid.—Martinotti's study of this subject is based on ten cases of these small, multiple adenomas of the sweat glands, all in the eyelids. Several of the cases are illustrated.

Brazil Medico, Rio de Janeiro

Feb. 26, 1921, **35**, No. 9

The Flagellate Polytomella Agilis. H. De Beaurepaire Aragão.—p. 107.
Testimony in Local Medicolegal Case. Leonidio Filho.—p. 107.

March 5, 1921, **35**, No. 10

Some Brazilian Species of Cyelococlidae. L. Travassos.—p. 121.

Crónica Médica, Lima

January, 1921, **38**, No. 691

*Endemic Goiter. C. Monge.—p. 3.
*Simplification of Ambard's Formula. M. A. Velasquez.—p. 11.
*Gastric and Duodenal Ulcer. E. Delgado G.—p. 15.
Productive and Perceptive Cerebration. C. Jakob.—p. 17.

Endemic Goiter.—Monge gives some illustrations showing the unusually large size of the goiters encountered in the Urubamba district of Peru. He investigated in detail fifty of the hundred cases he records, and comments on the fre- quent tendency to the exophthalmic goiter type. About 2 per

cent. of the inhabitants were cretins in certain districts, and a cretinoid condition was still more common.

Simplification of Ambard's Formula.—A chart is used portraying five graduated scales, representing the urea in the urine; the urea in the blood; the output of urine and the weight. The fifth scale shows the Ambard coefficient. By drawing cross lines between the figures in the scales corresponding to the individual case, the Ambard coefficient can be computed automatically. This chart was first published in the *Paris médical*, May 15, 1920, p. 409.

Gastric and Duodenal Ulcer.—Delgado warns against resection when the organ is adherent, and prefers resection of the ulcer to extensive gastrectomy for gastric ulcer. For duodenal ulcer he advocates vertical gastro-enterostomy, with or without exclusion of the pylorus.

February, 1921, **38**, No. 692

*Pathologic Conditions in Right Abdomen. E. Odriozola.—p. 33.
Sugar in Treatment of Tuberculosis. A. Corvetto.—p. 39.
The Public, Waist-High Cuspidor. E. Escomel.—p. 42.
Ferrán's Theory of Tuberculosis. M. Arias Schreiber.—p. 46. Cont'd.

Pathologic Conditions in Right Abdomen.—Odriozola analyzes the clinical picture of what he calls dextritis, referring to an area no larger than the palm of one's hand, lying to the right of the umbilicus. A number of pathologic conditions may be responsible for disturbances here, as he describes.

Revista Española de Medicina y Cirugía, Barcelona

January, 1921, **4**, No. 31

*Cholecystitis. E. Ribas Ribas.—p. 1.
*Dysmenorrhea of Appendicular Origin. A. Cortés Lladó.—p. 13.
Treatment of Parkinsonian Sequelae of Epidemic Encephalitis. B. Rodríguez Arias.—p. 16.

Cholecystitis.—Ribas gives illustrations of several of his fifty-three operative gallbladder cases in the last two years. With bile duct complications he urges the necessity for keeping posted on the functioning of the liver, so that the operation may come in time before the mechanical jaundice from inflammation or gallstones becomes supplemented with functional jaundice from derangement of the liver. This derangement becomes chronic unless the infected gallbladder is removed in time. The pain with cholecystitis depends on the inflammation, and there may be a septicemic form of acute cholecystitis, and an edematous form with chronic cholecystitis. He reiterates that no one should die from gallstone disease. It is the internists' task to discover it and send the patients to the surgeon before it is too late, while the lesions are still restricted to the gallbladder.

Dysmenorrhea of Appendicular Origin.—Cortés recalls that chronic appendicitis has many forms of camouflage but that none is more deceptive than that with dysmenorrhea. Physicians when consulted on account of dysmenorrhea seldom think of examining the appendix. There is no vomiting with ordinary dysmenorrhea, or it is only of food, but with chronic appendicitis there is often bilious vomiting or a low persisting fever, or slight fever only during the menses. If this slight fever is accompanied with polymorphonucleosis, the assumption of chronic appendicitis is better justified. The Lanz point is more instructive than McBurney's point with dysmenorrhea, as the cecum and appendix are more liable to be found very low in the cases with genital complications. A history of preceding appendix disturbances is suggestive. In some cases described, the exacerbations of otherwise latent chronic appendicitis preceded the menses four or five times during the year, and all disturbances, appendiceal and dysmenorrheic, disappeared permanently after appendicectomy. In one girl the onset of puberty was marked with symptoms of acute appendicitis. Then the symptoms all shifted to the other side, and then menstruation became installed. The most convincing argument of the appendicitic origin of dysmenorrhea is its complete disappearance after appendicectomy.

Semana Médica, Buenos Aires

Feb. 17, 1921, **28**, No. 7

*Actinomycosis of Lower Jaw. J. M. Jorge.—p. 185.
*Purulent Interlobar Pleurisy. J. J. Vitón and A. Martín.—p. 192.
Mineral Waters. A. D'Alessandro.—p. 195.
Present Status of Pulmonary Tuberculosis. P. Galatoire.—p. 198.
Ferrán's Vaccine Treatment in Purpura. A. Milano.—p. 207.
Plasmogenesis. A. L. Herrera.—p. 208.

Actinomycosis of Lower Jaw.—Jorge was obliged to resect part of the lower jaw of the young man as the actinomycotic process resembled a sarcomatous process. It had been a year in developing, and trismus and numerous pustules had preceded the severe neuralgia of the face which compelled intervention. The long defect in the jaw was filled with a rubber prosthesis modeled from the excised portion, and it seems to answer the purpose perfectly.

Artificial Pneumothorax for Purulent Interlobar Pleurisy.—Vitón and Martin have witnessed disastrous results from surgical treatment of pleurisy with an opening into the bronchus. Hence they applied only artificial pneumothorax in a recent case in a man of 33, with most favorable results. A second patient was a woman of 60, and the outcome was equally favorable although suspension of the pneumothorax led to aggravation of the condition, but a complete cure followed further insufflations. The third patient had his sputum reduced from 420 c.c. to zero in fifty days while his general health returned to normal. It is important to keep the pneumothorax up well, and begin with large amounts of the gas, but this method cannot be applied unless there is an opening into a bronchus to allow the escape of the secretions.

Siglo Médico, Madrid

Feb. 5, 1921, **68**, No. 3504

Treatment of Whooping Cough. B. Hernández Briz.—p. 120.
Endobronchial Medication. T. Martín Carrasco.—p. 121.
*Functional Tests of Liver. F. García Guijarro.—p. 124. Conc'n.

Feb. 12, 1921, **68**, No. 3505

Pathologic Anatomy of Skin Cancer. J. L. Carrera.—p. 141. Conc'n in No. 3507, p. 193.
The Anamnesis in the Diagnosis and Prognosis of Pulmonary Tuberculosis. Ramón Villegas.—p. 145.
Laryngectomy. Tapia.—p. 148. Conc'n.

Functional Tests of the Liver.—García Guijarro reports research which has confirmed that the alimentary tests of liver functioning are not very reliable, on account of the complexity of the intermediary metabolism. He regards the amount of fibrinogen in the blood as a fairly reliable index of the functional capacity of the liver, as also determination of the bile salts and pigments in the blood, urine and stools. The lipase in the blood is an unreliable indicator of the sufficiency of the liver cells.

Feb. 19, 1921, **68**, No. 3506

*Atypical Nephritic Retinitis. Marín Amat.—p. 165.
Diagnosis of Pulmonary Tuberculosis. Ramon Villegas.—p. 173. Cont'n.

Nephritic Retinitis.—Marín Amat reports a case of apparent incipient detachment of the retina in the left eye of a previously healthy woman of 42. The next day the retina showed the white spots of albuminuric retinitis, and on a strict milk diet all the symptoms promptly subsided. The case emphasizes anew that pathologic conditions in the interior of the eye merely reflect what is going on elsewhere in the body.

Feb. 26, 1921, **68**, No. 3507

*Blood Carriers of Bacteria. E. Escomel.—p. 189. Conc'n in No. 3508, p. 217.
Epidemic Encephalitis and Meningitis. E. Pizarro.—p. 191.

Blood Germ Carriers.—Escomel's ideas on healthy carriers of bacteria in the blood, have already been summarized in these columns, vol. 75, p. 1601. These carriers do not suffer from their bacteria until some physical or emotional stress lowers the resistance. Examination of the blood before an operation, revealing this hemoparasitism, might ward off serious danger at times. The hemoparasitism may also prove dangerous by transmission of the micro-organisms to others by biting insects or in the urine.

Gann, Tokyo

February, 1921, **15**, No. 1. Paging refers to German summaries

*Experimental Sarcoma. K. Yamagiwa, S. Suzuki and K. Murayama.—p. 1.
*Experimental Adenoma. M. Ishibashi and S. Ohtani.—p. 2.
*Primary Liver Cancer. S. Matsui.—p. 4.

Experimental Sarcoma.—Yamagiwa and his co-workers report success in inducing the production of a fibromyxosarcoma in the lacteal gland region of a rabbit by means of irritation with tar. This was the only instance in 200 animals treated in the two years since they began their research in

his line, aiming to produce epithelial cancer by this means. The case recalls the sarcoma developing in a transplanted mouse carcinoma (Ehrlich-Apolant), and in a fibro-adenoma after injection of sudan III (Umehara). Their case differs from these, however, in that the sarcoma developed primarily at the point where the physical-chemical irritation from the tar had been repeatedly applied.

Artificial Production of Adenoma in Rabbit Stomach.—Ishibashi and Ohtani injected into the submucosa of the rabbit stomach and bowel at various points 0.5 c.c. of coal tar. In the bowel merely scanty hyperplasia resulted, but in the stomach there was production of an actual papillary adenoma. The proliferation was evident in two weeks and the tumor was well developed by the fiftieth day.

Liver Cancer.—Matsui describes some special histologic findings in a case of primary cancer in the liver, and emphasizes the resemblance between hepatoma and malignant syncytioma, from both the morphology and metastasis standpoints.

Archiv für Verdauungs-Krankheiten, Berlin

1921, **27**, No. 3

*Occult Blood in the Stools. E. Adler.—p. 153.
*Treatment of Sequelae of Dysentery. A. Ohly.—p. 191.
*Sarcina in the Stomach. F. Heissen.—p. 218.

Occult Blood in the Stools.—Adler has been applying the various tests for this purpose simultaneously to 500 different specimens of stools, a total of 3,000 examinations. His conclusions are that the Gregersen modification of the benzidin test deserves wide application on account of its simplicity and its extreme reliability. The 0.5 per cent. benzidin solution is made with 0.025 gm. benzidin and 0.1 gm. barium peroxid in 5 c.c. of 50 per cent. acetic acid. Two or four drops of this solution are dropped on the thin layer of the stool on a slide, and the rapidity with which the greenish-blue tint develops is an index of the amount of blood present. His tests of Snapper's spectroscope method confirm that this is the most reliable of all methods yet devised, but is too complicated for the practitioner. By using distilled water, there is no necessity to refrain from chlorophyl food beforehand. With negative findings, hematoporphyrin should be sought for, as it is possible that all the blood pigment may have been changed to this substance, so that it escapes other methods of investigation. The test for hematoporphyrin is particularly useful in distinguishing occult blood from hemorrhoid blood. The porphyrin is found by adding a little ether with hydrochloric acid to the acetic acid-ether extract.

Sequelae of Dysentery.—Ohly warns that the dysentery during the war seems to have frequently left a chronic disease of the large intestine, and special treatment is required for this, both dietetic and medical, with hydrotherapy. He has found a 10 per cent. ichthyol salve or 2 per cent. silver salt salve particularly useful for local treatment, followed by astringents. The clinical pictures vary from ulcerative to simple catarrhal enteritis, with or without participation of the stomach and small intestine.

Sarcina in the Stomach.—Heissen recalls that sarcina is found almost exclusively with dilatation of the stomach from benign stenosis of the pylorus. There is some ferment in cancerous gastric juice which destroys sarcina; hence the discovery of sarcina in a dubious case speaks in favor of a benign affection. Or if malignant disease is present, the tumor has not yet ulcerated, which is also favorable for the prognosis. With scirrhous cancer, there is comparatively little tendency to ulceration, but this type of cancer is generally accompanied by rapid evacuation of the stomach, and hence the sarcina does not develop. In a recent case of hard ulcer with palpable tumor and sarcina, he diagnosed benign stenosis although cancer seemed probable, and the operation confirmed his deductions.

Deutsches Archiv für klinische Medizin, Leipzig

Feb. 22, 1921, **135**, No. 3-4

Bone Marrow Findings in Chloroleukemia. H. Eichhorst.—p. 129.
*Resorption from Pleural Effusion. R. Cobet and G. Ganter.—p. 146.
*Calcium Metabolism in Tetany. C. J. J. G. Klein.—p. 161.
*Edema. H. K. Beckmann.—p. 173.
*Cancer of the Trachea. E. Fraenkel.—p. 184.
Leukocytosis Under Epinephrin Treatment. G. Walterhöfer.—p. 208.
*Purin Metabolism. S. J. Thannhauser and G. Czoniczer.—p. 224.
The Pulse Pressure with Arteriosclerosis. A. Lukacs.—p. 240.

Resorption of Iodin from Pleural Effusions.—Cobet and Ganter injected sodium iodid into the pleural effusion and examined the urine for iodin afterward. The condition of the pleura itself was found the decisive factor.

Calcium Metabolism in Tetany.—Klein reports a case of tetany developing with a tendency to myxedema seven weeks after a goiter operation. As calcium was given and retained, the tetany subsided; the retention of calcium increased under parathyroid and thyroid treatment. The greatest retention followed daily doses of 3 gm. of calcium lactate. The patient was a girl of 18 previously healthy except for the goiter.

Edema.—Beckmann found that as a salt-poor diet reduced the salt content of the blood, this was followed by the salt and water in the edema pouring into the blood. A milk diet with cardiac edema acts also in this way. The effect of venesection never lasted for more than two days. Digitalis increased the salt content of the blood, the salt passing from the edema fluid into the blood. Diuretics acted diversely according to the single large dose or repeated small doses.

Cancer of the Trachea.—Fraenkel has compiled about eighty cases of cancer of the trachea and has had opportunity to study ten cases himself. There are no pathognomonic symptoms beyond the rapid cachexia, the hoarseness and sudden attacks of suffocation. The average duration is less than a year. In his cases metastasis was extreme in six, not only in the glands around but in adjoining and remote internal organs, but removal of the trachea in certain cases allowed survival for several years. When the first symptoms develop the process is usually far advanced.

Deranged Purin Metabolism.—Thannhauser and Czoniczer reiterate that no disease is known which is due to a pathologic course of the nuclein metabolism. Primary constitutional gout is the result of a constitutional functional inferiority of the kidneys for excretion of uric acid. The accumulation of sodium urate in the blood and tissues may in time injure the kidneys further. Secondary gout develops in consequence of a diffuse chronic kidney disease, rendering the kidney incapable of eliminating uric acid.

Deutsche medizinische Wochenschrift, Berlín

Jan. 6, 1921, **47**, No. 1

Means to Offset the Falling Birth Rate. A. Grotjahn.—p. 1.
*Spread of Tuberculosis in Germany. B. Möllers.—p. 2.
Mortality and Morbidity Rate of Tuberculosis. H. Selter.—p. 4.
*Technic of Oxydase Reaction. F. Schlenner.—p. 6.
*Artificial Pneumothorax in Pleuritis. K. Henius.—p. 7.
Experiments with Partial Antigens. W. Unverricht.—p. 8.
*Treatment of Varicose Veins. Klapp.—p. 9.
Quinidin Treatment of Arrhythmia. Benjamin and von Kapff.—p. 10.
The Blood Platelet Problem. R. Degkwitz.—p. 12.
Arsphenamin Dosage. L. Hauck.—p. 13.
Bacterial Flora of Wounds. W. J. Klug.—p. 14.
Blood Picture with Gastric Cancer. Helmreich.—p. 15.
Modifications in Technic of Roentgenotherapy. Groedel.—p. 16.
Automatic Regulation of Roentgen-Ray Tubes. H. T. Schreus.—p. 17.
Spirochaeta Pallida in Cervix Uteri in Primary Syphilis. G. Gellhorn and H. Ehrenfest.—p. 18.
Treatment of Ulcus Cruris. H. Deutsch.—p. 18.
*Neurasthenia. M. Reichardt.—p. 19.
Suppurative Inflammation of the Cornea. Steindorff.—p. 21.

Tuberculosis in Germany Since the War.—Möllers reports that with the second half of the year 1919 the mortality from tuberculosis in Germany has been slowly decreasing.

Technic of the Oxydase Reaction.—Schlenner says that the oxydase reaction permits differentiation between marrow and lymph blood cells. The best and most rapid method of examining the blood for it is by treating an unfixed specimen with alpha-naphthol and dimethylparaphenylendiamin in fuchsin or "borax-methylene blue."

Artificial Pneumothorax in Treatment of Pleural Disease.—Henius reports two cases in which artificial pneumothorax was successfully used to prevent formation of adhesions and to relieve the severe pain in pleuritis sicca and pleuropericarditis.

Treatment of Varicose Veins.—Klapp ligates the veins through the skin at numerous points, the leg raised to expel the blood. This necessitates outlining the course of the veins

beforehand. The unthreaded needle is passed through beneath the vein, the plane of the curve of the needle perpendicular to the surface of the limb. Then the needle is threaded and is drawn back. The unthreaded needle is then inserted again at the same point but is passed this time above the vein, the plane of its curve parallel to the surface of the limb. The tip emerges at the same needle hole as at first; it is threaded with the other end of the catgut and drawn back. The ends are then tied, thus ligating the vein. As the wrinkled skin at the point is smoothed out, the knot slips back into the needle hole. From forty to fifty ligatures are usually sufficient. The saphenous vein is ligated at the start.

The Present-Day Conceptions of Neurasthenia.—Reichardt distinguishes three types: (1) pure exogenous nervous exhaustion of the brain; (2) endogenous and constitutional nervousness, and (3) endogenous nervousness from internal causes. Group 1 is caused by long continued, excessive mental exertion, combined with emotional stress, inappropriate mental work and unhygienic mode of living, or in consequence of cerebral poisoning, as after typhoid, influenza and chronic alcoholism. The occasion of the neurasthenic condition must have been of such a character that it would be actually capable of overfatiguing or exhausting a healthy brain with average resistance. On removal of the cause, the neurasthenic condition disappears in a short time. Endogenous and constitutional nervousness constitutes the major portion of the cases of neurasthenia as described in the textbooks. Differentiation between Groups 1 and 2 is not always feasible. Group 3 comprises cases of endogenous nervousness due to internal causes, without any recognizable external cause. It may suddenly appear at any time while the patient is apparently in perfect health, and may continue for years.

Münchener medizinische Wochenschrift, Munich

Dec. 24, 1920, **67**, No. 52

Recidivation in Disease. H. Oeller.—p. 1487.
Technic for Parabiosis. G. Schmidt.—p. 1491.
*Osteomyelitis with Periosteal Abscess. F. Rost.—p. 1492.
Specific Treatment of Influenza. K. Bayer.—p. 1493.
Sterilization of Female Experimental Animals by Parenteral Administration of Spermatozoa. R. Dittler.—p. 1495.
Smallpox in Man, and Foot-and-Mouth Disease. A. Groth.—p. 1497.
Gastro-Intestinal Disease and War Diet. Strauch.—p. 1502.
Local and Conduction Anesthesia. K. Vogeler.—p. 1505.
Treatment of Tuberculosis with Partial Antigens. Deycke and Altstaedt.—p. 1507.

Osteomyelitis with Periosteal Abscess.—Rost reports that in 226 cases of acute osteomyelitis with periosteal abscess, not only the number of deaths but also the number of complications were much less in the cases treated only by incision of the abscess than in the cases in which the bone was opened up.

Wiener klinische Wochenschrift, Vienna

Dec. 2, 1920, **33**, No. 49

Stereoscopic Effect in Ordinary Roentgenoscopy. Holzknecht.—p. 1061.
Treatment of Undescended Testicles. A. Brenner.—p. 1062.
Bilateral Sarcoma of the Testes. H. Kaiser.—p. 1066.
Oligodynamic Distant Effect of Mercuric Chlorid Solution. Weltmann.—p. 1068.
Direct Reenforcing of the Self-Protecting Power of Tissue Cells. A. Teilhaber.—p. 1071.

Zentralblatt für Chirurgie, Leipzig

Nov. 27, 1920, **47**, No. 48

*Trophic Ulcers Following Division of Nerves. F. Brüning.—p. 1433.
*Local Anesthesia and Erysipelas.—p. 1435.
Treatment of Volvulus of Sigmoid Flexure. A. Neudörfer.—p. 1437.

Trophic Ulcers Following Nerve Section.—Brüning asks, How is the curative effect of nerve suture on torpid ulcers to be explained? Leriche regards disturbance in the sympathetic innervation as the cause of trophic ulcers following nerve injuries; such ulcers healed after periarterial sympathectomy, removal of the neuroma and restoration of the continuity of the nerve. On the basis of two successful cases Brüning thinks that not the sympathectomy, as performed by Leriche, was the essential factor for the radical cure of the old trophic ulcers, but rather the resection of the neuroma and scar tissue, and the restoration of nerve continuity.

Local Anesthesia in Treatment of Erysipelas.—Gelinsky refers to the efforts to check the progress of erysipelas by forming a wall of anesthetic wheals at the edge of the infected area. He warns that the visibly inflamed area does not coincide with the extent of the infectious process. The streptococcus advances farther than the inflammation of the skin would indicate, and the wall of anesthetic should be placed beyond its farthest invasion.

Zentralblatt für Gynäkologie, Leipzig

Dec. 11, 1920, **44**, No. 50

The Capillaries in Eclampsia and Pregnancy. Nevermann.—p. 1425.
Technic of Lumbar Anesthesia. H. H. Schmid.—p. 1427.
Severe Hemorrhage from Vaginal Varices. Riedinger.—p. 1428.
"Roentgenotherapy in Adnexitis." H. Eymer.—p. 1433.
Protection of the Perineum in Childbirth. E. Haim.—p. 1433.
Technic for Introduction of Tube Speculum. E. Sachs.—p. 1434.

Zentralblatt für innere Medizin, Leipzig

Nov. 20, 1920, **41**, No. 47

*Artificial Pneumothorax in Echinococcus Cyst in Lung. H. Alexander.—p. 801.

Artificial Pneumothorax in Echinococcus Disease of Lung.—Alexander states that artificial pneumothorax with an echinococcus cyst of the lung, without certain connection with a bronchus, is contraindicated on account of the danger of rupture of the cyst into the pleural cavity. If there is a definite connection with a bronchus, pneumothorax may be undertaken, but marked increase of tension should be avoided. Pneumothorax may prepare the way for a radical operation. After the operation, continuation of the pneumothorax is valuable in order to bring about a more rapid reduction of the wound cavity.

Nov. 27, 1920, **41**, No. 48

Determination of Total Blood Volume. J. Löwy.—p. 818.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 19, 1921, **1**, No. 8

Case of Rat Bite Fever at Amsterdam. De Lange and Wolff.—p. 938.
Changes in Tissues After Subcutaneous Injection of Paraffin. C. van Gelderen.—p. 946.
*Electrical Responses with Fragilitas Ossium. G. C. Bolten.—p. 952.

Osteopsathyrosis.—In the four cases of fragilitas ossium reported by Bolten, besides the abnormal fragility of the bones and the blue sclerotics, roentgenoscopy showed that the long bones were deficient in calcium, and there was in all a peculiar, excessive response to electric tests, as well as a large number of vasomotor and trophic disturbances. The response to electric tests recalls the response in thymectomized dogs, which suggests the possibility of thymus insufficiency as a factor in fragilitas ossium. Other features point to insufficiency likewise of the parathyroids, and thyroid—the whole a trophoneurosis of endocrine origin, affecting predominantly the calcium content of the bones.

Finska Läkaresällskapets Handlingar, Helsingfors

January-February, 1921, **63**, No. 1-2

*Susceptibility of the Sexes to Disease. R. Ehrström.—p. 1.
Utilization of Butter and Margarin in Intestinal Tract. R. Lundgren, H. Perander and T. Putkonen.—p. 16.
Cyst of Duct of Steno. T. Sandelin.—p. 27.
Fasting from Standpoint of Physiology. C. Tigerstedt.—p. 33.
Chronic Pneumonia in Boy. B. Sourander.—p. 45.
First Cataract Operation in Finland, 1771. G. A. Nordman, p. 50.

The Sex as Factor in Pathogenesis of Disease.—Ehrström has compiled statistics which show the preponderance of certain diseases in one or the other sex, and discusses the causes for the lesser resistance in one sex. Gout heads the list with 40 men to 1 woman affected; color blindness, 10 to 1; Thomsen's and Leber's diseases, 10 and 8 to 1; chloroma, 3 to 1; diabetes, bronchial asthma, paralysis agitans, and hereditary nystagmus, each 2 to 1. In contrast to this, vasomotor neuroses are found in 20 women to 1 man; exophthalmic goiter, 15 to 1; osteomalacia, 10 to 1; arthritis deformans, 6 to 1; myxedema, 5 to 1; gallstones and sclerodermia, 3 to 1; endemic goiter and chorea, each, 2 to 1. These are pathologic conditions in which endogenous factors participate, and the predilection for a certain sex suggests that the sexual organs and sexual characters are involved in their mechanism. It demonstrates further, he adds, that the influence of the secondary sex characters is more profound and far-reaching than has been realized hitherto.

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RESTORATION OF THE NORMAL CARDIAC MECHANISM IN AURICULAR FIBRILLATION BY QUINIDIN

PRELIMINARY REPORT *

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NEW YORK

Quinin has been used by physicians for its supposed sedative action on the heart for more than fifty years. In 1914, Wenckebach [1] recorded two cases of auricular fibrillation in which the normal cardiac rhythm was restored after administration of 1 gm. of this drug. The effect, however, was of short duration. In one patient, in whom fibrillation occurred in paroxysms, quinin was given repeatedly over a period of years, each time with achievement of the desired therapeutic result. Finally, no effect could be obtained and fibrillation of the auricles persisted. In a number of other patients similarly treated, no alteration in the mechanism of the heart was noted.

Stimulated by these observations, Frey,[2] in 1918, undertook to study the clinical pharmacology of various cinchona derivatives (quinin, quinidin and cinchonin) in patients with auricular fibrillation. He found that the most effective therapeutic agent was quinidin, which is a dextrorotatory stereo-isomer of quinin. Because of its better solubility, quinidin sulphate, rather than the pure quinidin alkaloid, was chosen for more extensive use. In his first communication Frey reported ten cases, in six of which he was able to convert the fibrillatory mechanism into the normal sinus rhythm.

During the last three years, reports of one hundred and one cases of auricular fibrillation treated with quinidin have appeared in the foreign literature; [3] in fifty-nine (58.4 per cent.) the normal rhythm was restored. The duration of effect has usually been short, from a few days to a month. The longest period during which normal rhythm was observed was four months. The usual dosage employed has been 0.4 gm. by mouth three times daily before meals, or, less commonly, 0.2 gm. five times a day. Regularization of the rhythm has occurred, for the most part, on the second or third day of treatment, though as much as 11 gm. has on occasion been required to produce the desired effect. It has been found advisable to give a preliminary dose of from 0.2 to 0.4 gm. to test for the possible presence of an idiosyncrasy to alkaloids of the cinchona group; for in two cases in Frey's series, grave, though not fatal, symptoms, evidenced chiefly by depression of the respiratory center, occurred after a total of 1.8 gm. had been given. Unpleasant effects, such as palpitation, headache, diarrhea, nausea or vomiting have occasionally been noted. A tachycardia usually preceded the onset of normal rhythm. Electrocardiograms made while the heart rate was rapid have in some instances shown the presence of auricular flutter as the transitional mechanism. In other cases, no transition between fibrillation and normal rhythm has been demonstrated. In still a third group, in which it was not possible to establish normal rhythm, the character of the waves in the curves showing fibrillation has temporarily become more coarse or there has been transient auricular flutter with reversion to fibrillation. Inversion of the T-wave of the electrocardiogram and prolongation of P-R (conduction) time have also been observed. There has been no significant effect on urinary output or blood pressure.

Knowledge concerning the mode of action of quinidin on the mammalian heart is meager. Hofmann [4] has shown in dogs' hearts perfused with solutions of the drug a diminution in the excitability of the auricular muscle to electrical stimulation. Strong induction shocks, effective in producing fibrillation of the auricles when the heart was perfused with Locke's solution, failed to elicit this arrhythmia when quinidin was added to the perfusate. The heart rate was slightly slowed. This is the only bit of experimental evidence on which a theory of the mode of action of the alkaloid may be based. In the isolated frog's heart, Santesson [5] many years ago showed that quinidin caused retardation of rate and diminution of the force of muscular contraction.

Up to the present time, quinidin sulphate has been administered by mouth, in gelatin capsules, to four patients in the Hospital of the Rockefeller Institute. These patients have been under observation prior to treatment for periods ranging from one month to one and a half years, and are known to have been fibrillating for at least these lengths of time.

* From the Hospital of the Rockefeller Institute for Medical Research.

1. Wenckebach, K. F.: Die unregelmässige Herztätigkeit und ihre klinische Bedeutung, 1914, pp. 125 and 128.

2. Frey, W.: Ueber Vorhofflimmern beim Menschen und seine Beseitigung durch Chinidin, Berl. klin. Wchnschr. **55**: 417, 451, 1918.

3. Frey, W.: Weitere Erfahrungen mit Chinidin bei absoluter Herzunregelmässigkeit, Berl. klin. Wchnschr. **55**: 849, 1918. Von Bergmann, G.: Zur Chinidintherapie des Herzens, München. med. Wchnschr. **66**: 705, 1919. Klewitz, F.: Ueber Chinidin bei Vorhofflimmern, Deutsch. med. Wchnschr. **46**: 8 (Jan. 1) 1920. Schott, E.: Zur Frage der Chinidintherapie, Deutsch. Arch. f. klin. Med. **134**: 208 (Feb.) 1920. Wisser: Inaug. Diss., Cologne, 1920 (cited by Schott). Leschke, E., and Ohm, R.: Die Beurteilung therapeutischer Erfolge bei Vorhofflimmern mit Herzinsuffizienz auf Grund der Ohmschen Venenpulskurve, München. med. Wchnschr. **68**: 65, 1921. Benjamin and von Kapf: Ueber die Behandlung der Arhythmia perpetua mit Chinidin, Deutsch. med. Wchnschr. **47**: 10, 1921. Jenny, E.: Chinidin als Herzmittel, Schweiz. med. Wchnschr. **51**: 272 (March) 1921.

4. Hofmann, F. B.: Ueber Vorhofflimmern und seine Unterdrückung durch Chinidin, Ztschr. f. Biol. **71**: 47, 1920.

5. Santesson, C. G.: Ueber die Wirkung einiger China-Alkaloide auf das isolierte Froschherz und auf den Blutdruck des Kaninchen, Arch. f. exper. Path. u. Pharmakol. **32**: 321, 1893.

On the days on which quinidin was given, electrocardiograms were made every one or two hours and were taken several times daily thereafter. In two cases a normal sinus rhythm was restored. In one of these, auricular flutter intervened between fibrillation and the normal rhythm; in the other, an intermediary transitional mechanism, not sufficiently regular to be classed as flutter, was recorded. In the third patient, transient auricular flutter of only a few hours' duration was followed by a return to fibrillation. In the fourth case there was a temporary increase in heart rate without alteration of mechanism. In this patient complaint of headache and palpitation, together with the appearance of occasional ventricular premature contractions, induced discontinuation of the drug.

That the cardiac mechanism may be so strikingly and quickly altered by relatively small amounts of an alkaloid which exerts its action on the heart without producing any disturbing systemic effects is truly remarkable and worthy of note. It is for this reason that the appended cases are now recorded in this preliminary report. An extensive study of quinidin, both clinical and experimental, is in progress.

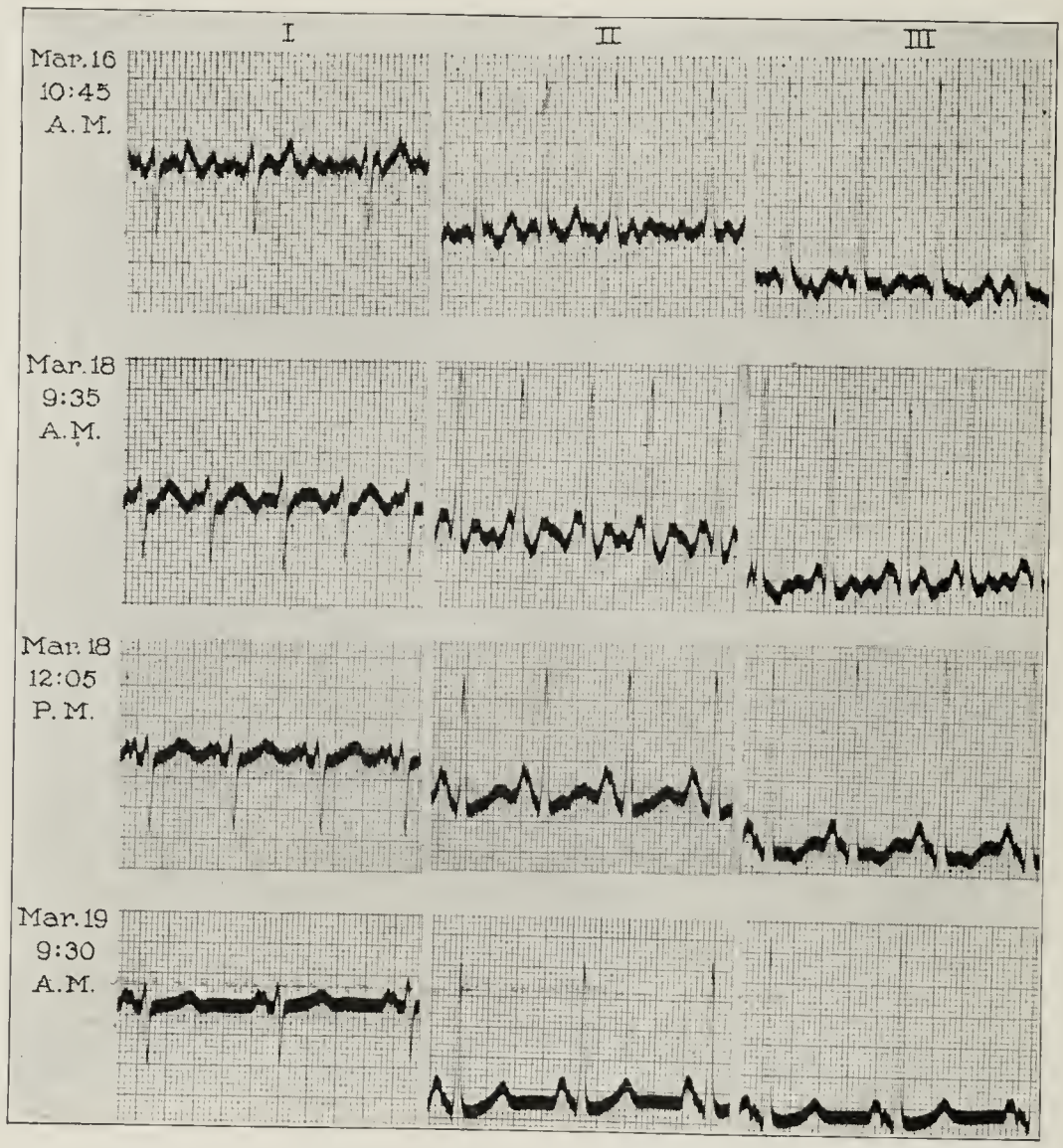


Fig. 1 (Case 1).—March 16, control, auricular fibrillation and right ventricular preponderance. March 17, quinidin sulphate, 0.4 gm. March 18, quinidin sulphate 0.4 gm. at 7, 9, and 11 a. m. Electrocardiogram at 9: 35 a. m. shows auricular flutter. At 12: 05 p. m., normal rhythm, with rate 94, P-R time 0.18 to 0-19 second, T-Wave negative. March 19, rate 64, P-R time 0.16 to 0.17 second, T-wave positive.

REPORT OF CASES

CASE 1 (Hospital No. 4330).—S. G., a man, aged 26, Russian, machine operator, whose case was diagnosed as chronic valvular heart disease; mitral stenosis and incompetence; auricular fibrillation, was admitted, Feb. 19, 1921, complaining of cough, dyspnea and precordial pain. There was no history of any infectious disease, nor was the patient subject to sore throats. He was first aware of having heart disease in 1913, when he suffered from palpitation and spat up a cupful of bright red blood. He had twice been a patient in other hospitals on account of his cardiac condition. He was rejected for army service in 1917 because of heart disease. During the two months prior to admission, dyspnea and cough had increased, and he had pain in the region of his heart.

Physical examination revealed moderate cyanosis of the cheeks, lips, ears and fingers. The heart was enlarged, extending 4 cm. to the right in the fourth interspace, and 16.5 cm. to the left in the sixth interspace. The signs were those of mitral stenosis and incompetence with complete cardiac irregularity. The heart rate varied from 80 to 120, with 60 to 95 beats coming through at the wrist. The blood pressure was 120 mm. of mercury systolic, 80 diastolic. There were râles over both lower lobes of the lungs. The liver was not enlarged. There was no visible edema.

With rest, fluid intake restricted to 1,500 c.c., and a light diet, the weight fell from 61.2 to 58.2 kg. in a week. Cough and dyspnea became less troublesome. The râles in the lungs disappeared. The heart rate was extremely labile, but did not significantly change its general level. He received no medication until March 17; on this day he was given quinidin sulphate, 0.2 gm., at 11 a. m. and at 1 p. m. No objective or subjective changes followed this small preliminary dose, which was given to test for the presence of a drug idiosyncrasy.

March 18, he received quinidin sulphate, 0.4 gm., at 7, 9 and 11 a. m. An electrocardiogram made at 9:35 a. m. showed that the auricles were fluttering; at 12:05 p. m. a normal sinus rhythm with rate of 94 was apparent (Fig. 1). The patient was unaware of the fact that the cardiac mechanism had altered, and noted no unusual symptoms which might have been ascribed to the quinidin. It is of interest that the T-wave, which was downwardly deflected when normal rhythm was first established, became upright on the following day.

As is evident from the chart (Fig. 2), the heart rate continued to fall, and for twelve days following treatment ranged from 45 to 72 per minute. There was no noteworthy change in either systolic or diastolic blood pressure. The urinary output was slightly diminished on the day of quinidin administration, and somewhat exceeded the usual level during the next twenty-four hours. The total amount of quinidin given was 1.6 gm. in two days. The patient remained comfortable, and on March 23 was allowed out of bed in a chair for the first time. The normal rhythm was maintained for twelve days. On the thirteenth day, the auricles again began to fibrillate, the heart beating at the rate of 90 per minute, with pulse deficit of 8. As before, the patient was unaware of the fact that the cardiac mechanism had altered.

CASE 2 (Hospital No. 3968).—P. O., a man, aged 54, boilermaker's assistant, diagnosed as having syphilis, chronic myocarditis and auricular fibrillation, was first admitted to the hospital, Sept. 29, 1919, complaining of palpitation and a sense of oppression in the chest. He had two mild attacks of rheumatism, the first in 1912, the second ten months before entrance to the hospital. He had a chancre at the age of 23, and received antisyphilitic treatment for one year. He had been a heavy drinker up to the age of 40, and was an immoderate smoker and hard worker. His present illness began six months before admission with a smothering sensation in the chest; two weeks later edema of the feet appeared, and he was put to bed for three weeks under a physician's care. Since that time he had been unable to return to work, and complained particularly of the fact that his heart "pounded like an engine," especially at night.

Physical examination disclosed very slight dyspnea, a somewhat enlarged heart, extending 4 cm. to the right in the fourth interspace, 13 cm. to the left in the fifth interspace, and total cardiac irregularity. There was no evidence of valvular disease. The blood pressure was 142 systolic and 70 diastolic. There was no edema. The Wassermann reaction on the blood serum was ++++. The patient remained in the hospital until Jan. 20, 1920, during which time his heart rate was extremely labile, ranging from 130 to 150, with a large pulse deficit when undigitalized, but responding promptly to digitalis or strophanthin therapy. He left the hospital with instructions to continue taking digitalis each day. Because of vertigo and palpitation he was readmitted, May 27, and remained in the hospital until Aug. 27, 1920. Since that time he continued to take digitalis, 0.2 gm. each day, but did not return to work. He presented himself for examination about once a month. Throughout this entire period, during which electrocardiograms were frequently made, the cardiac mechanism remained constantly that of auricular fibrillation with occasional premature contractions of ventricular origin. He

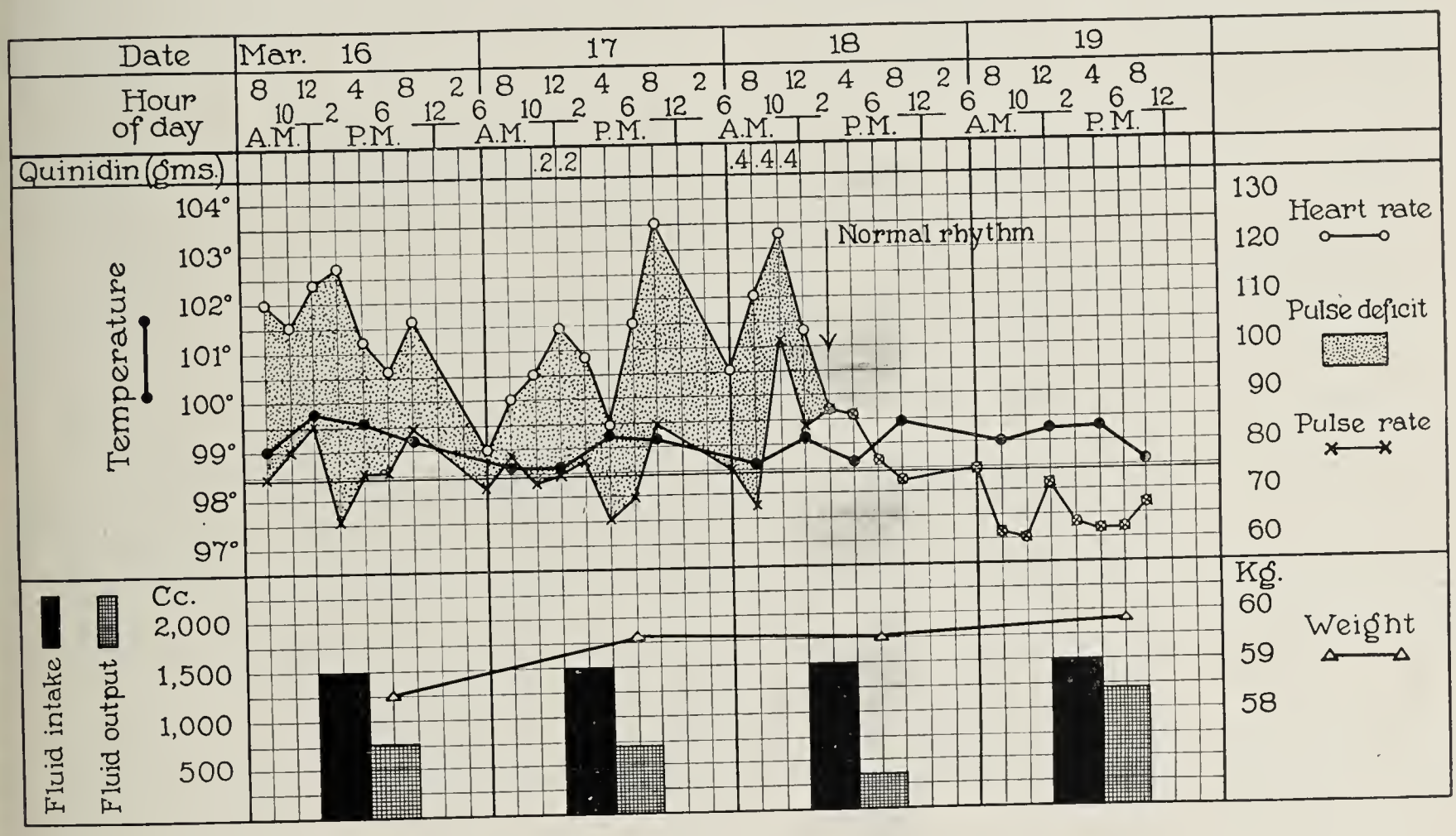


Fig. 2 (Case 1).—Clinical chart.

continued to take 0.2 gm. of digitan each day up to the time of the present readmission, March 10, 1921.

Physical examination at this time showed the heart to be of about the same size as on the first examination, with auricles still fibrillating. The blood pressure was 124 systolic and 78 diastolic. The heart rate was from 90 to 95, with radial rate from 85 to 90. Digitalis was discontinued, and the administration of quinidin sulphate begun.

The results of quinidin treatment were as follows (Fig. 3):

March 10, 0.2 gm. at 3 and 6 p. m. No effect was evident.

March 11, 0.2 gm. at 7, 9 and 11 a. m., and at 1 and 3 p. m. Tachycardia and palpitation followed, but were of only several hours' duration.

March 12 and March 13, the drug was omitted.

March 14, 0.4 gm. at 8 a. m., 12 noon and 4 p. m. There was an increase in heart rate to from 125 to 130, with a deficit of from 12 to 15 beats, but no discomfort.

March 15, 0.4 gm. at 8 and 10 a. m., 12 noon, and 2 and 4 p. m. The heart rate continued rapid, ranging from 120 to 130, with from 80 to 90 beats coming through at the wrist. An electrocardiogram made at 2:50 p. m., after 1.6 gm. had been given on this day, showed a transition between fibrillation and normal mechanism. There may be seen a number of waves, which are to be regarded as evidence of auricular contractions rather than of fibrillation. They are not, however, of sufficient regularity to justify designating the mechanism as auricular flutter. An electrocardiogram at 4:45 p. m. revealed establishment of the normal sinus rhythm, with a rate of 80. The patient was unaware of the altered cardiac mechanism until that night, when he remarked upon the absence of the usual "pounding" of his heart. During the following twenty-four hours the heart rate gradually fell to 70, and has remained between 55 and 70 for the last fifteen days. There are occasional premature auricular contractions. It is worthy of note that the T-wave of the electrocardiogram made on March 15 is upwardly directed in Leads II and III, whereas, in the curve made the following day, the corresponding deflections are in the downward direction. There was slight increase in the urinary output on the two days following quinidin administration. There was a slight fall in systolic blood pressure on the day after quinidin was discontinued, namely, from 128 to 104 mm. of mercury. The diastolic level remained unchanged; by the following day the systolic pressure had returned to its former level. The patient is comfortable and is now up and about. The total amount of quinidin given was 4.6 gm. in six days.

CASE 3 (Hospital No. 4274).—M. R., a schoolboy, aged 18, American, whose case was diagnosed as chronic valvular heart disease; mitral stenosis and incompetence; aortic incompetence; auricular fibrillation; chronic tonsillitis; tonsillectomy, was admitted, Nov. 29, 1920, complaining of hemoptysis, palpitation and precordial pain. He was subject to frequent attacks of tonsillitis, and had two attacks of rheumatic fever—one at 11, the second at 12 years of age. He first noticed dyspnea on going upstairs in 1912, and was then told that he had rheumatic heart disease. He continued at school, though under observation by his physician, with alternating periods of comfort and of ill health. During the month preceding admission to the hospital, dyspnea increased and he had two hemoptyses.

Physical examination disclosed large, infected tonsils. Cardiac dulness extended 5 cm. to the right in the fourth interspace and 14 cm. to the left in the sixth interspace. There were signs of both mitral and aortic valvular disease, and auricular fibrillation. The blood pressure was 126 systolic and 30 diastolic. For six weeks the boy was kept in bed without

medication. The heart rate varied from 80 to 95, with pulse deficit from 10 to 15. Occasional palpitation was the only complaint. January 28, tonsillectomy was performed under local anesthesia; convalescence was uneventful, the cardiac condition remaining essentially unchanged.

Quinidin sulphate was given as follows:

February 3, 0.1 gm. at 12 noon and 5 p. m.

February 4, 0.2 gm. at 12 noon and 5 p. m. There was no evident effect.

February 5, 0.2 gm. at 10 a. m., 12 noon, 4 and 8 p. m. After the third dose there was some acceleration of heart rate of which the patient was aware.

February 6, the drug was omitted.

February 7, 0.4 gm. at 10 a. m. and 4 p. m. The patient complained of palpitation and headache. The heart rate at 8 p. m. rose to 126. The electrocardiogram revealed a number of left ventricular premature beats.

February 8, 0.4 gm. at 10 a. m. and 1 and 5 p. m. The heart rate was more rapid. An electrocardiogram at 9:35 a. m. revealed a series of fibrillatory waves coarser than on the previous day, and more ventricular extrasystoles. At 5:55 p. m. the electrocardiogram showed in places a mechanism resembling auricular flutter, in other portions coarse auricular fibrillation. The ventricular premature contractions were quite numerous. During the night the tachycardia subsided.

February 9, no ventricular extrasystoles were seen; 0.4 gm. at 11:30 a. m., and 1:30 and 3:30 p. m. The heart rate again became quite rapid, but the extrasystolic arrhythmia did not reappear.

February 10, there was marked tachycardia, the rate rising to 130, with a pulse deficit of 25. The temperature likewise was elevated in the evening, reaching 102. At this time the patient complained of precordial pain. Physical signs were unchanged. A total of 4.6 gm. of quinidin sulphate was given during a period of seven days. The following day the electrocardiogram revealed a return to fine fibrillation. The temperature was normal, and the heart rate had assumed its usual level. The urinary output during this entire period remained essentially unchanged. The further course of the patient in the hospital was not remarkable.

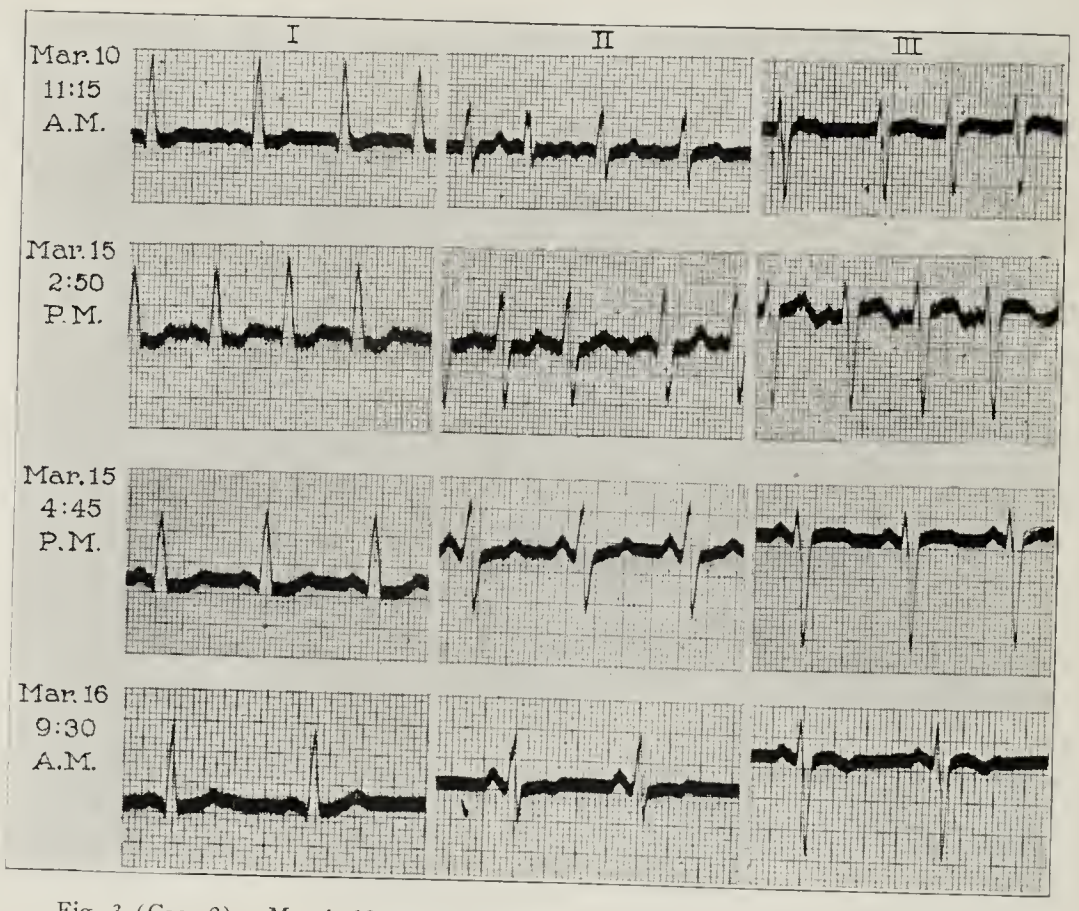


Fig. 3 (Case 2).—March 10, control, shows auricular fibrillation and left ventricular preponderance. Quinidin sulphate, 0.4 gm. March 11, quinidin sulphate, 1 gm. March 12 and 13, drug omitted. March 14, 1.2 gm. March 15, quinidin sulphate, 0.4 gm. at 10 a. m., 12 noon, and 2 and 4 p. m. Electrocardiogram at 2:50 p. m., after 1.6 gm. had been given on this day, shows a transition between fibrillation and the normal mechanism. There are seen a number of waves which are to be regarded as evidence of auricular contractions rather than as fibrillation. They are not, however, of sufficient regularity to justify designating the mechanism as auricular flutter. Electrocardiogram at 4:45 p. m. shows a normal sinus rhythm, with rate of 80, P-R time 0.15 to 0.16 second, T-wave positive. March 16, rate 70, P-R time 0.15 to 0.16 second, T-wave negative. Occasional auricular premature beats, not shown in section of curve reproduced.

CASE 4 (Hospital No. 3983).—R. R., a woman, aged 31, Russian, housewife, with a diagnosis of chronic valvular heart disease; mitral stenosis and incompetence; aortic incompetence; auricular fibrillation, was first admitted to the hospital, Oct. 23, 1919, complaining of shortness of breath and weakness. There was no history of the usual infectious diseases. She was told at the age of 18 that she had heart disease, but had no symptoms save occasional dyspnea after strenuous exertion. The birth of two children and several abortions put an unusual strain on her heart, and for the last two years there was progressively increasing dyspnea.

Physical examination disclosed moderate cardiac enlargement, dulness extending 4 cm. to the right in the fourth interspace, and 12 cm. to the left in the fifth interspace. The signs were those of mitral and aortic valvular disease with auricular fibrillation. There were râles over both lower lobes of the lungs, but there was no edema of the extremities. The heart rate was rapid, from 100 to 130, with a pulse deficit of from 20 to 40. On this, as on two subsequent admissions to the hospital, there was prompt response to digitalis or strophanthin therapy. The patient was kept under continuous observation, reporting for examination about once a month.

The present admission, Feb. 14, 1921, was because of pain in the left side, believed to be due to a small infarct in the left kidney. February 19, she received digitan, 0.6 gm. The symptoms and signs promptly abated.

Quinidin sulphate was given as follows:

February 24, 0.2 gm. at 12 noon and 5 p. m. She complained of headache in the evening.

February 25, 0.4 gm. at 1 and 6 p. m. At 8 p. m. there was a sharp rise in heart rate with complaint of headache.

February 26, the heart rate resumed its usual level; the headache was gone. On this day, as well as on February 27 and 28, she received 0.4 gm. at 10 a. m., and 2 and 6 p. m. Each dose was followed by tachycardia, which subsided within from two to four hours after the drug had been given. While the rate was rapid, the patient complained of headache and palpitation. She received a total of 4.8 gm. in five days. Save for the appearance of an occasional right ventricular premature contraction, there was no essential change in the cardiac mechanism or in the form of the electrocardiogram.

COMMENT

It is evident from a survey of the literature, as well as from observation of this small group of cases, that the factors which determine the success or failure of quinidin in altering the mechanism of the heart are not clear. We have been led to give the individual doses at more frequent intervals than has been recommended (Cases 1 and 2) for two reasons: first, because it was noted that in the two unsuccessfully treated patients, the effects induced by a given amount of the drug, as evidenced by tachycardia and changes in the electrocardiogram, tended to disappear in the course of from two to four hours; second, because Wiechmann [6] has shown that the greater the fractionation of dosage, the greater is the amount of quinidin excreted. To achieve optimal therapeutic effects it seems reasonable, at least for the present, to administer as much of the drug in as

6. Wiechmann, E.: Ueber die Ausscheidung der Chinidins im Harn, Ztschr. f. d. ges. exper. Med. **7**: 155, 1918.

short a period of time as is consistent with the factor of safety of toxicity. It is hoped that work which is now in progress may help to answer these as well as a number of related questions.

NEW PRINCIPLES IN PLASTIC OPERATIONS OF THE EYELIDS AND FACE*

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Six years of the great war gave to surgeons a saddening but never dreamed of opportunity for plastic operations. The uncommon variety of cases of defects of the eyelids and face made it possible that even those who were especially interested in this line, even those who performed a great number of reconstructive operations, found again and again that the well-known methods, brilliant and useful as they are, have only a limited value and are to be utilized only in certain typical forms of defects.

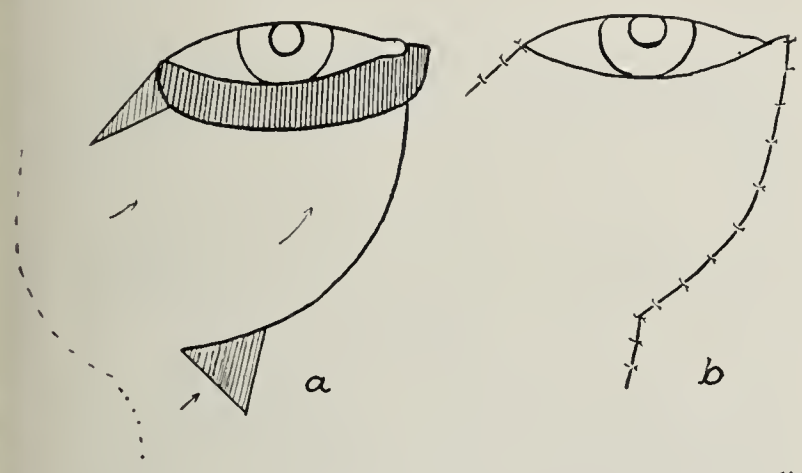


Fig. 1.—The arrows show the manner in which the flaps were slid.

In our portion of the war area, even at the beginning of the war, there were so many unusual cases that we were forced to find new methods. It became necessary for us to free ourselves from certain rules and principles which suddenly approached the antique. Thus it happened that within a very short time every surgeon who was interested in reconstructive work found that his points of view and his previous ideas about the subject had changed and developed to a rather wonderful extent.

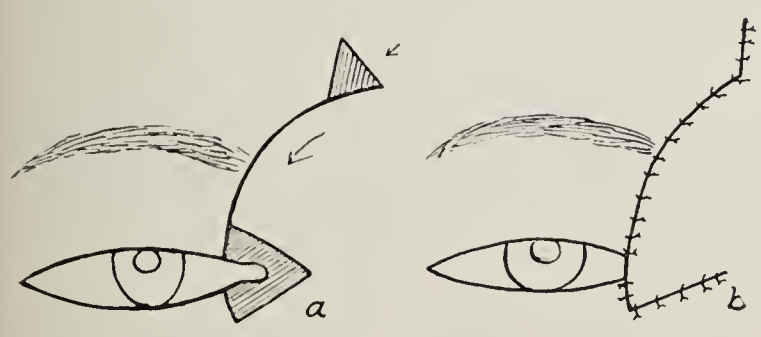


Fig. 2.—A single sliding flap served for this purpose.

The old methods of Dieffenbach, Burow, Fricke, Blasius, Knapp and Richet are so commonly known that it is unnecessary to describe them. Nevertheless, I should like to point out the disadvantages that have been, and still are, to be avoided by modifications in some cases, and by choosing in most cases a radically different solution of the task.

The free grafting of skin I employ only in defects of the skin of the upper eyelid when scars or other defects prevent a flap from the temporal region. I



Fig. 4 (Case 2).—Appearance of patient before and after operation.

principally avoid any free graftings on the lower lid because the concavity of the base could often cause a horizontal wrinkle and result in an ugly ectropion.

Dieffenbach's method and its modifications have the fault in common that, after the operation, there remains a secondary defect which has to be filled up with free grafting or by the longer process of granulation. In either case there will be scars to a conspicuous degree and—after the free transplantation—scars and differently colored skin.

The original method of Burow sacrifices just as large a piece of intact skin as the original defect itself.

The methods of Fricke, Blasius and Knapp are very good and often indispensable. However, we can solve

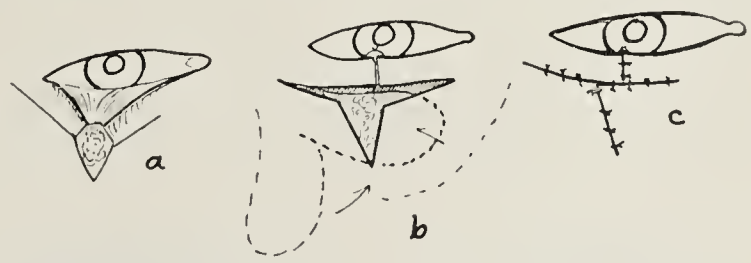


Fig. 5.—Working chart for remaking the lower eyelid.

most problems without them by methods that will result in fewer lines and fewer scars. The nourishment of the pedunculated flaps is another question that can be easily solved in the greater number of cases.

In papers which I read before the medical society in Budapest in 1912, 1913 and 1914, papers later published in the Hungarian journals in extenso and in the German journals by extracts, I introduced entirely new methods which, in cases of new growths of the lower lid, or the nasal or temporal corner of the eyelid, proved simple and highly successful.

The method is to cover the skin defect from the immediate neighborhood of the defect without any real pedunculated flap. In order to be able to slide the greatest quantity of skin with the shortest possible wound, we must naturally utilize a curved cut and slide the tissue used for covering the defect in a bow. Figures 1 and 2 illustrate applications of this principle. Those who have become acquainted with this simple method usually adopt it, and turn to the older methods

* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of several illustrations. The complete article appears in the author's reprints.

only in cases in which the newer one is impracticable, for instance, when plastic surgery of the entire upper lid is necessary.

The curved incision should have the form of a quarter ellipse and be about four times as long as the length of the necessary sliding. At the end, a small



Fig. 7 (Case 4).—Appearance of patient before and after operation.

triangle of skin should be removed to make possible an easier sliding as well as to prevent the possibility of conspicuous hills or wrinkles.

The dotted line in the drawing shows the boundaries of the necessary undermining. This subcutaneous mobilization is of the utmost importance. In cases in which there is a greater degree of defects in the fat and fascia I employ pedunculated flaps or flaps of fat and fascia. In cases of more extensive defects it is frequently necessary to make a few catgut sutures to fix the flap in its new place. This results in great help



Fig. 10 (Case 6).—Appearance of patient before and after operation.

in the healing of the skin wounds, as it reduces the tension of the skin suture to a minimum.

When the sliding tissue is to form the inner corner of the lower lid I always cut the edge of the flap into two lamellae about 8 mm. long. The inner lamella should be fixed to the nasal ligament with catgut sutures, or, if the ligament is destroyed, directly to the periosteum or the deep-fixed fascia, and this will carry the weight and tension of the flap. Through this the suture of the superficial lamella will not carry any tension, and will heal readily. Any surgeon who has operated on torn-down eyelids knows actually that sutures in the inner corner very often cut through the skin and frequently cause annoyance and imperfect cosmetic results. This deep-fixing of the flap, or rather the corner of the flap, has aided me materially and has always resulted in much better cosmetic effects (Fig. 3).

This little method I have applied continuously since just before the war in 1914, and early in 1915 I lectured about it before the Royal Medical Association in Budapest. Kuhnt, quite independently, evolved the same idea and described it as his method in 1916 before the Heidelberg Congress.

Case 2 (Fig. 4) is one of those mutilations that became rather common during the war. This particular soldier was wounded by a piece of shrapnel. He had a large wound, partial ectropion and a defect of the os zygomaticum; consequently there was a deep scar fixed to the bone. After total removal of the scar tissue I took a pedunculated flap of fat from the face.



Fig. 13 (Case 7).—Appearance of patient before and after operation.

The basis of the flap was laterad from the defect and the edge was downward. This flap of fat and fascia totally filled up the hole and was fixed with one catgut suture. The method of sewing the wound is shown in Figure 5.

In somewhat similar cases but when the defect is of a longer and narrower form, the sliding method I have described can be adopted for covering the defect. Although, as may be imagined, we had to operate in a great number of coloboma cases and long narrow defects, I never applied a pedunculated flap to these. Even certain smaller defects of the upper lid can be successfully handled without a flap, or, at the worst, can be covered with a sliding flap.

Case 3 (Fig. 6) is one of those which would suggest the pedunculated flap to most surgeons but which, as the result proves, can be corrected by the simple sliding. The photograph made after the operation shows how much less scar remains after this, compared with the scar that remains after a pedunculated flap.

Case 4 (Fig. 7) is a combination of coloboma of the eyelid, that of the nose, and a large open defect of the anterior wall of the antrum of Highmore. This was one of those cases which induced me to practice the radical operation of the Highmore and frontal antrums.

In this case I could clean the antrum from outside and, after filling out the hole with a strip of gauze and pulling the end of the strip through the large opening I made toward the nose, I could, as in fact I had to, perform the plastic operation immediately. The healing of the wound was not disturbed by any suppuration. The method of covering the defect is clearly shown by the scars in the second picture.

Case 5 (Figs. 8 and 9) is characterized by remarkably great inclination to keloids and is combined—similarly to the previous case—with a large defect and empyema of the Highmore sinus. The conjunctiva shows an unusual degree of edema caused by the disturbance of the circulation. Figure 9 shows the opened sinus and the form and size of the defect after the removal of the scar tissue. The appearance of the patient after operation proves that the cosmetic result is greatly disturbed by the keloids, but, on the other hand, shows that we can cover unusually large defects without free grafting and pedunculated flaps.

Case 6 (Figs. 10 and 11) shows a totally torn-down lid. The greater part of the skin of the lid is destroyed and the lower margin of the orbit is missing, the anterior half of the zygomatic bone being destroyed.



Fig. 16 (Case 10).—Appearance of patient before and after operation.

Figure 11 shows the defect after removal of the scars; but there is a wound in the upper corner which requires explanation. In such cases when the medial or lateral ligament of the eyelids was injured and, as a consequence of this injury, the corner slid down, we had no methods and the eye surgeons generally tried to correct the location of the lid corners by elevation through a pedunculated flap. This, however, usually did not give a satisfactory result. In these cases I commonly made a half-moon-shaped deep cut around the corner which was to be elevated, mobilized the tissues deeply, and fixed them in the necessary height to the periosteum. Whenever possible I sewed the ligament back to its original place. The result was fortified by the method of uniting the skin wound—a scheme explained by Figure 12.

After elevating the inner corner I filled up the deep hollow with pedunculated fat-fascia flaps, in this particular case with two big flaps sewed on each other so that on the defect there came three layers, two of them being fat-fascia, and the third the slid skin. I decidedly prefer the pedunculated fat-flaps because the free transplanted fat tissue often necroses. The largest section of free transplanted fat that I ever use is about half the size of an English walnut which I sometimes apply when my method of subcutaneous solution of deeply fixed scars of the orbital margin is indicated.[1]

Cases 7 and 8 (Figs. 13 and 14) give an opportunity to show the application of the fat-fascia flaps for filling deep scars. On Patient 8 I released the fixation of deeply fixed scar of the lower lid, combined with free



Fig. 17 (Case 11).—Appearance of patient before and after operation.

transplantation of a small piece of fat tissue. As the edge of the eyelid was too long I had to shorten it later.

In Case 9 (Fig. 15) there was coloboma of the upper lid, and a deep defect of soft tissues and bone. The frontal sinus was open. At the back wall there was a fracture covered with loose rags of mucosa. This, however, did not prevent the periodic seepage of the cerebrospinal fluid. Whenever this happened, about once a week, the patient fainted and had to stay in bed for a couple of days. In this condition he was a complete cripple when, about one year after receiving the wound, he was sent to the hospital for war cripples where I performed most of my plastic operations. In this case and likewise in Case 10 (Fig. 16) which, excepting for the outer defects, was quite similar, I utilized a large bridge of the periosteum through which I covered the back wall of the frontal sinus, and above

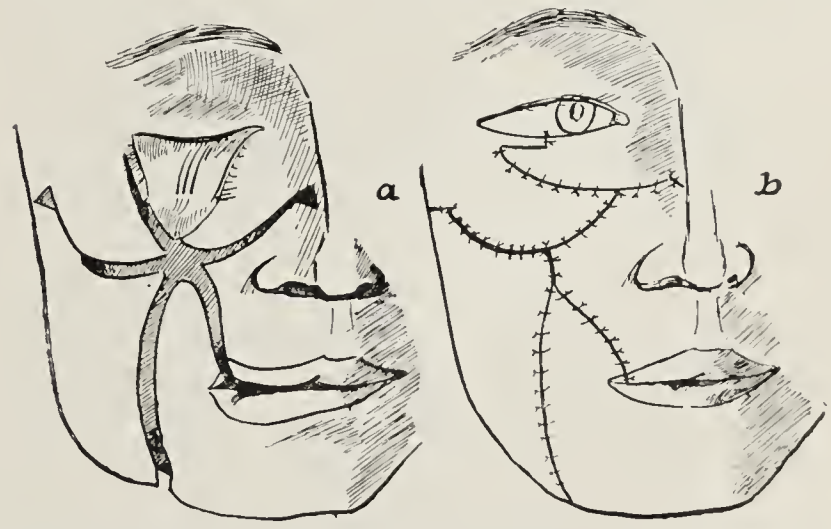


Fig. 18 (Case 11).—Method of removing deep scar tissue; small flaps that were slid into place; sutures.

it came a pedunculated flap of fascia. The result was entirely satisfactory. From the sixth day on after the operation the first patient, the one with fainting spells, felt quite strong and, several months later, I learned that he was working regularly in a factory. In both

1. Published in 1912; abstracted in Jahresbericht in 1913.

these cases the most interesting result was the excellent function of the double pedunculated periosteum flaps, which proved a strong filling in the bone defect.

Case 11 (Fig. 17) is characterized by a deep scar in the form of a star, by the unusually large coloboma and by a healed open fracture of the lower jaw which resulted in a very deep fixed scar. Figure 18 shows the method of reconstruction. The deep defect on the jaw was eliminated by using deep pedunculated flaps



Fig. 19 (Case 12).—Appearance of patient before and after operation.

of fat-fascia sewed upon each other. The result was satisfactory in every respect.

In Case 12 (Fig. 19) the injury resulted in a large oval hole in the face, a part of the hard and soft palate was destroyed, and the greater part of the zygomatic bone was missing. The filling in of such a hole in the face is one of the most difficult of all tasks because the transplanted or sliding flap has no base. I was therefore forced to make a base for the flap. So far as I know the surgeons like to use, in such a case, a piece of fascia transplanted from another part of the body. Being anxious to solve the problem without free transplantation, I tried to pull down a bridge of mucosa from the nose. By this, the medial third of the hiatus was covered. I then undermined the surrounding scar tissue around the hole and turned the surface inward.



Fig. 20.—Exterior sliding flaps to cover fat tissue which was made to form a foundation for the aperture, the fat being slid from inside the cheek.

By this operation almost all of the hole was covered. After this I made the curved cuts as shown in Figure 20, undermined the skin, and took two big pedunculated fat flaps and turned them above the hole. I fixed the mucosa bridge and the turned-in tissue with catgut mattress sutures to the pedunculated flaps, and these to each other in the same way, so that in and upon the opening there were three layers of tissue. The fourth was the slid tissue.

The picture after the operation is not very flattering as I put a common prosthesis in the eyehole. I wished only to demonstrate that there is room enough for a full-sized prosthesis. For cases of this nature we had to order special prostheses which, for about forty of my patients, were made by the artist Fritz Muller of Wiesbaden. He came to Budapest regularly before and during the war.

Case 13 (Fig. 21) presented a similar difficult task but in a greater measure. In this instance I used a large bridge of mucosa which has partly lined the pedunculated deep flaps and the slid tissue. The scars on the picture show clearly that I used a modified flap of Knapp slid from the frontal region. As the eye was too low I elevated the entire contents of the orbit, using the method described above. This, however, happened only six months later.

The last case presented herewith (Fig. 22) cannot be regarded as a case fit for eye surgeons, but I could not resist the temptation to perform an operation which presented an interesting problem and appeared to make satisfactory results possible. The kind of injury in itself is unusual. The man sat on the top of a railroad train on his way to the battlefield. A bridge struck him on the forehead and, instead of breaking his skull, caused a fracture of both zygomatics and, in fact, the whole upper jaw across the face. In the photograph the entire face is hanging down on the *open* lower jaw, and is mobile as it can be elevated about half an inch by pushing upward on the upper teeth. I discussed this problem with two colleagues, Dr. J. Szabo and Dr. H. Salamon, who, in the same hospital, had a large orthodontic section for war cripples. They made a prosthesis which was put on the upper teeth and had a metal bow with hooks on it in front of the mouth. Then they made a crown of plaster of Paris for the head. This likewise had hooks with the aid of which the hanging-down face was elevated by the use of strong rubber ribbons (Fig. 23). When this was ready I opened the face, made the edges of the fractured bones fresh, transplanted a piece of the tibia so as to build up the back of the nose, and closed the big hole after applying the rubber ribbons. The patient had this fixation for three weeks, but we had to remove the ribbons and the crown occasionally for half an hour at a time because, although it was lined with cotton, the patient naturally suffered very much from the strong pull. The fracture healed in three weeks, and after the removal of the prosthesis from the upper teeth he could



Fig. 22 (Case 14).—Appearance of patient before and after operation.

chew without much difficulty, a function which he had not been able to perform for more than a year. As shown by the photograph, the left eyeball stood about 9 mm. deeper than the right. After the operation, by the elevation of the orbit, the eyeball was likewise elevated. The left eye showed rupture of the retina and choroid, the first a rather rare, the second a quite common consequence of concussions in the neighborhood of the eyeball.

All these, in fact all of my several hundred plastic operations, were performed under local anesthesia (2 per cent. procain, and to every 10 c.c. of solution, 6 drops of epinephrin solution). The patient never had cause to regret that he was not narcotized, as the operations were painless. The after-effects of procain, and those of shock before and during the operation, can be avoided by half a gram of barbital, and this will avoid the rare after-effects of procain.

All of these cases I chose intentionally because each and every one demonstrates something not generally known, and my intention was not merely to show a few fairly good results of reconstructive operations but to give a few data on this interesting branch of surgery, data which I hope will be useful for those who like to operate in such atypical cases, and for those on whom such operations may be performed.

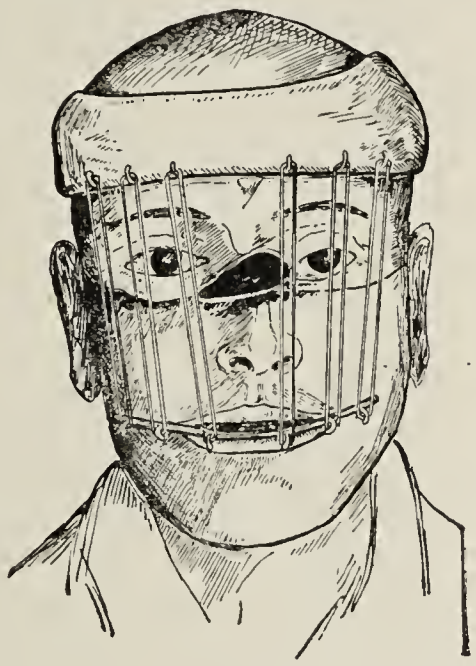


Fig. 23.—The upper jaw was held in place with this contrivance. The head piece was heavily padded, and the rubber bands, held by hooks, exerted a hard and constant tension.

Two years ago I furnished a larger monograph on the same subject but the sad situation in my country made a publication with good reproductions practically impossible. For those who are looking for quotations of literature I have to state that during the war Hungary was hermetically sealed from the outside by the countries of the Entente, and therefore we were unable to secure any medical papers from the outside world. When the great war ended there came the Czech occupation of Pozsony (Pressburg) and during the ten months our mails were delivered only in exceptional cases. All the packages and printed matter, as well as most letters, were retained by the occupying government. Later when we were counseled to leave our university and go to Budapest, the differences in money values made the purchase of publications an impossibility.

A glance at the photographs of my patients will show that after they had been operated on most of them wore a much more cheerful countenance, their hair is combed, their moustaches are waxed, and their desire to look well came back to them after a siege of hopelessness. This little indication of a return of natural vanity signifies that they once more have an interest in life—and this is one of the greatest results of reconstructive operations. Whenever a surgeon intends to perform such an operation he should always think of the result and never forget that it is not enough that he is satisfied with his work, for the patient, who is to carry the result of such an operation with him for life, must also be satisfied. That is why we must never operate unless we know that the patient will not be compelled to regret his confidence in our imaginative ability, our deftness of hand and our operative knowledge.

In plastic operations the first two qualifications are equally important with the knowledge of surgical rules.

IV. Kecskeméti-út. 14.

INCREASED AMOUNT OF URIC ACID IN THE BLOOD IN THE TOXEMIAS OF PREGNANCY*

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There appear to be few references in the literature concerning the amount of uric acid in the blood of pregnant women, particularly those with symptoms of toxemia. The most definite statement I have found is that by Slemons and Bogert,[1] who have reported the amounts over normal found by them in the blood of two patients with eclampsia and three patients with preeclamptic toxemia. For the sake of clearness, the term "toxemia of pregnancy" is used here to include eclampsia, preeclamptic toxemia, and pernicious vomiting of pregnancy. Herter,[2] Zangemeister,[3] Landsberg,[4] Folin,[5] Farr and Williams,[6] and Losee[7] have reported the blood urea and the total nonprotein nitrogen of the blood normal or slightly increased in women with the toxemias of pregnancy. Losee[6] recently reported the creatinin of the blood of thirteen patients with eclampsia between 1.45 and 3.15 mg. per hundred cubic centimeters. Sikes[8] and Zweifel[8] found the ammonia content of the blood normal. Goldsborough and Ainley[9] and Farr and Williams[6] could not demonstrate impairment of kidney function by the phenolsulphonephthalein test, although it is generally known that albumin is present in the urine with pregnancy complicated by toxic symptoms. Ewing and Wolf,[10] Williams,[11] Losee and Van Slyke,[12] and others have observed variations in the relative amounts of ammonia and urea in the urine of women with the toxemias of pregnancy. Williams[11] believes these variations of diagnostic importance. Murlin[13] regards them merely a result of starvation and depletion of the maternal organism by the fetus, and of questionable significance. Murlin and Bailey[14] found an increased excretion of total purin nitrogen during normal pregnancy.

This summarizes briefly the chemical studies of the blood and urine reported in the literature regarding abnormalities of nitrogen elimination in pregnancy toxemia. After a large amount of uric acid had been found in the blood of a patient with eclampsia, more detailed chemical studies of the blood of patients with

* Aided by the Seymour Coman Fund.

* From the Pathological Laboratory of St. Luke's Hospital.

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2. Herter, C. A.: On Urea in Some of Its Physiological and Pathological Relations, Johns Hopkins Hosp. Rep. **9**: 69-108, 1900.

3. Zangemeister, W.: Untersuchungen ueber die Blutbeshaffenheit und die Harnsecretion bei Eklampsie, Ztschr. f. Geburtsh. u. Gynäk. **50**: 385-426, 1903.

4. Landsberg, E.: Untersuchungen ueber den Gehalt des Blutplasmas an Gesamteiweiss, Fibrinogen, und Reststickstoff bei Schwangern, Archiv. f. Gynäk. **92**: 693-720, 1910.

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6. Farr, C. B., and Williams, P. F.: The Total Non-Protein Nitrogen of the Blood in Pregnancy and Eclampsia, Am. J. M. Sc. **147**: 556-561, 1914.

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13. Murlin, J. R.: Metabolism of Mother and Offspring Before and After Parturition, Am. J. Obst. **75**: 913-953 (June) 1917.

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the so-called toxemias of pregnancy were made. The results of the chemical examinations of the blood of twenty-five patients [15] with eclampsia, preeclamptic toxemia or pernicious vomiting of pregnancy demonstrate that the uric acid regularly exceeds the normal in the blood of these patients, whereas the other nonprotein nitrogen constituents usually are not increased.

The twenty-five patients studied are grouped clinically as Group 1, patients with eclampsia; Group 2, those with preeclamptic toxemia; Group 3, those with pernicious vomiting of pregnancy; and for comparison there are the results obtained from the examination of the blood of six pregnant women with no symptoms of such conditions.

TABLE 1.—GROUP 1: ECLAMPSIA

Case	Nonprotein Nitrogen Constituents, Mg. per Hundred C.c. Urea N	Nonprotein N	Uric Acid	Creatinin	Time When Blood Was Taken
1	18.8	35.0	.....	....	1 day before delivery
	20.6	36.0	9.00	3.84	On day of delivery; in coma
2	16.3	37.7	11.70	1.64	During coma
3	17.8	46.8	.....	....	3 days before delivery
4	18.0	39.5	3.50	1.61	Before delivery and convulsions
	18.7	38.0	.....	2.00	1 day later, after convulsions
	17.3	33.5	.....	1.10	3 days after delivery
5	29.7	53.6	11.30	6.40	During coma and convulsions
	20.1	40.9	3.70	2.10	1 week later; marked clinical improvement
Average	17.2	40.1	7.84	2.67	

Eclampsia was diagnosed clinically in all the patients of Group 1. Three of them died, and postmortem examination of one demonstrated changes characteristic of eclampsia. Albumin in large quantities with few or many red blood corpuscles was present in the urine of all, hyaline and granular casts in all but one, and a small amount of sugar in only one.

TABLE 2.—GROUP 2: PREECLAMPSIA TOXEMIA

Case	Nonprotein Nitrogen Constituents, Mg. per Hundred C.c. Urea N	Nonprotein N	Uric Acid	Creatinin	Time When Blood Was Taken
1	11.8	22.9	2.96	1.15	2 days before delivery
2	21.0	47.3	....	....	2 hours before delivery
3	17.2	28.1	4.01	1.10	10 days before delivery
	16.6	28.9	2.44	1.46	8 days after delivery
4	18.8	29.9	2.36	1.65	5 days before delivery
5	11.9	32.1	8.21	1.58	3 days after delivery
	13.3	33.7	5.50	1.77	5 weeks after delivery
	14.2	26.2	4.16	1.13	9 weeks after delivery
6	13.1	35.9	8.41	1.68	12 days before delivery
	9.8	25.0	6.86	1.28	1 day after delivery
	12.6	27.4	3.20	1.25	5 days after delivery
7	11.9	27.2	4.32	1.63	3 days after delivery
8	18.9	31.2	3.82	1.6	1 day before delivery
	21.5	35.8	3.03	1.59	3 days after delivery
9	13.1	33.8	2.80	2.12	16 days before delivery
	24.3	37.3	2.06	....	6 days after delivery
	16.6	33.3	3.02	1.93	6 weeks after delivery
10	15.4	32.5	....	....	2 days before delivery
	13.8	35.4	....	....	5 days after delivery
11	13.1	25.7	1.57	2.03	6 months before delivery
	11.7	25.3	3.77	1.38	8 days before delivery
	14.9	29.6	2.10	1.33	2 days after delivery
12	25.0	45.0	5.2	....	2 days before delivery
13	18.2	28.3	3.3	1.47	5 days before delivery
Average	15.78	31.9	3.98	1.53	

The thirteen women in Group 2 all had symptoms clinically designated as preeclamptic toxemia, and also arterial hypertension and albuminuria; three had only the last mentioned symptoms without toxemia; casts were found in the urine of eleven.

In Group 3 there were seven patients with hyperemesis gravidarum. The blood sugar averaged 0.099 per cent.; the plasma chlorids, 5.91 gm. per liter; and the carbon dioxid combining power of the blood plasma 54.21 per cent. by volume. The urine of six patients contained a trace or a small amount of albumin; two patients had a few hyaline or granular casts; three, a few red blood corpuscles.

TABLE 3.—GROUP 3: HYPEREMESIS GRAVIDARUM

Case	Nonprotein Nitrogen Constituents, Mg. per Hundred C.c. Urea N	Nonprotein N	Uric Acid	Creatinin	Time When Blood Was Taken
1	12.0	28.8	1.45	1.28	4th month of pregnancy
2	15.9	34.6	3.30	1.76	3 weeks before delivery
	15.7	31.0	3.53	1.67	1 day before delivery
3	29.4	56.7	18.03	7.32	2 days before delivery
4	23.6	46.9	5.22	1.95	1 week before therapeutic abortion
	15.9	28.1	5.21	1.51	1 hour before therapeutic abortion
	15.6	27.9	1.80	1.20	1 week after therapeutic abortion
5	10.8	23.4	2.29	1.39	5th month of pregnancy
6	16.8	28.1	3.39	1.45	1 day before delivery
7	16.4	58.4	....	....	6 days before delivery
Average	17.2	36.4	4.91	2.17	

As controls, the blood of six normal pregnant women was examined. These women were in the fourth, fifth, eighth, nine and tenth (two) months of their pregnancy. Two of them were in labor. The blood sugar, plasma chlorids and the carbon dioxid combining power of the plasma were normal for pregnant women. These results agree with those generally accepted as normal by such investigators as Folin and Denis,[16] Myers, Fine and Lough,[17] Tileston and Comfort,[18] Kast and Wardell,[19] Addis and Watanabe,[20] and Hawk.[21] The blood urea nitrogen of normal persons ranges from 12 to 23 mg. per hundred cubic centimeters. The total nonprotein nitrogen of the blood from 20 to 35; the uric acid from 1.5 to 3, and the creatinin from 0.7 to 1.5. In pregnant women the urea nitrogen of the blood is slightly less than in the nonpregnant, from 5 to 9 mg. per hundred cubic centimeters according to Folin; [5] but others, such as Losee,[7] and Farr and Williams,[6] report the urea nitrogen from 7 to 16 mg. per hundred cubic centimeters, and the total nonprotein nitrogen from 21 to 31.

TABLE 4.—NORMAL PREGNANCY

Case	Nonprotein Nitrogen Constituents, Mg. per Hundred C.c. Urea N	Nonprotein N	Uric Acid	Creatinin	Time When Blood Was Taken
1	20.03	34.16	2.98	1.70	4th month of pregnancy
2	12.15	33.0	1.95	1.40	8th month of pregnancy
3	10.83	21.4	2.38	1.26	9th month of pregnancy
4	12.8	22.9	1.47	1.27	7th month of pregnancy
5	8.1	21.5	1.53	1.41	10th month; in labor
6	12.66	27.15	1.68	1.25	10th month; in labor
Average	12.76	26.68	1.94	1.38	

COMMENT

Of the three patients with eclampsia who died, the uric acid of the blood averaged 10.35 mg. per hundred cubic centimeters; in those who lived, it averaged 7.4

15. These patients were in the obstetric service of Drs. Paddock, Gibson and Cary, or in the gynecologic service of Dr. A. H. Curtis, at St. Luke's Hospital, during the last two years.

16. Folin, Otto, and Denis, W.: The Diagnostic Value of Uric Acid Determinations in the Blood, Arch. Int. Med. **16**: 33-37 (July) 1915.

17. Myers, V. C.; Fine, M. S., and Lough, W. G.: The Significance of Uric Acid, Urea and Creatinin of the Blood in Nephritis, Arch. Int. Med. **17**: 570-583 (April) 1916.

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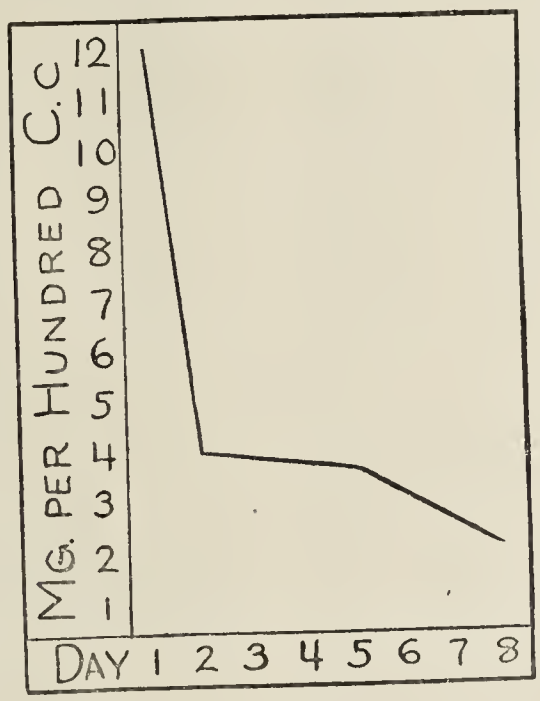
20. Addis, Thomas, and Watanabe, C. K.: The Causes of Variation of the Concentration of Urea in the Blood of Young Healthy Adults, Arch. Int. Med. **19**: 507 (April) 1918.

21. Hawk, P. B.: Physiological Chemistry, Philadelphia, Ed. 6, 1918, pp. 274-275.

mg. when the toxic symptoms were most prominent; and in one shortly after recovery, it was 3.7 mg. With the exception of the blood creatinin in two patients, the other nonprotein nitrogen substances of the blood were not especially increased in amount. The creatinin of the blood of one patient who died was 3.84 mg., and of one recovering, 6.4 mg. per hundred cubic centimeters during the period of convulsions. According to the observations of Losee and Van Slyke,[12] and Farr and Williams,[6] there is a slight increase in the amount of total nonprotein nitrogen in the blood of certain patients with eclampsia. These observations agree with the results mentioned here, and it seems that the increase of the uric acid fraction would account for the larger amount of total nonprotein nitrogen.

This increase of the uric acid in the blood seemed to bear no relationship to the elevation of the blood pressure, other clinical symptoms, labor, or the stage of pregnancy in the patients of Group 1.

The uric acid of the blood of the patients in Group 2 with toxic symptoms varied from 3.3 to 8.41 mg., and averaged 5.34 mg. per hundred cubic centimeters; that of the patients without symptoms from 2.36 to 3.02 mg., and average 2.76 mg. per hundred cubic centimeters. In general, it may be said that those patients in this group who had marked toxic symptoms also had the larger amount of uric acid in the blood. A second chemical examination was made of the blood of four patients of this group who had toxic symptoms after delivery or after marked clinical improvement and the amount of uric acid in the blood ranged from 2.1 to 3.2 mg., with an average of 2.68 mg. per hundred cubic centimeters; in two patients whose symptoms were slightly improved, immediately after delivery the uric acid remained high, 5.5 and 6.86 mg. per hundred cubic centimeters, respectively; but with further improvement, the concentration of uric acid in the blood became normal.



Composite graph of amount of uric acid in the blood after delivery (five patients with eclampsia, preeclamptic toxemia or pernicious vomiting of pregnancy).

Improvement or recovery followed delivery in every patient, but with three the blood pressure remained higher than normal. Two of these three had arterial hypertension for two or more years preceding the existing pregnancy. The patients with severe vomiting had the highest concentration of uric acid in the blood.

Of the seven patients with hyperemesis gravidarum, four improved rapidly under treatment; but with three the vomiting continued, and was so severe that therapeutic abortion was necessary.

Two of these three obviously had hyperemesis gravidarum of the toxic type, the third of the neurotic type. The uric acid of the blood of the two patients with toxic vomiting was 18.03 and 5.22 mg. per hundred cubic centimeters, respectively, while that of the woman with the so-called neurotic vomiting was 3.5 mg. per hundred cubic centimeters. The average amount of uric acid in the blood of the four patients with mild, nervous or physiologic vomiting was 2.38 mg. per hundred cubic centimeters. The uric acid of the blood of one patient with true hyperemesis gravidarum subsequent to delivery and recovery changed from 5.22 to 1.8 mg. per hundred cubic centimeters.

A possible explanation of this marked increase in the uric acid of the blood in eclampsia is contained in a suggestion by Schmorl [22] that cytolysis may be responsible for a toxin producing the pathologic tissue changes of eclampsia. Young [23] thinks that this toxin may arise from the autolysis of cells contained in the multiple infarcts of the placenta. Murlin believes that the toxic symptoms in hyperemesis gravidarum are explained best by an uncontrolled enzyme action in the placenta. Chace [24] finds the headache, nausea and vomiting of chronic nephritis frequently associated with an increased concentration of uric acid and creatinin in the blood.

The presence of uric acid "infarcts" in the kidneys of the new-born has been explained by an increased concentration of uric acid in the fetal urine produced by the destruction of nucleoproteins in the fetal blood. Spiegelberg [25] produced these so-called infarcts experimentally in young dogs by the intravenous injection of uric acid. The amount of uric acid in the infant's urine has been found by Niemann [25] to be markedly increased. The evidence presented here, that the amount of uric acid in the blood of patients with the toxemias of pregnancy is decreased by delivery, suggests the possibility that by absorption the fetal urine may be the source of the increased uric acid in the maternal blood.

CONCLUSIONS

1. In the blood of patients with eclampsia, hyperemesis gravidarum, and with the symptoms of preeclamptic toxemia together with arterial hypertension, the uric acid is markedly increased.

2. Delivery and recovery from the symptoms are associated with a gradual return of the uric acid in the blood to its normal amount.

3. Arterial hypertension in pregnancy unassociated with toxic symptoms is not unaccompanied by uric acid retention.

4. The toxic vomiting of pregnancy is associated with a marked increase of the uric acid in the blood, whereas the nervous or physiologic vomiting is not. It seems possible, therefore, to differentiate these conditions by quantitative estimations of the uric acid of the blood.

St. Luke's Hospital.

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Practical Achievements of Academic Science.—The extraordinary triumphs of laboratory investigation of disease during the last fifty years are very largely the result of philosophic inquiry. Lister, in his original paper on antiseptics, wrote of "the flood of light thrown by the philosophic researches of M. Pasteur" on the causes of the decomposition of organic matter, researches which led to Lister's great gift to humanity. Bacteriologic science has now contributed so much to medicine that nobody would think of attempting to limit its field of investigation.—*Lancet,* Dec. 11, 1920.

HYPERGLYCORACHIA IN EPIDEMIC ENCEPHALITIS *

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As I have found few definite statements [1] in the current literature on spinal fluid sugar in epidemic encephalitis, I am presenting the brief series of tests made in the pathologic laboratory of the Massachusetts General Hospital during the recent epidemic.

Table 1 gives the findings. Table 2 is shown for comparison.

It will be seen in Table 1 that only one patient gave a normal spinal fluid sugar reading (Case 9, 0.0535 per cent.). The average of the fifteen readings was 0.0760 per cent. The determinations were made from the second to the thirty-fifth day of the illness. There seems to be no definite relation between the duration of the disease and the hyperglycorachia up to the thirty-five days. It has been noted that the severest cases clinically give the highest sugar percentage, and that during an exacerbation the percentage is likely to increase (Case 11). There were too few blood sugar correlations (only six) to permit the expression of a definite opinion, although apparently the blood sugar is not altered from the normal. It is of interest to note that the lowest blood sugar (0.07 per cent.) was from the patient giving the lowest spinal fluid sugar (Case 9, 0.0535 per cent.). The only glycosuria was a "slightest possible trace" in Case 2 at admission, and two subsequent urine examinations were negative. The spinal fluid sugar quantitations on this patient were extremely high, and it was unfortunate that a blood sugar estimation was not obtained. He died on the tenth day of the illness about eleven hours after the last lumbar puncture was performed. No necropsy was permitted.

The ages of the patients ranged from 5 to 54 years. Analysis does not discover any age predilection to a reactionary hyperglycorachia. The cells range from 6 to 150. The fatal Case 2 might lead one to infer that there was some definite relation between pleocytosis and hyperglycorachia; but in the second highest reading, that in Case 11, the cell count was much lower, although here there was an increase of both during an exacerbation of clinical symptoms. The total protein percentage ranged from low normal (0.0219) to moderately high (0.080).[2] In Case 2 and Case 11 it is seen that while the sugar percentage increased in the second determination, the total protein decreased. In Case 6 the protein drop and the sugar drop were synchronous during clinical improvement.

The spinal fluid and blood Wassermann tests were negative. The colloidal gold reactions were quite various, although none in the chronic or acute meningitic zones were recorded. Analysis detects nothing of value in the colloidal test.

With regard to the diagnosis on these patients, I will state that we have tried to be reasonably certain that no doubtful cases were included in the table. Many more patients have been admited to the hospital with a diagnosis of "suspected epidemic encephalitis." Two of them were here diagnosed as having pontile tumors, which diagnoses were confirmed by necropsy. Two others, which were fatal cases, were definitely diagnosed as epidemic encephalitis, one of which came to necropsy and the typical basilar perivascular infiltration was found by microscope. These two patients are not in the table, as unfortunately no sugar quantitations were made on the spinal fluid.

TABLE 1.—LABORATORY FINDINGS IN EPIDEMIC ENCEPHALITIS

Patient	Sex *	Age, Years	Duration, Days	Spinal Fluid				Blood		Urine Sugar
				Cells	Protein,† per Cent.	Wassermann Test	Colloidal Gold Test	Sugar, per Cent.	Sugar, per Cent.	Wassermann Test	
1. B.	♂	37	2	26	0.080	Negative	0011100000	0.0681	....	Negative	..
2. K.	♂	28	4	150	0.050	Negative	0000000000	0.0909	....	Negative	+ 0
		28	9	130	0 0281	Negative	0114100000	0.113	....	Negative	0
3. P.	♂	5	4	6	0.0253	Negative	0122100000	.....	....	.....	0
		5	9	10	0.0266	Negative	0000000000	0.0761	0.09	Negative	0
4. A.	♂	43	7	14	0.042	Negative	0000000000	0.0700	....	Negative	0
5. E.	♀	40	7	18	0.0555	Negative	0122210000	0.0810	....	Negative	..
6. B.	♀	29	7	90	0.047	Negative	0122100000	0.0674	0.10	Negative	0
		29	15	90	0.0219	Negative	0121100000	0.0620	....	Negative	..
7. E.	♂	42	'	144	0.0634	Negative	0000000000	0.0666	....	Negative	0
8. Y.	♀	26	10	45	0.0449	Negative	3355410000	0.0731	0.10	Negative	0
		26	29	12	.....	Negative	.....	0.0695	....	.....	..
9. D.	♀	10	17	11	0.025	Negative	0122310000	0.0535	0.07	Negative	0
10. T.	♂	43	18	8	0.0294	Negative	0123210000	0.071	....	Negative	0
11. H.	♂	54	21	22	0.0727	Negative	4455553100	0.0847	0.10	Negative	0
		54	35	34	0.0615	Negative	4443210000	0.0937	0.10	Negative	0

* Male is denoted by the symbol ♂ and female by ♀. † Determined by the Denis-Ayer [2] method.

TABLE 2.—SPINAL FLUID SUGAR IN VARIOUS DISEASES, PRESENTED FOR COMPARISON

Diagnosis	High, per Cent.	Low, per Cent.	Average, per Cent.
Normal			
Mestrezat *.....	0.058	0.048	0.0534
Nawratzke †.....	.....	.....	0.046
Our normal (22 patients).....	0.0614	0.0442	0.0528
Syphilis of central nervous system (all forms) (100 patients).....	0.0814‡	0.0355	0.0528
Tuberculous meningitis (9 patients).....	0.0375	0.0212	0.0284
Acute meningitis (4 patients, 4th to 12th day).....	Sugar too low to read		
Epidemic encephalitis (this series).....	0.1130	0.0535	0.0760

* Le liquide céphalo-rachidien, Paris, A. Maloine, 1912.
† Zur Kenntniss der Cerebrospinalflüssigkeit, Ztsehr. f. physiol. Chem. **23**: 533, 1897.
‡ Only one case was so high. The next lower was 0.0765 per cent.

Table 2 is inserted for comparison. Unfortunately no fluids from patients with anterior poliomyelitis have been examined in this laboratory. The percentages given are from those diseases most liable to be confused clinically.

TECHNIC

The spinal fluid sugar estimations have been made with the Folin-Wu [3] method with very slight modifi-

* From the Neurological Department of the Massachusetts General Hospital.

1. Marie and Mestrezat: Bull. de l'Acad. de méd. **83**: 103 (Feb. 3) 1920. Dopter, C.: Bull. de l'Acad. de méd. **83**: 203 (March 2) 1920. Netter, Block and Dekeuwer: Compt. rend. Soc. de biol., March 20, 1920 abstr. J. Nerv. & Ment. Dis. **53**: 56 (Jan.) 1921.

2. Denis, W., and Ayer, J. B.: Method for Quantitative Determination of Protein in Cerebrospinal Fluid, Arch. Int. Med. **26**: 436 (Oct.) 1920.

3. Folin, Otto, and Wu, H.: J. Biol. Chem. **41**: 367 (March) 1920.

cations. A dextrose solution of 0.005 per cent. is used as a standard. Reading on a 60 mm. Duboscq colorimeter, the standard is set at 30. With some fluids the filtrate is somewhat cloudy. I have compared the readings of the centrifugalized and uncentrifugalized filtrate and found that the difference was not greater than my maximum error which, between 0.040 and 0.075, is 0.004. Below 0.040 and above 0.075 the error is slightly greater, but still very satisfactory for all practical purposes. Four of the fluids from patients with encephalitis were read on two consecutive days, and the difference was within the foregoing limit of error in three of them. The difference in the fourth I attribute to bacterial contamination of the fluid.

CONCLUSIONS

Hyperglycorachia is usually present in epidemic encephalitis. This small series would indicate that there is a definite relation to the intensity of the clinical picture. There seems to be no definite relation to the duration of the disease. There is no evidence of a corresponding glycemia or glycosuria. It appears to be the only test which is characteristic of this condition; and in the absence of a distinctive pleocytosis, total protein content or colloidal gold reaction, it is of value as an additional diagnostic aid and possibly is of prognostic importance.

INFESTATION WITH FILARIA LOA

REPORT OF A CASE OF FILARIA BENEATH THE CONJUNCTIVA AND MICROFILARIAE IN THE PERIPHERAL BLOOD STREAM

HOWELL L. BEGLE, M.D.
DETROIT

There are on record a number of instances of persons in the United States infested with the parasite *Filaria loa,* possibly nine or ten in all. Some of the records are rather fragmentary. Missionaries returning from the west coast of tropical Africa, where the occurrence of the parasite is endemic, have been the usual hosts of this nematode.

I shall omit relating facts pertaining to the life history of the parasite, its detailed anatomic structure and its geographic distribution, as these may be found in standard textbooks on parasitology.[1]

REPORT OF CASE

March 15, 1918, about 3 p. m., Dr. S. L. Kline brought to my office Mr. J. B., age 32, born in Glasgow, married, and by occupation a purchasing agent, who stated that there was a worm beneath the tissue covering the right eyeball. Two weeks previous to his visit to me he began to have a sharp burning and itching of the eyelids of the right eye which was not relieved by rubbing the eye. The sensation came at irregular intervals, sometimes lasting only for a moment but often persisting for half an hour. While distressing, the discomfort had not been severe enough to keep him awake at night or to interfere with his work. After lasting for three or four days, the soreness had passed over to the other eye. Then for a week the condition had been dormant, but started again the morning of his visit to me, the itching and burning being most pronounced in the region of the internal canthus of the right eye.

When this eye trouble first made its appearance, the patient thought that he might have a foreign body in the eye. He therefore consulted Dr. Kline, who examined the eye carefully but found no evidence of a foreign body. Later thinking that an eyelash might be scratching the eyeball, he examined his own eye in front of a mirror. He found no inverted eyelash, but noticed a peculiar fold of the conjunctiva of the eyeball which he took for stringy mucous secretion. Just before coming to my office he saw something moving on the right eyeball below the cornea and beneath the conjunctiva. He stated that he realized this must be a worm of some kind from its movement and from the fact that it raised its head "as if from surprise," when it was bumped against the cornea (evidently the limbus) and found progress in that direction halted.

On direct examination of the eyes and with the ophthalmoscope, I found nothing definitely pathologic. The conjunctiva of the lids appeared normal. There were a few dilated veins on the bulbar conjunctiva of the right eye, and near the internal canthus there was a small area suggestive of a slight capillary hemorrhage beneath the conjunctiva Nothing resembling a worm was seen, but at this time the patient had a burning pain in the region of the nose, and he felt that the worm had changed its position. I had him wait in my examining room, and in about twenty minutes he called me to say that he felt the worm again in the region of the right eye. The lower lid was promptly everted, and in the fornix I could see a threadlike elevation of the conjunctiva which sinuously changed its position as if from the movement of a worm beneath.

A solution of cocain was quickly instilled in the conjunctival sac, and the fold was grasped with forceps. The conjunctiva was slit with a cataract knife, and I was able easily to pull out a long, whitish, filiform worm which, placed in water, was slightly active. On the supposition that the worm was of the genus *Filaria,* I made blood smears from the finger, and microfilariae were found in the blood, several extremely active larvae occuring in each droplet of blood.

The following additional history was then obtained from the patient: In the spring of 1906 he left England to work for a trading company in southern Nigeria, and while there he was located on the delta of the river Niger about 50 miles inland. He remained there until the fall of 1909, visiting England once for a month during this period. While in Africa he had in addition to numerous feverish attacks of sickness, attributed to malaria, an edematous swelling of the left hand sufficient to obliterate the knuckles. This condition came on without apparent cause, lasted several days, and then disappeared. While the hand was stiff, it caused him no pain.

In December, 1909, the patient left for Canada by way of England. He was in London, Ontario, for a year, and then moved to Winnipeg, where he was married and remained until June, 1916, when he came to Detroit.

Since leaving Africa he has lost about 20 pounds. He now weighed 130. For three or four winters he had suffered from severe colds and had numerous periods of distressing coughing with fever and night sweats. This caused him to consult a lung specialist a year before, who was unable to elicit evidence of tuberculosis. For the last few months he had had occasional spells of palpitation of the heart at night just after falling asleep, which lasted only a minute or two. During these short attacks he could feel his heart violently beating against his chest-wall, and the pounding was so great that his body and even the bed appeared to shake. He had had no serious illness, however, since childhood.

Physical examination of the patient revealed no other pathologic changes. Urinary findings were of negative import. No chyle was present. Examination of the blood cells and hemoglobin revealed: erythrocytes, 4,304,000 per cubic millimeter; leukocytes, 8,000; hemoglobin, 85 per cent.; color index, 0.9; differential count: polymorphonuclear leukocytes, 54 per cent.; large lymphocytes, 3 per cent.; small lymphocytes, 29 per cent.; eosinophils, 12 per cent.; mast cells, 0 per cent.; transitionals, 2 per cent. Microscopically, the red cells appeared normal. A Wassermann examination of the blood was negative. The worm removed from the eyelid and placed in water was found dead the morning after its removal. It measured 61 by 0.5 mm. The anterior end was conical,

1. Also article by Ward, H. B.: Ocular Parasites, American Encyclopedia of Ophthalmology **12**: 9289.

the posterior slowly tapering and rounded at the extremity. The sheath was studded at irregular intervals with minute bosses. The alimentary canal appeared to be marked by a yellowish coloration extending nearly the entire length of the worm. Details of the reproductive organs were not intensively studied. They were filled with finely granular, ovoid embryos.

These characteristic features of the worm correspond to the descriptions furnished by various textbooks of parasitology of the adult female of *Filaria loa*. This identification was confirmed by Dr. Morris C. Hall, at the time parasitologist with Parke Davis & Co., and again later by Dr. F. G. Novy of the University of Michigan.

Peripheral blood smears were made at different times during the day on various occasions, at 3, 8 and 10 a. m. and 2, 3, 4, 5, 9, and 10 p. m. Microfilariae were found in all smears except those made at 3 and 8 a. m. In size, the microfilariae corresponded to the dimensions given by various textbooks, namely, length, from 140 to 166 microns; width, from 8 to 10.5 microns.

COMMENT

It is now three years since this adult worm was removed from beneath the conjunctiva. The patient has remained under observation during this period. While no other adult parasites have made their appearance, whenever the peripheral blood has been examined the microfilaria has been found. The last examination was made in January of this year. The embryos do not seem to be as numerous as when first demonstrated but usually at least one can be detected in each blood droplet examined. They are at times less motile than at others, but I am not able to conclude that they are losing their vitality.

Since the patient went to Nigeria in the spring of 1906 and remained there until the fall of 1909, it is apparent that the infestation with this parasite is now of from twelve to fifteen years' duration. A similar case is on record in which the infestation with *Filaria loa* lasted fourteen years.[2] It will be interesting to keep this patient under observation, if possible, to see how much longer the infestation, which must be self-limited, will endure.

During the last three years the patient's health has been good. He had influenza when this disease was epidemic. He is still under weight. He has not had palpitation or night sweats, which were previous complaints, and in my opinion it is unlikely that these conditions were in any way dependent on the presence of the parasite. The swelling of the hand, which he describes as having occurred while he was in Nigeria, corresponds to the usual descriptions of Calabar swellings often associated with infestation with this parasite.

As the parasite does not appear to be seriously affecting his health, the patient has not felt that he wanted to submit to experimental therapeutic attempts to get rid of the microfilariae in his blood. According to Ward, various agents, such as atoxyl, thymol, methylene blue, arsenophenylglycin and arsphenamin, have been tried on the embryos with little or no effect. Recently British observers, in subjects with *Filaria bancrofti,* have found that repeated injections of safe doses of sodium, antimonyl tartrate appear to produce a definite dimunition of filarial embryos in the peripheral blood.[3]

From the length of the worm in this case, 61 mm., it is apparent that figures sometimes given describing the length of the parasite are not great enough. Ward, for instance, places the length of the adult female at from 32 to 50 mm. Undoubtedly measurements have often been made of specimens kept in some preserving fluid when shrinkage has taken place. After standing in alcohol for some months, my specimen had shrunk to 45 mm.

2. Laveran, A.: Sur un cas de filariose due a F. loa d'une durée de quatorze années, Bull. soc. path. exot. **9**: 436, 1916.

3. Rogers, L.: Preliminary Report on Intravenous Injections of Antimony in Filariasis, Lancet **2**: 604 (Oct.) 1919.

PREVENTION OF ACUTE ARSPHENAMIN REACTION BY ANTIANAPHYLAXIS AND ATROPIN

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The acute nitritoid or anaphylactoid reaction and the late gastrointestinal upset following the intravenous administration of arsphenamin are familiar to those of the profession whose scope of practice includes this form of medication. By the former term is meant the suffusion of the face, choking, and cardiorespiratory symptoms occurring immediately on injection, and by the latter, persistence of severe vomiting with or without diarrhea, beginning some hours after injection. To those who insist on hospitalization of the patient for from six to twenty-four hours after treatment, the occasional reaction in the average case may be of little significance. For the average practitioner, however, or outpatient clinics where hospitalization is not practical, even a mild reaction may be of considerable annoyance. Both reactions, on the other hand, may form a critical complication in those patients whose idiosyncrasy prevents even the absolutely necessary minimal use of the drug. The method described by Stokes [1] provides a means of dealing with this situation which is simple and applicable to the large majority of cases.

Among various means that have been suggested for the control of the nitritoid or anaphylactoid reaction to intravenous administration of arsphenamin, mention must be made of (1) special care in the preparation of the patient (fasting); (2) caution in alkalization of arsphenamin solutions (to prevent precipitation in the blood stream); (3) epinephrin solution (Milian) [2] in from 5 to 15 minim doses as a means of controlling the reaction after it develops, and (4) epinephrin as a prophylactic (Berman).[3] Our experience confirms the value of the first three. The employment of atropin and the induction of antianaphylaxis, suggested by Stokes, is of the greatest value, not as a routine, but as a means of dealing with the difficult case.

The induction of antianaphylaxis, to which for convenience the term "Besredka technic" is here applied, is accomplished on the service of the section of dermatology and syphilology by dividing the individual dose of arsphenamin into two portions, a small preliminary injection, one tenth of the total amount of the drug being given one hour before the subsequent larger portion. Atropin when used alone is given hypodermically in $\frac{1}{50}$ grain doses, twenty minutes before the intravenous administration of the arsphenamin. Strickler [4]

1. Stokes, J. H.: Atropin and Induced Anaphylaxis as a Protection Against Acute Arsphenamin Reactions, J. A. M. A. **72**: 241-243 (Jan. 25) 1919.

2. Milian: Les intolerants du 606, Bull. Soc. franç. de dermat. et syph. **23**: 520-549, 1912.

3. Berman, L.: The Nitritoid Crises After Arsphenamin Injections, Arch. Int. Med. **22**: 217-223 (Aug.) 1918.

4. Strickler, A. A.: Reactions Following Intravenous Administration of Arsphenamin, New York M. J. 498-499 (Oct. 2) 1920.

has stated that the latter method is not effective; but it should be noted that he employed 1/75 grain doses, whereas Stokes in his description of the method called attention to the need for 1/50 grain doses, and in the ineffectiveness of 1/75 grain. Occasional patients respond to the smaller doses, and not all are protected by 1/50 grain, which is the highest dose that we have given.

In some patients who are apparently highly reactive to arsphenamin, a combination of the two methods may completely inhibit a reaction when either method alone has failed to produce the desired effect. In combining the two methods, a small "vaccinating portion" of the arsphenamin solution (one-tenth the total dose) is injected intravenously; twenty minutes later 1/50 grain of atropin is given hypodermically, and twenty minutes after the administration of the atropin the remaining or larger portion of the arsphenamin solution is injected. By the use of these methods, we have practically eliminated the reaction in the treatment of susceptible patients, and patients who have been reluctant to submit to further injections have been induced to continue their treatment.

The cause of the nitritoid reaction has been a matter for much study and conflicting opinion. The true relation to anaphylaxis of the acute of nitritoid reaction and the later gastro-intestinal reaction produced by arsphenamin has not been established. Support for the belief that some such relation exists rests on more than mere clinical analogies. The supporters [5] of the older humeral, or chemical, theory of anaphylaxis contend that the anaphylactic reaction is an intoxication brought about by the toxic substances elaborated in the blood stream of the sensitized animal as a result of interaction between antigen and antibody. The latter supposedly is of the nature of an enzyme, the poison being produced by the digestive action of the proteolytic enzyme (antibody) on the injected antigen. According to this theory, a preliminary or sensitizing injection is necessary. Swift [6] early showed with respect to arsphenamin that such preliminary injection might not be necessary. Swift did show, however, that guinea-pigs could be passively sensitized to a mixture of guinea-pig serum and arsphenamin, and would on subsequent injection develop a true anaphylactic response.

By the newer conception of the physical mechanism of anaphylactic shock as developed in the American literature, especially by Jobling and Petersen,[7] and by Novy and De Kruif,[8] it is contended that the proteins of the serum of the sensitized animal, rather than the injected antigen, are the source of the anaphylatoxin. In other words, the anaphylactic shock is produced by a change in dispersion of the colloids of the blood stream. The production of anaphylatoxin can, therefore, occur following the injection of colloidal suspensions, such as agar, or of inert substances, such as kaolin. Jobling and Petersen and Novy and De Kruif suggest that the reaction is analogous to the catalytic change of fibrinogin into fibrin in coagulation. The development of this theory has, of course, eliminated the objection to Swift's explanation.

MacKee,[9] Stokes, and others have pointed out that the reaction observed following intravenous injection of arsphenamin in acid solution resembles the nitritoid crisis and anaphylactic shock and is proportional in severity to the rate of administration, that is, to the rate of precipitation of the drug in the blood stream. Danysz [10] has maintained that the arsphenamin solution is essentially collodial and that even when properly alkalinized it is precipitated on its injection by the constituents of the blood plasma, and then formed again into soluble organic derivatives. The rate of this precipitation is dependent to some extent on the alkalinity of the solution and on the peculiarities of the blood plasma.

Hirano [11] suggests that the reaction may occur from peculiarities of the individual blood plasma. He conceived the idea that there might be some intimate relation between arsphenamin and the suprarenal system in the development of anaphylactic shock because of the fact that epinephrin had been employed successfully in the treatment of this reaction. Hirano observed also that the development of a nitritoid crisis was successfully prevented by the administration of a dose of arsphenamin in two portions. He was able to ascertain by experiments in rabbits that there was some change in the chromaffin substance of the suprarenal glands following the administration of arsphenamin. The inability to detect epinephrin in the blood plasma in appreciable amounts makes it debatable whether or not the reaction is due to decrease in epinephrin in the blood of sensitized patients. It is conceivable, however, that a change of this nature in the blood plasma may have some effect on the precipitation of the colloidal solution of properly alkalinized arsphenamin solution.

Schamberg, Kolmer, Raiziss, and Weiss,[12] after a careful study of reactions to arsphenamin, concluded that the acute reactions to arsphenamin are due, at least in part, to traces of an unidentified impurity in the drug which for purposes of convenience they designate as substance "X." They [13] fail to support the observations of Danysz on the precipitation of properly alkalinized solutions (disodium salt) in the blood stream.

Since certain sensitized persons react severely when other persons who receive the intravenous injection from the same solution prepared at the same time from the same lot of the drug, or even from the same ampule, remain unaffected, it is not improbable that the reaction involves an anaphylactic element and possibly the effect of an impurity in the drug. The protection of the patient by measures known to afford protection against anaphylactic shock, as here described, supports the theory of anaphylaxis.

In an examination of the records of the Section on Dermatology and Syphilology with reference to arsphenamin reactions, thirty-six cases were found in which the recurrence of arsphenamin reactions, of both

5. Vaughan, V. C.: The Phenomena of Infection, J. A. M. A. **62**: 583-589 (Feb. 21) 1914.

6. Swift, H. F.: Anaphylaxis to Salvarsan, J. A. M. A. **59**: 1236-1240, 1912.

7. Jobling, J. W., and Petersen, W.: The Mechanism of Anaphylatoxin Formation. Studies on Ferment Action, J. Exper. Med. **20**: 37-51, 1914.

8. Novy, F. G., and DeKruif, P. H.: Anaphylatoxin and Anaphylaxis, J. A. M. A. **68**: 1524-1528 (May 26) 1917; IX, Specific Aanaphylactic Shock, J. Infect. Dis. **20**: 776-832 (June) 1917.

9. MacKee, G. M.: A Comparison of the Results Obtained by the Intravenous Administration of Acid and Alkaline Solutions of Salvarsan, Preliminary Report, New York M. J. **94**: 825-832, 1911; A Study of the Blood After Intravenous Injections of Salvarsan, J. Cutan. Dis. **30**: 199-206, 1912.

10. Danysz, J.: Les propriétés physicochimiques des produits du groupe des arsenobenzenes: leurs transformations dans l'organisme (prémier mémoir), Ann. de l'Inst. Pasteur. **21**: 114-137, 1917.

11. Hirano, N.: Experimental Studies on Investigation of Nature of Anaphylactoid Caused by Repeated Intravenous Injection of Salvarsan, Kitasato Arch. Exper. Med. **3**: 1 (April) 1919.

12. Schamberg, J. F.; Kolmer, J. A.; Raiziss, G. W., and Weiss, C.: Laboratory and Clinical Studies Bearing on the Causes of the Reactions Following Intravenous Injections of Arsphenamin and Neo-arsphenamin, Arch. Dermat. and Syph. **1**: 235-255 (March) 1920.

13. Schamberg, J. F.; Tokuda, K., and Kolmer, J. A.: A Study of Arsphenamin-Serum Precipitates and Their Relation to Clinical Reactions, Arch. Dermat. and Syph. **3**: 263-271 (March) 1921.

the nitritoid and gastro-intestinal types, was so persistent that it was impossible to ascribe it to incidental or temporary fluctuations in the technic. Our technic of administration is quite constant and conforms in general to Public Health Service standards. The rate of administration of 1 decigram for each minute and the degree of dilution (20 c.c. for each decigram) has been found by prolonged experience to be entirely safe and reactionless for the majority of patients. In general, the patients have been under hospital observation for from six to twenty-four hours following each injection.

Of the thirty-six patients whose complete records of preoperative preparation and postoperative reactions are available, twenty-one evidenced their idiosyncrasy by repeated nitritoid reactions to successive injections. Fifteen patients had repeated attacks of severe nausea and vomiting from two to six hours after each injection. Since the preparation of the patient and the brand of the drug were identical for all patients, it seems reasonable to assume that both types of reaction were the result of personal idiosyncrasies to arsphenamin. A reaction to the first injection did not once occur. The average occurrence of the first reaction of the series was with the fifth injection, which thus suggests that the cumulative effect of repeated injections is able to produce idiosyncrasy in certain cases. That this acquired idiosyncrasy persists for some time is shown by the fact that on resuming treatment following a rest period of several months the patients usually exhibited the same tendency to react to the arsphenamin.

It is interesting here to recall the observation of Stuart and Maynard [14] on a cutaneous test for arsphenamin sensitization in patients who have developed toxic eruptions following treatment with the drug. These authors noted that the sensitiveness finally disappeared (thirty-six weeks in their case).

The observations here described seem to show that repeated anaphylactoid shocks and late gastro-intestinal reactions are often encountered in the same patient and that both types of reaction are controlled by the use of atropin or by the Besredka technic. The late gastro-intestinal reaction may bear a closer relation to the nitritoid reaction than at first appears. The combination of acute nitritoid crisis and late gastro-intestinal reaction was observed in eight patients in this series. The case herewith reported is an example of such a combination.

REPORT OF CASES

Case 1 (321202).—Miss S., a robust woman, aged 27, was under treatment because of a positive serum Wassermann reaction on the blood. Her only general complaint was chronic attacks of mild appendicitis. The patient was receiving intravenous injections of arsphenamin (arsenobenzol) in doses of 0.3, 0.4, and 0.4 gm. at weekly intervals. Immediately following the fourth injection (the previous doses had been 0.3, 0.4, and 0.4 gm.) she developed typical acute nitritoid crisis. This reaction was readily controlled by the subcutaneous administration of 10 minims of 1:1,000 epinephrin solution. One week later she exhibited the same reaction following the treatment. The sixth injection was given in two portions (Besredka technic). Reaction did not occur. The patient was then placed on a three months' rest period, with interim inunction treatment. On resuming the arsphenamin treatment, she showed no untoward effect from the first two injections. Four hours after the third injection, however, a severe gastro-intestinal disturbance developed, consisting of persistent nausea and vomiting for several hours. She reacted similarly a week later. Following the next (fifth) intravenous injection, she experienced both a nitritoid crisis and subsequent nausea and vomiting. For the last treatment, arsphenamin was administered in two portions. Reaction did not occur.

Another case is reported which illustrates the relation between the gastro-intestinal reaction and the nitritoid crisis, as well as the dosage of atropin indicated.

Case 2 (203427).—Miss P., a well developed girl, aged 21, complained of stiffness of the extremities. She had an evident syphilitic infection with a positive blood Wassermann reaction. She received five injections of arsphenamin (arsenobenzol) at weekly intervals, the dosage ranging from 0.2 to 0.4 gm. No reaction resulted during the course. Four months later following each of three consecutive weekly injections, the patient experienced severe nausea and vomiting. With the next two injections, an acute nitritoid crisis and a late gastro-intestinal reaction occurred. On the resumption of arsphenamin injections, three months later, 1/150 grain of atropin was administered hypodermically twenty minutes before injection. There was no reaction. Nausea and vomiting followed the arsphenamin injection a week later, however, even though the preliminary injection of atropin (1/150 grain) had been given, and 1/150 grain of atropin given hypodermically before the next injection failed to prevent an acute nitritoid crisis and late gastro-intestinal reaction. One-fiftieth grain of atropin was given before the next and last injection. No reaction resulted.

In order to show how treatment may be continued in a highly susceptible patient by the use of atropin, or the Besredka technic, or by a combination of both, another case is cited:

Case 3 (261250).—Mr. M., a large, healthy appearing man, aged 31, was under treatment for central nervous system syphilis. He experienced no reaction to the first four injections of arsphenamin at weekly intervals. Following the fifth and sixth injections, however, acute nitritoid crises occurred. After three months' rest with interim mercurialization, reactions did not occur following the first two arsphenamin injections, but an acute nitritoid crisis followed the third injection. By the use of the Besredka technic, reaction did not develop following four subsequent injections of arsphenamin. With the sixth injection, however, a mild reaction resulted, even though the injection was given in two portions. Following another rest period of four months, the patient still presented the same idiosyncrasy to arsphenamin as shown by a severe nitritoid reaction after the first injection. One-fiftieth grain of atropin failed entirely to prevent reaction to the second injection, which was followed by slight flush. A combination of the Besredka technic and atropin (1/50 grain), however, prevented any reaction to four subsequent arsphenamin injections in this course and to four similar injections during a course of treatment three months later.

SUMMARY

1. The exact nature of nitritoid and gastro-intestinal reactions to arsphenamin is undetermined. It seems not improbable that a variety of causes may act to produce a single syndrome of which the acute reaction on the table, and in certain cases, the late gastro-intestinal reaction may be phases of the same phenomena.

2. In the group of cases herein reported, repeated nitritoid crises, associated with repeated gastro-intestinal reaction, persisted regardless of any controllable factor in the technic.

3. Repeated uncontrollable acute reactions are interpreted as personal idiosyncrasies of the patients to the drug.

4. The observation of Stokes on the value of atropin and of induced antianaphylaxis (Besredka technic) in the control of a persistent tendency to acute nitritoid crisis is confirmed.

5. It has been further found that a tendency to repeated late gastro-intestinal reaction can also be con-

14. Stuart, H. C., and Maynard, E. P.: Hypersensitiveness to Arsphenamin Following Exfoliative Dermatitis, Arch. Int. Med. **26**: 511-520 (Nov.) 1920.

trolled in a large number of cases by either method alone, or by a combination of the two methods.

6. Atropin is sometimes effective in doses less than 1/50 grain. It may fail entirely to affect reaction even in doses of 1/50 grain.

7. A combination of the use of atropin and the induction of antianaphylaxis by dividing the dose of arsphenamin is more effective than the employment of either method alone.

8. A combination of the two methods may make possible the continuance of arsphenamin treatment in patients in whom repeated severe reaction would otherwise force its abandonment.

LARYNGEAL DIPHTHERIA

REVIEW OF FIVE HUNDRED AND FIFTEEN CASES IN WHICH INTUBATION WAS PERFORMED *

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Within the entire field of pediatrics it would be difficult to find a disease that presents more interesting problems than laryngeal diphtheria. Moreover, there is scarcely anything that can happen in the life of a child which is so likely to be attended with disastrous results as an attack of this type of infection.

O'Dwyer [1] has told us that in the New York Foundling Asylum, previous to the days of intubation, the mortality was practically 100 per cent. in laryngeal diphtheria. But because of O'Dwyer's ingenuity in devising the instruments now in use, the sacrifice is no longer so great. Nevertheless, the loss of life from this variety of diphtheria is high under the best of circumstances, and excessive, as a rule, under ordinary conditions.

There are many reasons why such a large proportion of these cases terminate fatally, and some of our medical schools and some of our textbooks must share the blame. For there are few medical students who ever receive any instruction in the art of intubation, and many textbooks would have one believe that it is a very simple [2] matter to insert a tube in the larynx. Even medical societies sometimes recognize the "simplicity" of the operation in making up fee tables by expressing the belief that it is worth at least twice as much to do a tracheotomy as it is to perform an intubation.

As a matter of fact, there is probably no more difficult operation in surgery than an intubation properly performed. And whereas almost any one possessing a little surgical skill can make an incision in the neck and insert a tracheotomy tube, very few will succeed in their endeavors to intubate the larynx unless some experience has been acquired in this character of work.

In many contagious disease hospitals where the interns constantly come and go, we will find the mortality in intubated cases often ranging from 50 to 70 per cent.; and we find it quite customary to make reference to the percentage of recoveries rather than to state the mortality percentage, which may seem shocking. In such hospitals, physicians are attempting to gain knowledge and experience. Frequently they are trying to accomplish something which they have never before undertaken. Usually the intern has not even attempted intubation on a cadaver, which, though far different from performing the operation in life, is nevertheless of considerable value.

Perhaps a patient is brought into the hospital at the brink of death from asphyxiation. All that is necessary to save a life is the insertion of a tube in the larynx. The textbook has at least implied that this is not difficult to do, but the young physician fails in his efforts; yet he will not admit defeat, which would be indicated by resorting to tracheotomy. He refuses to give up the task he has set himself to do, and eventually, perhaps, lodges the tube in the esophagus, with a wavering conviction that the patient is properly intubated though the life departs. Experiences of such a nature are heartrending, and yet there are probably few who have learned to intubate who did not at some early stage in their career encounter an instance of such a character.

Although the general consensus of opinion appears to be that extubation is considerably more difficult than intubation, still it has always seemed to me that the reverse is true. But even disregarding the ease or intricacies of either operation, I am convinced that the proper way for one to learn intubation is to learn first to extubate. There are many advantages in following such a procedure, and when the work of a beginner is entrusted to me, no attempts at intubation are permitted until at least ten extubations have been successfully accomplished. The following factors are prominent in the adoption of this method: (1) Under ordinary conditions the intubated patient is in no immediate danger when extubation is attempted; (2) there is no necessity for hurry; (3) the beginner gains a tactile familiarity with the anatomic surroundings of the larynx, at his leisure, as well as with the general technic of the operation; (4) a marked degree of confidence, which is very essential, is also acquired.

When to and when not to intubate in laryngeal diphtheria is a matter which must depend frequently on the patient's environment. There are many patients whom one might intubate in the home who would not be intubated if in a suitable hospital under the constant observation of attendants specially trained for this class of patients. Ordinarily, however, the home is no place for an intubated patient to remain unless there is a well qualified nurse in constant attendance, and a physician experienced in intubative work ever on the premises.

Some of the remarkable results reported for intubated patients in private practice must be totally beyond the comprehension of any one possessing an extensive hospital experience in this type of disease. When one hears of a mortality of but 14 per cent.[3] for tube patients treated in their homes, and then on the other hand learns that such an institution as the Willard Parker Hospital in New York has had an average mortality of 57.87 per cent. (1901-1905) for 588 cases,[4] one can scarcely help but wonder whether a large number of the recoveries in the home did not occur in spite of intubation and not because of it. At the Philadelphia Municipal Contagious Disease Hospital, the average yearly mortality from 1897 to

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* Read before the Chicago Pediatric Society, March 22, 1921.

1. O'Dwyer, Joseph: Intubation of the Larynx, New York M. Rec., Sept. 10, 1887, p. 318. Nothnagel's Encyclopedia, Practical Medicine, Diphtheria, Philadelphia, W. B. Saunders Company, 1902, p. 170.

2. Ingals, E. F.: Diseases of the Chest, Nose and Throat, New York, William Wood & Co., 1900, p. 463.

3. Cartin, H. J.: Intubation of the Larynx, J. A. M. A. **69**: 460 (Aug. 11) 1917.

4. Fischer, L.: Diseases of Infancy and Childhood, Philadelphia, F. A. Davis Company, Ed. 3, 1910, p. 579.

1903 was 59.23 per cent., and at the Boston City Hospital from 1895 to 1903 it averaged 59.54 per cent., though in the year last named, for 139 cases it was only 26.62 per cent.

Having made some reference to results obtained in other cities in the treatment of laryngeal diphtheria, I will now call attention to a few of our accomplishments at the Chicago Municipal Contagious Disease Hospital. When first becoming closely associated with this institution in January, 1919, I found the mortality rate for intubated patients [5] (121) during the preceding year to be 50.4 per cent. Although this figure was not excessive by comparison with similar institutions, it did seem far too high in view of the excellent hospital equipment at our disposal, and because we were fortunate in having exceptionally able resident physicians whose positions were more or less permanent. The nurses, too, were most competent—a very important factor. Consequently, certain regulations and changes were inaugurated in the manner of caring for this type of diphtheria, with the result that our mortality figure at the close of the year 1919 had been reduced by 35.8 per cent., or to 32.32 per cent. for 189 cases. Continuing with our same methods of procedure, we reduced the mortality 51.7 per cent. more in 1920, thus making a total cut of 69 per cent. under the 1918 figure. Our mortality then for the year 1920 was 15.6 per cent. for 205 cases.[6]

In addition to the 205 intubated patients in 1920, there were also forty-two other laryngeal patients sent to the hospital for intubation, but in whom no intubation was done. However, the operation might have been justifiable, and would, in fact, having been advisable, had these patients not been under the constant scrutiny of experienced nurses and in an institution where intubation could be performed at a moment's notice if the necessity arose.

Of the forty-two patients in whose cases no intubation was resorted to, all recovered save two. In both of the latter there was a pharyngeal and nasal diphtheria as well as a laryngeal, and in both cases death was due to an acute nephritis. The average dose of antitoxin for these nonintubated patients was 22,000 units. In no instance was there a complicating bronchopneumonia.

Our policy in regard to intubation is never to intubate if it can be avoided with safety to the patient. Nevertheless, the only proper course was followed in sending the forty-two patients mentioned to the hospital, for no one could foretell whether intubation might not become mandatory at any moment.

All laryngeal patients are received in a special room at the Chicago Municipal Contagious Disease Hospital, and are again transferred out of this room to cubicles as rapidly as possible following the conviction that the likelihood or necessity for intubation is no longer present. By the adoption of this plan, crossed infections [7] have become a great rarity in the intubation room, and the number of patients to keep under constant observation is held at a minimum.

Our intubation room is about 40 feet long and 14 feet wide, with an adjoining small room for the special isolation of certain patients. The door of the latter room is fitted with glass so that any isolated patient is always within full view.

5. No acute diphtheria patients were admitted to the New Municipal Contagious Disease Hospital until March 17, 1918.
6. Bulletin, Dept. Health, Chicago, Feb. 19, 1921.
7. Hoyne, A. L.: Crossed Infections and Methods for Prevention, Mod. Hosp. **13**: 396 (Nov.) 1919.

The main room has glass for the full length of two sides so that it is bright and airy. On one of these sides are outside windows; on the other the windows look on a passageway to which parents have access from an outside door. On account of this construction, visitors can come in to see these patients through the glass without in any way being exposed to infection. And in order thoroughly to guard these cases, there is an emergency bell system, so that by pressing a button bells ring in all portions of all the hospital buildings, and every physician on duty runs at once to the intubation room. The first physician to arrive takes care of the patient for whom the signal was given. Whether a tube has been coughed out and another intubation demanded, or whether it has become blocked and extubation and reintubation are necessary, the physician who first responded to the call is capable of handling the situation.

TABLE 1.—COMPARISONS IN DIPHTHERIA MORTALITY

Year	Admitted	Died	Died Within 24 Hours	Mortality Total, per Cent.	Mortality Exclusive 24-Hr. Deaths, per Cent.	Mortality Exclusive Intubated Cases, per Cent.	Mortality Exclusive Both Intubated and 24-Hr. Cases, per Cent.
1919	1,597	154	63	9.66	5.7	6.6	3.8
1920	1,552	119	44	7.66	4.9	6.4	3.3

The ratio of tube cases to total diphtheria patients in hospital practice is usually said to average from 10 to 30 per cent. At the Municipal Hospital, Chicago, it was 11 per cent. in 1919 and 13 per cent. in 1920.

Our total diphtheria admissions for 1919, exclusive of diphtheria carriers, of which there were 175, with no deaths, were 1,597, and for 1920 the number was 1,552, exclusive of carriers.

In connection with the foregoing, it may be of interest, perhaps, to note some comparisons in our diphtheria mortality, as shown in Table 1, which, as previously indicated, does not include diphtheria carriers. In this table the "twenty-four hour deaths" refer to patients dying within twenty-four hours of admission to the hospital. These are usually patients who are in a moribund state at the time of removal from their homes and are rushed to the hospital in a last desperate effort to save or prolong life.

TABLE 2.—MORTALITY AMONG INTUBATED PATIENTS

Year	Admissions	Died	Died Within 24 Hours of Admission	Mortality Total, per Cent.	Mortality Exclusive of 24-Hr. Deaths, per Cent.
1918	121	61	21	50.4	33.00
1919	189	61	23	32.32	20.10
1920	205	32	11	15.6	11.34

A further detailed illustration of the results accomplished at the Chicago Municipal Contagious Disease Hospital in the treatment of diphtheria is given in the tabulation for the intubated cases alone (Table 2). Of the total (515) intubated patients, 55 per cent. were males, and of the total deaths (154) 53 per cent. were of males. These figures make it apparent that sex is not a very important factor either in susceptibility or in prognosis. All the patients referred to in my tables were white, and in this connection it may be mentioned that among 800 or 900 cases of laryngeal diphtheria which have come under my observation, there has not been one single instance of a colored child requiring

intubation. However, diphtheria appears to be a disease to which the colored race [8] is relatively immune.

Two additional tables may be of interest in setting forth some statistics relating to the recoveries among intubated patients on the one hand, and to those cases which terminated fatally, on the other. In Tables 3 and 4, it will be noted that the division of sexes varies somewhat from year to year, but with the males usually predominating. In respect to age, we find the percentage of patients under 5 years fairly constant, and that cases under 1 year are exceptional, as might be expected. The chief danger period is, in fact, from the second to the fifth year, at which time the greatest susceptibility to diphtheria exists. The youngest patient in the entire series was 4 months, and the eldest 52 years, of age. It will also be observed that there were no deaths among patients over 10 years of age.

Among both the recoveries and deaths, there were a few instances in which no positive culture for the Klebs-Loeffler bacillus was obtained, although the clinical picture of laryngeal diphtheria was present.

classified under the year in which they were discharged. For example, the patient given in the year 1918, who was intubated eighty times, entered the hospital in the latter part of December of that year, but received nearly all of his treatment during the year 1919.

Aside from the use of antitoxin and necessary laxatives, the intubated patients at the Chicago Municipal Contagious Disease Hospital receive little in the way of medicinal treatment, except when a complicating bronchopneumonia exists. Then great reliance is placed on the use of camphor in oil, as a stimulant, and the open air treatment. The much heralded strychnin [8] is almost never used; whisky not at all, and sedatives but rarely. Nor is the steam tent employed. Aseptic nursing methods are strictly adhered to, and a separate gown is always worn for handling each individual patient. Furthermore, we regard it as important to have a bottle of aromatic spirit of ammonia at hand, where there are intubated cases, as it is always to have a tracheotomy outfit ready for use if the emergency arises.

The chief reasons for our success in treating intubated patients at the Municipal Contagious Disease

TABLE 3.—RECOVERIES AMONG INTUBATED PATIENTS

Year	Totals	Male, per Cent.	Female, per Cent.	5 Years and Under, per Cent.	3 Years and Under, per Cent.	1 Year and Under, per Cent.	5-10 Years, per Cent.	Over 10 Years, per Cent.	Number With Negative Culture	Average Dose of Antitoxin	Average Number of Intubations	Average Time of First Extubation in Days	Percentage With Bronchopneumonia on Admission	Percentage With Other Types of Diphtheria	Greatest Number Intubations for One Patient	Largest Number Autoextubations for One Patient
1918	60	68	32	73	43	1.6	27	0	5	32,480	3.8	3.9	8	31	80	65
1919	128	53	47	72	29	0.7	26.5	1.5	3	27,750	1.5	4.33	9	63	14	11
1920	173	53	47	77	46	2.0	22	1	6	24,900	2.4	4.0	2	55	82	28

TABLE 4.—DEATHS AMONG INTUBATED PATIENTS

Year	Totals	Male, per Cent.	Female, per Cent.	5 Years and Under, per Cent.	3 Years and Under, per Cent.	1 Year and Under, per Cent.	5-10 Years, per Cent.	Over 10 Years, per Cent.	Number With Negative Culture	Average Dose of Antitoxin	Average Number of Intubations	Percentage With Bronchopneumonia on Admission	Percentage With Other Types of Diphtheria	Greatest Number Intubations for One Patient	Largest Number Autoextubations for One Patient
1918	61	65	35	97	69	8	3	0	2	29,390	3.33	34	27	27	25
1919	61	40	60	87	67	11	13	0	8	28 900	4.0	39	49	58	46
1920	32	53	47	85	56	9	15	0	1	29,600	3.2	43	65	22	17

Laryngeal diphtheria is the one type of disease in which the general practitioner is most inclined to give massive doses of antitoxin, and yet in cases in which the membrane is confined to the larynx such treatment is seldom required. These patients do not suffer extensively from a toxemia. The ordinary complications of diphtheria, such as the various forms of paralysis and nephritis, are not often encountered when the membrane is limited to the larynx. When death ensues, it is almost invariably due either to asphyxiation, as a result of mechanical obstruction by the membrane, or to a complicating bronchopneumonia. From 15,000 to 20,000 units is usually a sufficiently large dose of antitoxin for cases in which the larynx alone is involved. If there are other sites of infection also, as the tonsils or nasopharynx, a considerably larger amount of antitoxin may be demanded.

The average doses given in Tables 3 and 4 are based on all antitoxin which the patients received both before and after admission to the hospital. However, as the information regarding previous treatment was not complete in every instance, it is possible that the averages given for dosage are only approximately correct.

All cases tabulated are listed according to the year in which the patients were admitted, and not necessarily

8. Hoyne, A. L.: A Study in Diphtheria Mortality, with Comments on Treatment, Arch. Pediat. **35**: 513 (Sept.) 1918.

Hospital are that the resident physicians hold permanent positions and that the nurses are well trained in the duties they have to perform. A change in resident physicians is almost certain to foretell a higher mortality rate.

CONCLUSION

The following factors may be summarized as having been contributory to the excellent results secured in this series of hospital cases:

1. Permanence of resident physicians.
2. Specially trained nurses, one of whom always has the patients under constant observation.
3. Emergency bell system.
4. An interval of four or five days before the tube is removed after intubation. This has reduced the number of reintubations necessary.
5. Thorough sterilization of instruments, thus lessening to some degree, at least, complicating bronchopneumonias.
6. Thorough cleansing of hands before and after each operation, a simple precaution, which, nevertheless, is often neglected in dealing with intubated patients.
7. The transfer of patients from the tube room as soon as this can be done with safety, thus lessening the chance of crossed infections.

25 East Washington Street.

Special Article

SEVEN YEARS OF NATIONAL HEALTH INSURANCE IN ENGLAND

A RETROSPECT

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[Note.—*This article is printed without modifications in either diction or spelling. The author uses the word "doctor" where we would usually use "physician"; this is because in England "doctor" means doctor of medicine. There they do not have osteopaths, naturopaths, chiropractors and various other paths and faddists assuming the title of "doctor." For "surgery" we would say "office." Statements of fees, allowances, etc., are left in terms of English money, as originally written. The equivalents of these probably are known by all; however, in ordinary times they are: 1 penny (d) = 2 cents; 1 shilling (s) = 12d or 24 cents; 1 pound (£) = 20s or about $4.86. Editorial Comment will be found in the Editorial Department.*—Ed.]

Recent visitors from the United States have made me aware that great interest has been shown there in the subject of National Health Insurance, and also that a good deal of the information about it so industriously supplied to the American public and medical profession is not above suspicion as to its reliability.

When the editor asked me to put on record my views, based on a close acquaintance with the movement in this country, I felt that I ought to do so, partly because the British Medical Association would wish me to do anything in my power to assist the American Medical Association, and partly because the requests for information from your side have become somewhat frequent.

Before touching on the effects of the National Health Insurance Act of 1911 and its successors, it may be helpful to say something first about my own competence to deal with the subject, and secondly about the state of medical practice in this country before the operation of the Act.

Before 1908, I was for sixteen years in practice in a thoroughly and almost exclusively industrial town on Tyneside, and 90 per cent. of my patients were people who are now insured persons or dependent on them. For fifteen years before leaving general practice I had taken an active interest in the organization of our profession, particularly as carried out by the British Medical Association, and had an inside knowledge of the contract practice system by means of which so many of the persons now insured then obtained their medical attendance, taking an active part in fighting the evils that were inseparable from that system. I became Deputy Medical Secretary of the British Medical Association in 1908, serving under Dr. J. Smith Whitaker until 1912, when I succeeded him as Medical Secretary on his becoming the first medical member of the National Health Insurance Commission—the body which administered National Health Insurance until it was merged, in 1918, in the Ministry of Health. I mention these personal details in order to show that though I have never been engaged in health insurance practice I have first-hand knowledge of industrial and contract practice, and have been since 1908 in a position second to none for focusing the views of the organized doctors in this country.

CONTRACT PRACTICE THE FORERUNNER OF NATIONAL HEALTH INSURANCE

For many years, doctors in industrial and agricultural areas have recognized that there were very considerable sections of the public who would never receive (or at any rate would never pay for) their medical attendance unless some arrangement were made on a contract basis. There are very few doctors who do not think that the *ideal* arrangement is for the patient to get his attendance from the doctor of his choice and pay for it by fees varying in amount according to the status of the doctor or the means of the patient, or the custom of the district. You in America may be in a position to do this; and if so, our contract practice arrangements and our insurance act will only have a mild historical interest for you. But we, at any rate, found many years ago that a large section of the public could not pay doctors' bills without the exercise of a rigid thrift which is beyond the powers of the average individual, either in the working class or in any other class. For the destitute we had (and still have) our Poor Law system. But the people to whom I refer were not paupers, and the great bulk of them did not want charity. They wanted to pay their way. The problem was how to arrange for this. Until 1912 the problem was not dealt with nationally, nor were the various local arrangements coordinated, except in a very partial way by the friendly societies, to which I shall refer presently. Many doctors had their own "private clubs," generally collecting from their members a small weekly contribution for which the whole family was attended—3d a week was a very usual figure. Others arranged with the management of large works and collieries for a similar weekly or fortnightly deduction from wages which also covered the attendance on the whole family. Philanthropic persons formed "Provident Dispensaries," the members of which paid periodic contributions, and the doctors on the staff for a small annual payment saw them in their homes when necessary, or at a dispensary which was similar to an outpatient department at a hospital. Sometimes the parson or the "Lady Bountiful" of a village would organize a medical club.

The most widespread contract practice arrangement was through the Friendly Societies and Trade Unions. These bodies, sometimes only local, but more generally with branches throughout the country, gave to their members certain benefits—unemployment, sickness and funeral benefits were the most usual, but medical attendance was very frequently supplied. The members of these societies paid weekly contributions. Each local branch or "Lodge" would appoint its own doctor and pay him a sum varying from 2s. 6d. to 5s. per member per annum, and for this sum the doctor undertook to give ordinary medical attendance and medicines to each member.

There were variants of the above method, but I need not go into further detail except to mention that in some parts of industrial Lancashire contract practice of the kind described never took root. Bills were sent in to the patients as in ordinary private practice and these bills were regularly collected, generally in sums of 1s. per week. The Lancashire workmen who paid under this system regarded the visit of the doctor's collector as much a matter of course as the workman in

other districts regarded the deduction of his 6d. or 9d. a fortnight from his wage.

THE EFFECT OF CONTRACT PRACTICE ON THE MEDICAL PROFESSION

The system just described was subject to great variations all over the country, but with few exceptions all the methods agreed in the following particulars:

(*a*) Being based originally on a charitable desire to help people who were considered to be unable to pay ordinary fees, the remuneration was always inadequate.

(*b*) Like all other work which is underpaid, it tended to be scamped. The average doctor, of course, gave his best when the patient was really ill; but much of the work was done in a perfunctory and casual way.

(*c*) The system was taken advantage of by people whose circumstances gave them no claim on a service of a semi-charitable nature. The element of charity was ignored or forgotten, and the people in question looked upon it simply as a cheap way of getting their doctor. It was the knowledge of this that made the demand for an income limit such a war-cry in the insurance act fight.

(*d*) Contract practice therefore fell into disrepute. Many of the best doctors would not touch it, and patients frequently grew dissatisfied and went off to "a private doctor," paying him fees which they could sometimes ill afford.

(*e*) The system did not pretend to cover all that a patient might need in the way of medical attendance. It only supplied the patient with ordinary attendance. For the services of a specialist or institutional treatment he had generally to resort to a charitable institution. Sometimes he would scrape together money for a consultation, but only rarely could he afford to have operations or other special treatment on private terms.

(*f*) It had a demoralizing effect on the medical profession. Ridiculous though the remuneration was, the appointments were much sought after by men commencing practice, as a means of getting known. Some doctors specialized in club appointments; and, by getting a large number of them, not only earned aggregate sums of a considerable amount but kept out inconvenient rivals. In some districts, canvassing and various kinds of subterraneous influences were used, which not only had a bad effect on the morale of the local profession but gave rise, not unnaturally, to the impression on the part of those who administered the clubs that the doctors considered the pay to be adequate.

THE BRITISH MEDICAL ASSOCIATION AND THE REFORM OF CONTRACT PRACTICE

This question of contract practice was the main object of attention of the British Medical Association in the years 1903-1910 which followed its reorganization on modern democratic and fighting lines. Much information was collected, and great efforts were made to improve conditions in those areas where the association was strong. That there was room for improvement is shown by the following figures, the result of inquiries made by the association in 1905 as regards the remuneration received for this contract work:

Replies to inquiries were received from 1,548 doctors. The remuneration varied between 2s. and 6s. per member per annum, to include the provision of medicines. Twenty-three per cent. paid less than 4s. a year, and 23 per cent. paid 5s. and over. The great majority paid 4s. In the majority of the clubs there was no wage limit, and many cases of gross abuse by well-to-do people were given. Three hundred and ninety-three doctors answered the question as to what fee they considered would be adequate; 145 of these named 5s. per member per annum.

It must be noted that the abolition of contract practice was never contemplated as a matter of practical politics. It was always recognized that in most areas for some classes of working people contract practice was the only practical method available. The Association was in the midst of a resolute campaign to evolve some sort of order out of this chaos, and to put contract practice work on a basis that would allow of the profession regarding it, if not with satisfaction, at least without a sense of shame, when, in 1909, the Reports of the Royal Commission on the Poor Law appeared. This Commission was a very important body whose reference was to consider the whole question of the relief of distress, and naturally the provision of medical attendance occupied a conspicuous position in their reports. There was a Majority Report and a Minority Report. These differed in the treatment proposed, but they agreed on diagnosis. Both agreed that the then existing provision of medical attendance for the working classes was thoroughly unsatisfactory. The majority recommended that it be reorganized on an insurance basis. The minority wanted medical service to be municipalized, paid for out of the rates, with the right on the part of the Local Authorities to recover the charges from those able to pay.

Immediately on the issue of these Reports, the British Medical Association began to consider them and to try to devise a scheme which should avoid the setting up of a state or municipal whole-time service, which the profession with very few exceptions strongly disliked, and still dislikes. The whole situation was, however, changed with the advent of Mr. Lloyd George's National Health Insurance Bill in 1911. He boldly adopted the principle of insurance—not voluntary but compulsory—for all manual workers whatever their income, and (with insignificant exceptions) for all other workers whose wages did not reach the then existing income tax limit of £160 a year. It is now £250.

THE NATIONAL HEALTH INSURANCE BILL OF 1911

I will not attempt to enter into details about the struggle by which the profession, with a considerable amount of success, tried to mold the National Insurance Bill of 1911 into a measure which should be acceptable to it. The "Report for 1912-13 on the Administration of the National Insurance Act, Part I," published by the government in 1913 (Cd. 6907), which is a very fair and complete, though necessarily concise, statement of the position, should be studied by all who wish to know the details of the introduction of the Act, and its administration in its earlier stages. A fundamental complaint always made by the British Medical Association, on which the whole burden of the fight on the professional side fell (it cost our funds £30,000 in addition to large sums spent out of special voluntary funds, raised by the association), is that Mr. Lloyd George, then Chancellor of the Exchequer and in charge of the bill, did not consult the representatives of the medical profession until he had laid down the main lines of the bill in consultation with the Friendly Societies and Trade Unions. It is true that the cooperation of these bodies (which under the name of "Approved Societies" administer the Sickness Benefit) was essential for the acceptance and the satisfactory working of the measure. But, though Mr. Lloyd George did not at first see it, the cooperation of the medical profession was no less necessary. It may be said without fear of contradiction that the determination the profession showed and the sympathy it was able to enlist among the public and in Parliament made it impossible for the future that any parliamentary bill of any consequence affecting the medical profession should ever be introduced without consultation with the British Medical Association.

The following demands were formulated by the Association and became known as the "Cardinal Points" of the profession:

1. An income limit of £2 a week for those entitled to medical benefit.
2. Free choice of doctor by patient, subject to consent of doctor to act.
3. Medical and maternity benefits to be administered by insurance committees and not by Friendly Societies. In connection with the question of the method of administration of medical benefit, the Representative Meeting[1] of the Association resolved that all questions of professional discipline should be decided exclusively by a body or bodies of medical practitioners, and that the power of considering all complaints against medical practitioners should be vested in a local Medical Committee, with a right of appeal to a central Medical Board to be appointed for that purpose.
4. The method of remuneration of medical practitioners adopted by each Insurance Committee to be according to the preference of the majority of the medical profession of the district of that committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.

After careful consideration, the representative meeting resolved that the claim of the association should be for 8s. 6d. as a minimum capitation fee, not including extras and medicine.

6. Adequate medical representation among the insurance commissioners, in the central advisory committee, and in the insurance committees, and statutory recognition of a local medical committee representative of the profession in the district of each insurance committee.

1. *The Income Limit.*—This was fought strenuously, but was from the first denied by the government, whose action was endorsed by large majorities in Parliament. We were always told that it was administratively impossible: that the wages of manual workers varied so much that if an income limit were fixed very large numbers would be constantly "in and out," and that no effective insurance scheme could be worked on such a basis. A concession was made (on paper) in the later stages of the bill, and the Insurance Committees (which administer Medical Benefit) were empowered to fix a *local* income limit. This has been a dead letter.

2. *Free Choice of Doctor by Patient and Vice Versa.*—This was gained. Patients choose any doctor they like on the local list and have the right of changing, without consent of the doctor, twice a year. A change can be effected at any time by mutual consent.

3. *Medical and Maternity Benefits to Be Administered by Insurance Committees and Not by Approved Societies.*—This was gained, so far as medical benefit is concerned. Maternity Benefit is merely a cash payment, and the medical profession, as soon as it realized this, did not press that point. The profession was determined, after its experience of club practice, that it would not put itself under the control of the Approved Societies or any similar bodies, though it had no objection to the control of a public body on which the profession, as well as the Approved Societies, were represented. Complaints against doctors are decided, not by an exclusively professional body as demanded in the Cardinal Point, but by a body composed half of doctors and half of representatives of Approved Societies, with an independent Chairman appointed by the Insurance Committee. The plan works very well, and there are practically no complaints about it.

4. *Method of Remuneration to Be as Decided by the Profession Locally.*—This was gained. In every Insurance area in the country except two (Manchester and Salford), the capitation system was chosen. The two areas named work on a payment per attendance basis, but it must be remembered that, whatever the method chosen, the amount to be distributed locally is allocated from a Central Pool and is in proportion to the number of insured persons in the area. Therefore, the profession as a whole in any area gets the same total remuneration whether they are paid by one method or by the other.

5. *The Amount of Remuneration.*—This has never yet been considered adequate. The original amount offered was 6s. a head, to include drugs. Before the Act came into operation this was increased to 9s. a head, to include provision of drugs. Of this the doctor who did not provide drugs received 7s., with a chance of getting anything up to another 6d. if the chemists' call on the drug fund proved to be more than 1s. 6d. but less than 2s. The amount now (since January, 1920) is 11s. a head for medical attendance alone, and the state takes full responsibility for the drug bills. The doctors who attend persons not within reach of a chemist provide the drugs and get for this service 2s. a head of all those on their dispensing list.

6. *Representation of Profession on Various Administrative Bodies: Statutory Recognition of Local Medical Committee.*—The representation of the profession on the Insurance Committees has never been considered to be adequate, though less is heard about the point now than formerly, because more and more responsibility in purely professional matters is being placed on the Local Medical Committee and the Panel Committee, of which more later. A medical representative was placed on the commissioners who administered the act centrally, and full representation was given to the profession on an Advisory Committee set up to be consulted by the commissioners in questions about regulations.

It is interesting to note, in connection with the question of remuneration, that the government in 1912, before the Act came into operation, with the agreement of the Association made an inquiry in five selected towns to ascertain what was the annual cost of medical attendance and drugs per head of the population, including rich and poor and both private and contract practice. The inquiry was conducted by an eminent accountant, agreed upon by both parties, and the result showed that the cost per head (excluding operations and institutional treatment) was 4s. 5d. a year. The Association did not accept all the conclusions which the government drew from this inquiry, but the figures undoubtedly made a considerable impression both on the public and the profession.

THE ACT GOES INTO EFFECT

The Medical Benefit of the Act came into force, Jan. 15, 1913, and up to the last moment the profession declared itself unwilling to accept the terms offered. The temper of the profession was thoroughly roused, and feeling ran exceedingly high. Largely attended meetings of doctors were held all over the country at which votes were taken which showed almost everywhere a large majority against accepting service. At a meeting, Dec. 21, 1912, of the Representative Body of the Association, at which representatives from every part of the country attended, it was decided by a large majority to refuse the final offer of the government. Shrotly after that date, however, a "rot" set in, and on January 3 the government announced that over 10,000 doctors had accepted.

1. This body corresponds to the House of Delegates of the American Medical Association.

LESSONS TO BE DRAWN FROM THE FIGHT

It would serve no good purpose now to enter closely into the history of that struggle, but it is only fair to the British profession that I should set down a few of the extenuating circumstances which ought to be taken into consideration and some of the lessons which, looking back on the whole business, I think can fairly be drawn.

First, we had no experience to guide us as to what the effects on the profession of such a national system were likely to be, and, like everybody else, we dreaded the unknown. The German experience was not of much use. Our system is very different from the German system in almost every particular.

Secondly, there was a good deal of political feeling mixed up with the whole affair. I am afraid that this is inseparable from the introduction of any such system. I do not mean to suggest that the great majority of the profession were consciously affected by party considerations. But Mr. Lloyd George's position in the country was very different then from what it is now. He was then the demagogue of the advanced Radicals and had made himself very objectionable to all persons of a conservative tendency, of whom there is a fair share in the medical profession. Party politics at that particular time were perhaps as strongly held and were as strongly in evidence as at any time in the history of this country.

Thirdly, although we did our best to secure the opinion and test the trustworthiness of every member of the medical profession, there was always a considerable section who would attend no meetings and give no pledges. At the end, the attitude of these men was the subject of much suspicion on the part of the others, and an exaggerated idea of what a few men could do in the way of "collaring" the work led the weaker brethren to stampede. This tendency was greatly increased by the action of the government, who made it known that they had an army (it must have been a *very* small one) of men who were prepared to work the system anywhere. It is quite certain that if this had been the only weapon of the government, they could have been beaten easily had the profession felt the final offer to be so bad that it must be resisted at all hazards. The strongest weapon of the government was that the increased money offer and the alterations that the profession had secured in the bill had gradually led many doctors to the belief that the new system would pay them. Men who had, more or less willingly, been doing a large amount of contract practice at 3s. 6d. a head came to the conclusion that double that amount made it well worth while to accept the new service.

Fourthly, we had had no experience of fighting a government. In the earlier stages many doctors underestimated the magnitude of the task; later they unduly exaggerated it. The government (after the act had been passed and before it came into operation) astutely fostered the idea that the profession was attempting to upset the decisions of Parliament, and gained the sympathy of many of the public who had hitherto regarded the profession with the admiration the British public always shows for a good fighter. The British public loathe "direct action" because it is unconstitutional and even more because it is unsportsmanlike. They hold that when the decision of Parliament goes against you it is your business to try to alter the composition of Parliament or the opinion of the majority but not to refuse to accept its decision. It is impossible to exaggerate the importance of carrying public sympathy in such a fight. We had it with us all the time we were fighting for "free choice of doctor," adequate remuneration, and a reasonable voice in the way the professional side of the act was to be worked. We lost much of it when people began to think that we were irreconcilable and unconstitutional.

Finally, we had really done very well. No unprejudiced man now looking back at the bill as introduced and comparing it with the act as it passed could fail to see that our fight had greatly improved our position. The attitude of a considerable section of the public was well voiced by the *Westminster Gazette*, which said, apropos of a demonstration of disappointed doctors, "We all admire a man who does not know when he is beaten. The trouble about B. M. A. is that it does not know when it has won."

OUTLINE OF SYSTEM AS AT PRESENT CONSTITUTED

I come now to the present position. The Insurance Act of 1911 has been modified in important respects by subsequent Acts, but the plan of the medical service remains essentially the same. The Insurance Commissioners first appointed to administer the Act centrally have been merged in the Ministry of Health, and the efforts of the Ministry are being directed to the coordination of the medical attendance on insured persons with the various other forms of medical service, domiciliary, preventive and institutional.

The National Health Insurance Service is regulated by the various Acts, supplemented as regards details by Regulations made by the Ministry which have all the force of an Act of Parliament while they exist, though they can be altered much more easily. The service is administered locally by Insurance Committees, of which there is one in every County and County Borough, 200 in all in England, Scotland and Wales. There is no medical benefit in Ireland, and what I have to say does not apply to that country, where conditions economically, socially and medically, differ materially from those on this side of the Irish Channel. Irish insured persons receive sick benefit when they are ill, but their medical attendance is not provided by the Insurance Committees. The contributions of Irish insured persons are therefore less than those in Great Britain.

The Insurance Committees administer Medical Benefit; that is, they are responsible for the provision of medical attendance for every insured person in their area. The Approved Societies (the old Friendly Societies, some of the Trade Unions, and some other societies which are branches of the big Industrial Insurance Companies) administer Sickness Benefit and Maternity Benefit. That is, they distribute the appropriate sums of money to insured persons who are sick, and to the insured women and the wives of insured men when they are confined.

Every doctor on the British Register has a statutory right to be on the list of doctors for the insurance area or areas in which he or she practices, and he can only be removed from that list at his own wish or after an inquiry in which he is proved to the satisfaction of the Minister of Health to be unfit to be on that list. I will deal with the question of disciplinary inquiries separately. There are in England, Scotland and Wales 33,304 doctors on the Register, all of whom have a right to do National Insurance work. But you must exclude all the doctors who are not in general practice, as well as the considerable number who do not practice among the industrial classes. Probably 24,000 are in general

practice. Of these there are 12,850 actually doing National Insurance work (December, 1920). In the industrial and rural areas the great majority of the doctors are insurance practitioners. In many areas every doctor is so acting. In the towns with a more residential population, such as seaside and pleasure resorts, the proportion of doctors not doing this work is naturally greater. There is a considerable number of doctors who, though general practitioners in industrial areas, have always declined to take part in the service, and many of these are associated in the National Medical Union, to which the Insurance service has always been anathema. Its membership is probably well under 1,000, though no recent figures are available. Some doctors have refused to take part in the service because of a rooted disbelief in any form of contract practice, some because they took part in the fight against the Insurance Act and still object to it, some because the quality of their practice is such that they think they do better by declining to accept insured persons, as such, as patients.

The number of insured persons in Great Britain is approximately 12,500,000, so that the average number of insured persons in the care of one doctor is under 1,000. The lists or "panels" vary from one to two hundred to between 4,000 and 5,000; but these very big lists are *very* exceptional and will soon be unknown, as by the latest regulations no doctor, unassisted, may have more than 3,000 on his list (in some areas less, for there is local option as to the maximum number so long as it is not above 3,000). Doctors who last year had more than the maximum for their area have been given a year during which they may either reduce their lists, or take a partner or assistant.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

SILVER ARSPHENAMINE.—Argentum arsphenamina.—Sodium Silver Arsphenamine.—The sodium salt of silver-diamino-dihydroxy-arseno-benzene (the exact molecular formula has not been established). It contains approximately 20 per cent. of arsenic and approximately 15 per cent. of silver.

Actions and Uses.—Silver arsphenamine has practically the same uses as those of arsphenamine (see New and Nonofficial Remedies, 1921, p. 41). Its claimed advantage over other arsphenamine preparations is said to be due to the introduction of the silver (nonionizable form) as a component, thereby improving the chemo-therapeutic index, presumably because of the fact that silver and its compounds have a decided antisyphilitic influence.

In the presence of organic diseases of the heart, aneurysm, aortitis, as well as other parenchymatous diseased conditions of the glandular structures (liver and kidney), silver arsphenamine should be used only with great precaution and in small doses, the patient and all functions being observed most carefully.

If angioneurotic symptoms appear shortly after the injection, they should disappear rapidly; usually they may be avoided by the use of considerably diluted solutions. Susceptible individuals should not be treated during working hours. Hypersensitive patients should recline for some time after the injection. Argyria may occur rarely as a sequel to the use of the preparation.

Dosage.—From 0.1 Gm. to 0.3 Gm. for adults. The treatment should begin with an injection of 0.1 Gm., gradually increasing the dosage, at intervals of not less than four days, to 0.2 Gm. maximum in women and 0.3 Gm. in men. The larger doses are only indicated if the preparation is well tolerated by the patient. The dosages 0.2 to 0.25 Gm. may be given at regular intervals of four days and repeated until the desired therapeutic results have been achieved. Patients with disorders of the nervous system or those suffering from severe headaches should be given smaller initial doses, 0.05 and 0.075 Gm. When these amounts are well tolerated, larger doses may be employed, increasing very gradually.

In preparing the solution for injection, the ampule is first sterilized by immersion in alcohol for 15 minutes; after opening the ampule, the contents are sprinkled on the surface of 5 Cc. of cool (20-22 C.), sterile, distilled water, contained in a small sterile flask. The silver arsphenamine will go into solution rapidly; heating and shaking must be avoided. A quantity of cool sterile solution of sodium chlorid, 0.4 per cent., is then added so that the final solution will approximate 20 Cc. of liquid per decigram (0.1 Gm.) of the drug. *The solution must be administered promptly.*

Silver arsphenamine is prepared by treating the dihydrochloride of 3-diamino-4-dihydroxy-1-arsenobenzene (arsphenamine) with silver salts, converting the resulting compound to the disodium salt, and precipitating by means of alcohol, ether or acetone. The silver is not in an ionizable form.

Silver arsphenamine is a brownish-black powder, unstable in air; when properly dried it is free from lumps. It is readily soluble in water, yielding a dark brown solution (*distinction from arsphenamine, sodium arsphenamine and neoarsphenamine);* the solution has an alkaline reaction (*distinction from arsphenamine).*

The addition of dilute sodium hydroxide solution to 3 Cc. of an aqueous solution of silver arsphenamine (1 to 500) produces no precipitate (*distinction from arsphenamine*). On the addition of 1 Cc. of sodium carbonate test solution to 1 Cc. of silver arsphenamine solution (1 to 20) no precipitate is formed (*distinction from arsphenamine*). The addition of 1 Cc. of saturated solution of sodium bicarbonate to 1 Cc. of silver arsphenamine produces a precipitate.

One Cc. of an aqueous solution of silver arsphenamine solution (1 to 20) when slightly acidulated with dilute hydrochloric acid yields a precipitate (*distinction from arsphenamine*). This precipitate dissolves on the very careful addition of more acid; on heating no irritating odor of sulphur dioxide should be detected (*distinction from neoarsphenamine*). However, a large excess of hydrochloric acid yields a precipitate. The careful addition of 3 Cc. of acetic acid test solution to 3 Cc. of silver arsphenamine solution (1 to 20) produces a precipitate (*distinction from arsphenamine*), a portion of which dissolves on further addition of the acetic acid test solution. When 3 Cc. of silver arsphenamine solution (1 to 20) is heated with a few crystals of potassium permanganate (*without addition of alkali; distinction from arsphenamine*), the permanganate is reduced and ammonia is evolved which may be tested by placing a moistened piece of red litmus paper in the vapors; the litmus paper will turn blue. The precipitate thus formed may be treated with hot nitric acid test solution, boiling for a few minutes, then cooled, diluted and filtered; the filtrate will yield a precipitate of silver chloride on the addition of hydrochloric acid (*distinction from arsphenamine, neoarsphenamine, and sodium arsphenamine*). The addition of 1 Cc. of trinitrophenol (picric acid) test solution to 1 Cc. of silver arsphenamine solution produces a yellow precipitate (*distinction from neoarsphenamine*). The addition of 1 drop of ferric chloride test solution to 1 Cc. of silver arsphenamine solution (1 to 500) produces a deepening of the brown color, with a slightly purplish tint (*distinction from sodium arsphenamine*), the liquid finally becoming turbid; if a more concentrated solution of silver arsphenamine (1 to 20) is employed, an immediate precipitate is formed. The careful addition, drop by drop, of bromine water to 3 Cc. of silver arsphenamine (1 to 250) produces a reddish coloration, which is discharged by an excess of the reagent; there is also formed a precipitate which dissolves on addition of a large excess of concentrated ammonia water (*distinction from arsphenamine, neoarsphenamine and sodium arsphenamine*). To 1 Cc. of silver arsphenamine solution (1 to 20) add 1 Cc. of hydrogen peroxide test solution; a brown precipitate resembling silver oxide is formed and the supernatant liquid is almost colorless (*distinction from arsphenamine, neoarsphenamine and sodium arsphenamine*). To 1 Cc. of silver arsphenamine solution (1 to 20) add 1 Cc. of sodium chloride test solution; no precipitate forms (*absence of ionizable silver*). (A concentrated sodium chloride solution added to a strong solution of silver arsphenamine causes a precipitate to form, due to "salting out" action.)

Place about 0.2 Gm. of silver arsphenamine, accurately weighed, in an Erlenmeyer flask, and carry out the Lehman process (described in the Public Health Reports **33**: 1003 [June 21] 1918) through the point of digestion. While the solution is hot, add cautiously dilute hydrochloric acid solution in order to obtain the precipitation of silver chloride. Filter off the silver chloride through a tared asbestos gooch crucible, wash well and weigh; from the weight of silver chloride, the percentage of silver may be calculated. The filtrate from the silver chloride is carried on in the usual manner according to the Lehman method, thereby determining the arsenic content. The total silver content of the drug shall be approximately 15 per cent. and the total arsenic content shall be approximately 20 per cent.

To determine the toxicity, select not less than five healthy albino rats weighing between 100-150 grams (pregnant animals shall not be used), prepare a 2 per cent. silver arsphenamine solution and inject the solution into the saphenous vein of each rat at the rate of not more than 0.5 Cc. per minute. The rats shall not be anesthetized for the injection. At least 60 per cent. of the series of animals injected with the maximum tolerated dose should survive forty-eight hours from the time of injection; the maximum tolerated dose shall not be below 0.12 Gm. per kilo body weight.

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SATURDAY, MAY 7, 1921

As our readers know, there has been a general strike of printers involving most of the country. The cause of the strike was, briefly, that the employers asked for a reduction in the scale in accordance with an understanding that readjustment in the scale would be made in accordance with the reduction in the cost of living. A board of arbitration was created to make such adjustment. This board did not hand down its decision until Tuesday, May 3. The award was a reduction of $4.35 a week in the scale. Meanwhile the printers went on strike Monday morning, May 2, for a forty-four hour week. When the above award was made the unions claimed that it applied to a forty-four hour week. This required another adjustment, which was finally made Thursday night, May 5. The final adjustment means that the present scale per hour is the same as prevailed previous to the arbitration, i. e., since last October.

Our printing plant was closed from Monday until Friday. This explains the delay in issuing the present number and made it necessary to decrease the size of THE JOURNAL this week. The Boston number—a special number, almost double the size of the ordinary issue and originally scheduled for May 14—will be issued May 21.

NATIONAL HEALTH INSURANCE IN ENGLAND

Quite contradictory statements have been, and are still being, made respecting the effects of compulsory health insurance in England on medical practice and on the medical profession. Many of these statements have evidently been based on superficial knowledge. Believing that our readers would be interested in knowing how this form of practice actually is working out in England, and presuming the British Medical Association to be the most reliable source from which to obtain the information, we wrote to the secretary and asked him if he could secure for THE JOURNAL an historical and critical review of the subject. He kindly offered to write the article himself, and we print the first instalment this week.[1]

Dr. Cox first describes conditions in medical practice preceding the time when the national insurance act was passed. This was a happy inspiration, for we are concerned not alone with the question whether or not the scheme is working satisfactorily, but also with the extent to which conditions in England resemble those prevailing in this country. Even a superficial reading of his introduction will emphasize what has been known to those who have investigated the matter, that the conditions of medical practice which existed in England have no counterpart whatever in this country. Granting—although it is not universally accepted—that compulsory health insurance was a wise solution of their problems, it is not a solution of our problems, because we have not the same conditions as those which affected the British profession and the British public. Friendly societies (sick and death benefit clubs), lodge practice and contract practice in their worst forms were almost universal; competition by physicians for the position of club doctor was common, and the result was not only low fees but also work done in a perfunctory manner—good for neither doctor nor patient. The whole business naturally had a demoralizing influence on the medical profession and on the practice of medicine.

For the purpose of this comment, the English profession may be grouped into three classes: (1) those whose practice was limited to friendly society, lodge and contract work, and who now devote themselves to panel or insurance work; (2) those whose practice included the foregoing and also private practice, and (3) those who did private practice only, usually among the well-to-do. Included in the third group would be surgeons, ophthalmologists and others doing special work. So far as concerns the first group, the national insurance act evidently has been beneficial and has brought about more satisfactory conditions of practice, and better pay. This can easily be believed when the old conditions are recalled. The third group would be affected practically not at all. It is in the second, and presumably the largest numerically, that we might expect a divided opinion. But evidently, from Dr. Cox's article, there is no serious opposition to the present scheme even in this group.

Taking it all in all, therefore, the reading of the complete article—only one third appears in this week's issue—will make it quite evident that while compulsory health insurance may be a good thing in England, conditions in this country at this time are such that there is neither a need nor a desire for it. It is not worth while to take a nauseous medicine to cure a disease that does not exist. Nevertheless, we have more than an academic interest in the problems of our British confrères and how they have solved, or are solving, them.

1. Cox, Alfred: Seven Years of National Health Insurance in England: A Retrospect, this issue, p. 1308.

Our thanks are due Dr. Cox for the complete way in which he has made it possible for us to place the facts before our readers.

VARIABILITY IN THE CLINICAL TYPES OF SYPHILIS

The progress of the disease which follows a microbial invasion of the body is usually characteristic, and the manifestations ordinarily make their appearance in such fixed succession that the deviations from the usual course of infections are not so readily appreciated. Nevertheless, in many disorders diversity is quite as frequent as uniformity of phenomena. For example, to quote a recent writer, syphilis in the human subject is characterized by the occurrence of a succession of lesions of various types which follow one another in a more or less orderly progression from the chancre to the terminal stages of the infection; and while to each period of the infection certain types of lesions have been assigned, the order of their appearance is not entirely fixed, nor can one say just what lesions may be expected to occur in a given case.

It must be remembered that the invading microorganism is not the only factor that may be subject to variation and thus change the course of the disease which it initiates. Undoubtedly there was a time, earlier in the history of bacteriology, when the influence of bacterial variability on differences in virulence was not adequately appreciated. But the tissues and organs likewise present a factor of inconstant resistance often quite as significant as the invasive property of the infectious agent. Hence it has well been said that the character of an infection, the severity of the reaction and the ultimate outcome are determined by "the balance which is struck between the virulence of the entering germ and the protective mechanism opposed to it."

Factors that may enter into the production of clinical variation in syphilis have been demonstrated in the recent experimental studies of Brown and Pearce [1] at the Rockefeller Institute for Medical Research. They [2] have noted that it is possible to convert a disease that is usually localized into a generalized disease by diminishing or suppressing the primary reaction. In rabbits this was accomplished by purposely varying the testicular reaction. In these animals the occurrence or nonoccurrence of generalized lesions, as well as the character of the latter, appears to depend primarily on a protective reaction which takes place at the primary foci of infection, and to some extent on the relative susceptibility of other tissues. For example, when both testicles are inoculated and the lesions there allowed to progress, a high degree of protection seems to be conferred on other but by no means all tissues of the body. In the experiments of Brown and Pearce, some of the inoculated animals were castrated early, others late; in still others, the testicular reaction was suppressed by the use of arsenicals. By such variations, different types of infection were produced; and in this way it was found that there was a definite sequence of tissue involvement or of tissue reactions which made it possible to produce infection or to confer protection on a given group of tissues according to the nature of the means employed. Correspondingly wide variations in the clinical type of syphilis may be produced. Of course, the added possibility of variations in the biologic properties of the infecting spirochetes must also not be overlooked.

1. Brown, W. H., and Pearce, Louise A.: Experimental Production of Clinical Types of Syphilis in the Rabbit, Arch. Dermat. & Syph. **3**: 254 (March) 1921.

2. Brown, W. H., and Pearce, Louise: The Resistance (or Immunity) Developed by the Reaction to Syphilitic Infection, Arch. Dermat. & Syph. **2**: 675 (Dec.) 1920.

Current Comment

AIR EMBOLISM FOLLOWING THORACENTESIS

Puncture of the chest, frequently made in the diagnosis and treatment of chest diseases, is usually considered a safe procedure. Accidents, however, do occur. Alarming symptoms and even sudden death have followed the introduction of a hollow needle into the chest cavity, and the absence of any striking changes at necropsy has led to the assumption by some that such deaths were due to a nervous reflex from the pleura acting on the cardiac and respiratory mechanisms by way of the phrenic and vagus nerves. If this view is accepted, accidents may neither be foreseen nor prevented. Sudden death has also occurred, however, in patients previously subjected to thoracentesis many times, and a consideration of cases of this type indicates that there are factors other than a pleural reflex which may be responsible. Following exploratory puncture of the chest with a hollow needle an immediate cerebral disturbance may be set up, giving rise to signs both of paralysis and of excitation. The disturbance may be traced to the entrance of air into one of the pulmonary vessels, the air passing to the cerebral vessels in sufficient amount to impair the circulation. Air emboli may be found also in the coronary arteries and in the superficial blood vessels of the skin. The symptoms of air embolism vary in degree, but in all patients the onset is sudden. The patient may complain of pain in the chest, giddiness, black spots before the eyes, and faintness. In the severer cases there may be nystagmus, and irregular tonic and clonic convulsions of the muscles of the extremities, alternating with paresis. There is dyspnea at first, followed by stertorous and periodic breathing. Death may supervene after a period of hours or days. When consciousness is retained or recovery follows, there may still remain irritation of the cerebral cortex, such as disturbances of sensation, vision or speech. After death, careful examination may reveal gas bubbles in the cerebral or coronary vessels. The amount of air necessary to cause symptoms appears to be small, and it presumably may gain entrance as the hollow needle enters a blood vessel and negative pressure is created by deep inspiration. By careful attention, air embolism in thoracente-

is may readily be prevented. It has been suggested [1] hat a safe way of exploring the chest is "to attach to he outer end of the tubular needle a rubber tube and unnel filled with salt solution and freed from air ubbles. As the needle is inserted, the fluid in the unnel should be held a little above the level of the oint of the needle. If serum or pus or blood is reached n the pleural cavity, the fluid will return through the alt solution, and is recognized by inserting a glass tube n the rubber tubing close to the needle. By lowering he funnel the pleural exudation can be siphoned off. If the point of the needle has penetrated the lung, no harm will come from some of the salt solution running nto a vein." In case thoracentesis is made with syringe nd needle and a little bloody fluid is drawn into the yringe, it is unwise to disconnect the syringe and leave he needle in place, unless care is taken that no air can enter the needle. While it is true that accidents are not frequent relative to the total number of chest punctures, yet it is true also that air embolism has occurred often enough to make the possibility a significant danger when thoracentesis is being performed.

THE FUNGUS PARASITE OF THRUSH

A number of diseases of more or less obscure etiology, notably pellagra and sprue, include stomatitis among their conspicuous symptoms. The occurrence of exfoliations of the mucous membrane in the mouth and the development of lesions there has, for example, caused the designation of "Ceylon sore mouth" to be applied in the tropics to cases of sprue. Thrush, on the other hand, is a form of stomatitis characterized by the now admitted presence of some causative microbiotic organism. Although the discovery of this fact has a comparatively remote history, being attributed to Berg [2] in 1839, the designation of the inciting cause as a fungus to which the name *Oidium albicans* has been assigned is attributed to Robin at a later period. Uncertainty as to the identity of the causative organism has been occasioned by the finding of more than one form of invader, sometimes filamentous types, sometimes yeastlike cells, sometimes both being present in the membranous coatings. To explain these seeming discrepancies, it has been suggested that the fungus may be pleomorphic, presenting itself under two forms. This admitted property of certain micro-organisms has lately been appealed to in other cases in which contending claims as to the nature of infectious agents in disease have been at issue. In this connection one recalls the ardent disputes in relation to the etiologic factor of epidemic poliomyelitis. Working in the department of bacteriology at the University of Minnesota, Fineman [3] has apparently succeeded in furnishing a tenable explanation of the conflict of facts and opinions regarding the parasite of thrush. The latter is correctly classified in the genus *Oidium*. The organism tends to assume a mycelial form in liquid mediums, in mediums containing complex carbohydrate, in mediums of low oxygen tension, and in mediums of low surface tension, while the unicellular or yeastlike form occurs in solid mediums, in the presence of simple carbohydrates, an abundance of oxygen, or mediums of higher surface tension. These factors, Fineman adds, may be interrelated, while other factors as yet unknown may affect the morphology. It is suggested that pleomorphism of this organism is an attempt at adaptation, the mycelial form developing in relatively unfavorable conditions.

1. Medical Science Abstracts and Reviews **3**: 521 (March) 1921.
2. Berg: Ueber die Schwämmchen bei Kindern, Bremen, 1848.
3. Fineman, Bertha C.: A Study of the Thrush Parasite, J. Infect. Dis. **28**: 185 (Feb.) 1921.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Annual Meeting of Physicians.—The State Medical Association held its fifty-fourth annual session at Montgomery, April 19-21, under the presidency of Dr. Louis William Johnstone, Tuskegee. The program included the following papers by visiting physicians: Dr. Charles A. Waters, Baltimore, on "The Value of the X-Ray in the Diagnosis of Diseases of the Internal Organs"; Dr. Fred H. Clark, Oklahoma, "Surgical Considerations of the Hypertrophied Thyroid Gland"; Dr. H. Dawson Furniss, New York, "Renal Tuberculosis"; Dr. James R. Garner, Atlanta, Ga., "Fractures Requiring Operative Treatment"; Dr. Frank R. Ober, Boston, "The After Care of Poliomyelitis"; Dr. Edward H. Cary, Dallas, Texas, "Some Interesting Phases of the Nasal Question"; Dr. John Lovett Morse, Boston, "The Fundamental Principles of Artificial Feeding of Infants"; Dr. James S. Stone, Boston, "Umbilical Infections of the New-Born"; Dr. Frederick R. Green, Chicago, "Social Responsibilities of Modern Medicine." The Jerome Cochran Lecture, an annual feature in memory of the founder of the association, was delivered by Dr. J. Whitridge Williams, Dean of Johns Hopkins, Baltimore. His subject was "A Critical Review of Twenty-One Years' Experience with Cesarean Section." The association passed resolutions memorializing the state authorities to use their best efforts in order that Dr. William C. Gorgas be designated as one of Alabama's representatives in the "Hall of Fame," and that the new state laboratory soon to be erected in Montgomery be named the Jerome Cochran laboratory in recognition of Dr. Jerome Cochran of Mobile, father of the Alabama medical system. The association voted unanimously to instruct its representatives at the annual meeting of the American Medical Association to vote against any proposal for the enactment of compulsory health insurance laws. Dr. Dyer F. Talley, Birmingham, was elected president for the ensuing year; Dr. James A. Howle, Eclectic, vice-president, and Dr. Henry G. Perry, Montgomery, secretary.

CONNECTICUT

Department of Pharmacology and Toxicology Established at Yale University.—As one step in the reconstruction plans of the university the subjects of pharmacology and experimental medicine have been combined as a university department with the title of Department of Pharmacology and Toxicology, the chairman of which is Frank P. Underhill. The functions of the new department are threefold: teaching, research and service to the community and state. Special attention will be devoted to the training of future investigators and teachers, and to the chemistry and physiology of the action of drugs and poisons.

GEORGIA

Making the Roads Safe.—Road-building gangs work under conditions which often compel them to scatter pollution, which may then be carried by flies to kitchens or be ground into the soil and picked up by the bare feet of children, causing hookworm and other intestinal diseases. Malaria also is spread by the ignorance and carelessness with which mosquito-breeding places are created. Dr. Thomas F. Aber-

crombie, state health officer, has therefore suggested that convicts and other gangs working along the roads be required to fill up borrow pits, place culverts properly, clean ditches and attend to other important details to make the roads of the state safe for the people.

ILLINOIS

Old Age No Protection Against Smallpox.—Smallpox draws no age limit. This has been clearly demonstrated by several cases among unvaccinated persons of advanced years that have recently been reported to the state department of public health. Two women of Loogootee, one 92 years old and the other 60, who had not been vaccinated since infancy were victims. A man of 80, at Geff, and one of 72 at Xinia who had never been vaccinated were also attacked by this loathsome disease. Reports show that smallpox has been generally more prevalent in Illinois during the past winter than previously.

Leprosy Causes Undue Alarm.—Considerable alarm and publicity were recently occasioned by the escape of a leper from quarantine in East Moline. Vigorous and earnest efforts to locate the leper were immediately instituted and isolated quarters and a special guard at the state buildings in Watertown are ready in the event of his apprehension. While the search thus far has proved futile and although the case was positively demonstrated as one of leprosy, Dr. Isaac D. Rawlings, director of the state department of public health, takes the position that a single case of leprosy is much less a menace to the public health and is a source of decidedly less danger than the constant exposure to such common diseases as smallpox, diphtheria, scarlet fever, and pneumonia. Smallpox and diphtheria showed a marked increase during the past winter and both diseases are positively preventable. The other common communicable diseases respond readily to control measures and should elicit much greater public concern than a case of leprosy. Leprosy is only mildly contagious in the United States. An investigation into the situation at East Moline brought out the facts that the leper in question is a Greek by the name of Peter Anostassoboulous and that he had been placed under temporary quarantine while awaiting the completion of a United States leprosy colony in Mississippi. Evidence seems to indicate that Anostassoboulous has returned to Greece.

INDIANA

American Hospital Association.—Arrangements have been made by Dr. Andrew R. Warner, Chicago, executive secretary of the American Hospital Association, for the 1921 Conference in the West Baden Springs Hotel, West Baden, September 12 to 17.

Woman Physician on State Board.—Governor McCray has announced the appointment of Dr. Ada McMahan of Lafayette as a member of the state board of health. She is the first woman member. Dr. Hugh A. Cowing of Muncie was reappointed on the board.

Medical Society Elects Officers.—The Third District Medical Society met in New Albany recently and elected the following officers: Dr. John I. Mitchell, Salem, president; Dr. Claude B. Paynter, Salem, secretary. The next meeting will be held at Salem in October.

Personal. Dr. Frederick E. Jackson, resident physician at the City Hospital, Indianapolis, has been granted a leave of absence by the board of health to take a postgraduate course in London, England. Dr. Louis Reifeiss was appointed to fill the vacancy during the absence of Dr. Jackson. The board authorized the use of the hospital as a meeting place during the state clinical conference of the American College of Surgeons next Monday and Tuesday.

Hospital Association Organized.—The Indiana State Hospital Association was organized April 27 at Lafayette. More than one hundred doctors, nurses, and hospital superintendents from various parts of Indiana were there. The following officers were elected: Dr. George F. Keiper, Lafayette, president; Miss Clara B. Pound of the Reid Memoral Hospital, Richmond, first vice-president; Dr. William O. Gross, Fort Wayne, second vice-president; Miss Anna Mendenort of the Home Hospital, Lafayette, secretary; Mrs. Ethel P. Clark of the Robert W. Long Hospital, Indianapolis, treasurer. The object of the association is to promote cooperation of hospitals throughout the state for common welfare.

IOWA

Prison Sentence for Physician.—It is reported that Dr. F. Pat W. Lindsay, Davenport, who was indicted by the federal grand jury on a charge of obtaining prohibited drugs illegally has been sentenced to a year in the federal prison at Fort Leavenworth, Kan. Dr. Lindsay's case was continued last year to permit him to take treatment for the drug habit, which the prosecuting attorney claims he has failed to do.

LOUISIANA

Dyer Medical Forum.—The first scientific meeting of the Isadore Dyer Medical Forum, which was recently organized by students of Tulane Medical College, New Orleans, in memory of the late dean, was held last week. Dr. Miranda, Vera Cruz, who was a member of the commission to investigate yellow fever in Mexico, gave a talk on some hitherto unpublished facts concerning yellow fever.

State Medical Society Meeting.—There was held at New Orleans, under the presidency of Dr. Homer J. Dupuy, New Orleans, April 19-21, the forty-second annual convention of the state medical society. Dr. Joseph N. Roussel, New Orleans, made a report on two cases of leprosy apparently cured by anthrax vaccine, since they are free of any of the cutaneous manifestations of the disease after two years. More than 1,000 Louisiana physicians acting through the house of delegates of the state society asked the constitutional convention to abolish the license fee for the practice of medicine now exacted by the state. Officers elected for the ensuing years are: Dr. Joseph E. Knighton, Shreveport, president; Drs. William H. Harris, New Orleans; R. Bruce Wallace, Alexandria, and Kirby A. Roy, Mansura, first, second and third vice-presidents; Dr. Paul T. Talbot, New Orleans (reelected), secretary-treasurer. The 1922 convention will be held at Alexandria. Drs. William H. Seeman and Lawrence R. DeBuys, New Orleans, were named delegates to the American Medical Association convention.

MARYLAND

Hygiene Society Elects.—At the annual meeting of the Maryland Social Hygiene Society, held at the Southern Hotel, April 29, the following officers were elected: Dr. Hugh Hampton Young, president; Mr. Alan Jonston, Jr., secretary, and Mr. Robert Garrett, treasurer.

Typhus Fever in Baltimore.—A case of typhus fever was reported during the past week to the Baltimore City Health Department by a local hospital. Dr. C. Hampson Jones, Health Commissioner, had a thorough investigation made of the case to determine the source of infection. Every precaution had been taken by the hospital to prevent its spread. It is the first case to be reported in the city since last fall and is a mild infection and such as has existed in this country for years.

Personal.—Dr. William Royal Stokes, who has been city and state bacteriologist since 1896, is suffering from a breakdown occasioned by overwork and has entered the Johns Hopkins Hospital for a rest. Dr. Stokes has been granted an indefinite leave of absence by the Baltimore City Health Department and may not return to duty until fall.——Dr. Irwin O. Ridgely, medical superintendent of Mercy Hospital, has tendered his resignation to take effect May 15, when he will enter private practice. Dr. Ridgely has been head of the Mercy Hospital staff since June, 1919.

Officers of the Medical and Chirurgical Faculty Elected.—At the one hundred and twenty-third annual meeting of the Medical and Chirurgical Faculty of Maryland, held April 26, 27 and 28, at the Faculty Building, Baltimore, the following officers for the ensuing year were elected: Dr. Arthur H. Hawkins, Cumberland, president; Dr. William R. White, Ellicott City, Dr. Harry Friedenwald, Baltimore, Dr. Josiah S. Bowen, Mount Washington, vice presidents. Dr. J. Albert Chatard, Baltimore, was re-elected secretary and Dr. Charles Emil Brack, Baltimore, treasurer. Dr. Henry T. Collenberg and Dr. Eldridge E. Wolff, Cambridge, were elected to the State Board of Medical Examiners.

NEW YORK

New York City

Surgical Society Elects.—The New York Surgical Society, at its regular meeting held in the New York Academy of Medicine, April 27, elected the following officers for the ensuing year: president, Dr. John A. Hartwell; vice-president, Dr. Eugene H. Pool; secretary and treasurer, Dr. Seward Erdman.

Alcoholic Cases Increase in Kings County.—A recent report submitted by Dr. Mortimer D. Jones, medical superintendent of the Kings County Hospital, to Bird S. Coler, commissioner

of the department of public welfare, states that 650 persons were admitted to the alcoholic wards during the nine months preceding April 1, while during the corresponding period of 1919-1920 only 299 cases of this kind were admitted. The report also states that the cases have become more acute in character.

Recommendations Adopted by Medical Society of the County of New York.—At its stated meeting, held April 25, the Medical Society of the County of New York adopted a recommendation of its Comitia Minora urging that the profession withdraw its support of commercial laboratories, and that wherever possible patients be referred to laboratories under the supervision of competent and qualified medical men. The Comitia Minora, sitting as a reference committee on the resolutions offered at the March meeting of the society, proposing a comprehensive survey of medical practice, the establishment of a weekly news organ, and recommending the appointment of an executive secretary in common for the state and county societies, recommended that no action be taken on these resolutions for the following reasons: (1) To undertake a survey of medical practice as outlined in the resolutions would require an appropriation beyond the means of the society; (2) the matter of a new organ was now pending before the Committee on Civic Policy; (3) the office of executive secretary for the state society was created by the last House of Delegates; (4) the income of the county society does not warrant such increased expenditure.——Resolutions were introduced recommending that resolutions be introduced into the state society instructing delegates to the coming meeting of the American Medical Association to oppose all resolutions that might be introduced into that body favoring health centers.——Another resolution, introduced by Dr. John P. Davin, was to the effect that, whereas, the proposed amendment to the Volstead act would prevent the manufacture of alcohol and would nullify the right of the physician to prescribe alcohol, and whereas this bill had been presented without any scientific data to show reason why such action should be taken, Congress be urged to delay action until the medical profession had had the opportunity to pass upon this measure, at the coming meeting of the American Medical Association.

GENERAL

"Dr." Hugh Russell Not a Physician.—For the information of those following the testimony in the Stillman case, it should be known that "Dr." Hugh Russell of Buffalo, who, it is reported, divulged a confidential professional statement, is not a physician but is listed as an osteopath and chiropractor.

General Sawyer Opens Offices.—Brig.-Gen. Charles E. Sawyer, personal physician to President Harding, has been assigned three rooms on the first floor, northeast corner of the State, War and Navy Building. The offices are located in Room 244, and were formerly occupied by General Sheridan, General Schofield and General Miles as headquarters of the Army. From these quarters General Sawyer will direct his activities for the establishment of a department of public health and for the arrangement of better hospital facilities for disabled soldiers and sailors.

Volstead Presents Supplementary Measure.—A supplementary measure to the National Prohibition Act forbidding the sale of beer upon a physician's prescription has been presented to the House of Representatives by Congressman Volstead, chairman of the House Committee of the Judiciary. The proposed bill is directed to annul the recent ruling of Former Attorney-General Palmer allowing the sale of beer in the limited quantity of one bottle per day for medicinal purposes. It does not interfere with the prescribing of wines by doctors having obtained the necessary license. The measure also gives the Prohibition Commissioner the authority to revoke and cancel licenses granted physicians who violate the law in prescribing liquor. A suspension of the license is also provided and the holder of the permit is given thirty days notice to show cause why the permit should not be canceled. This machinery of law is placed under the authority of the Attorney-General.

Proposed Amendment to Sheppard Bill.—The equipment and operation of hospitals in all the counties of the United States for the care of maternity cases and the treatment of children is provided in an amendment to the Sheppard bill for the protection of maternity and infancy introduced in the Senate by Senator Moses. Instead of proposed cooperation between the federal and state governments the Moses amendment limits the cooperation to the federal and county governments stipulating that the federal government shall appropriate $5,000 for equipping a county hospital, if an equal amount is furnished by any county and that an additional $5 000 for maintenance every year shall be furnished by the federal government provided the amount is duplicated by the county. Preference shall be given to the care of maternity cases and the treatment of children in these hospitals and a course in elementary nursing covering a year's training shall be conducted. The operation of the proposed act shall be carried out by the Surgeon-General of the U. S. Public Health Service.

Medical Veterans of the World War.—There will be a meeting of the Association of the "Medical Veterans of the World War" on the day preceding the meeting of the scientific sections of the American Medical Association, the time and place to be announced later. Col. V. C. Vaughan is president of this association and Col. F. F. Russell, secretary. All medical officers, contract surgeons of the U. S. Army, and acting assistant surgeons in the U. S. Public Health Service, who have served in the Medical Corps of the U. S. Army, U. S. Navy and U. S. Public Health Service, and all medical members of local boards, members of medical advisory, and district boards, officially appointed by the President of the United States, the Provost Marshal General of the U. S. Army and the governors of the various states are eligible to membership in this organization. The object of this association "is to perpetuate fellowship, to prepare history, secure cooperation for the mutual benefit of the medical men who served in the World War, 1914-1918, and for the mutual improvement and social intercourse of its members."

Philippine Death Rate.—According to the advance report of the Philippines Bureau of Health, for the year 1920, a great improvement in sanitary conditions at Manila was apparent during that year. The death rate was lower than in the four preceding years, being only 26.6 per thousand to an average of 30.27 during the four previous years. The infant death rate also showed a great decrease, being 164.76 against an average in previous years of 326.30 per thousand births. There were only five cases and four deaths from smallpox at Manila, but in the provinces there were several thousand cases and deaths but not so many as in previous years. There were twenty-four cases and three deaths from cholera at Manila, but both at Manila and the provinces the death rate was lower than in the two previous years. Dysentery continues to prevail in the provinces although almost absent from Manila. On the other hand, typhoid fever showed an increase at Manila and a decrease in the provinces. There were also more cases of rabies and some of beriberi. Tuberculosis and malaria continue to be the diseases that cause most deaths in the Philippines.

FOREIGN

Officers of Portuguese Association.—At a general meeting held by the Association of Portuguese Physicians the following officers were elected: A. Neves, president; Anacleto de Oliveira, vice president; Lobato do Carmo and F. Martins Pereira, secretaries.

Government Services

Open Nurses' Training Schools

Due to the increasing demand for nurses in the government hospitals the U. S. Public Health Service has opened two training schools for nurses in its hospitals. One will be inaugurated at Fox Hills, Staten Island, because of its nearness to New York and the other will be located at Fort McHenry near Baltimore. Plans are under consideration for the opening of other nurses' schools as conditions permit in such other hospitals as may be fitted for the work.

Orders Clinic at Army Hospitals

Surg.-Gen. Merritte W. Ireland has given instructions that wherever material is available a clinic be held once a week in army hospitals and attended by all medical officers. All interesting cases are to be presented, examined and discussed. Demonstrations are also to be given in operating-room technic, new procedures in laboratory methods and in roentgen-ray laboratories. In all those cases terminating in death the officers are to be assembled for discussion of the pathologic report and the clinical findings. Conferences frequently on sanitation and communicable diseases are ordered in all the army hospitals.

Marriages

ARTHUR B. GLASCOCK, Baltimore, to Mrs. Eva Modisett Davisson of Rushville, Neb., at Mountain Lake Park, Md., April 6.

HORACE S. VILLARS, Major, M. C., U. S. Army, to Miss Alice E. Stacy of Minneapolis and New York, February 11.

EDMUND R. P. JANVRIN, New York, to Miss Elizabeth Train of Brookline, Mass., April 16.

CHARLES F. W. HORN, New York, to Miss Helen M. Barratt of Scranton, Pa., March 27.

WILLIAM THOMAS PATTON to Miss Alice St. Martin, both of New Orleans, April 20.

WILLIAM N. GOONE to Miss Fae Eisenstein, both of Chicago, April 10.

Deaths

Joseph Mora Moss ⊕ Washington, D. C.; Cooper Medical College, San Francisco, 1894; aged 54; assistant chief medical officer of the Federal Board for Vocational Education, Washington, D. C.; instructor in clinical gynecology from 1895 to 1898 in the University of California, Berkeley and San Francisco; major, M. C., U. S. Army, and discharged, Dec. 14, 1918; died, April 23.

John McLean, Chicago; Rush Medical College, 1863; aged 83; a member of the Illinois State Medical Society; surgeon and medical adviser for the Pullman Car Company for forty years, and at one time local surgeon for the Illinois Central Railroad; a veteran of the Civil War; died in St. Mary's Hospital, Centralia, Ill., April 25.

Edward Constant Seufert ⊕ Chicago; College of Physicians and Surgeons, Chicago, 1893; aged 57; professor of clinical medicine in the Chicago College of Medicine and Surgery; at one time physician at the American and Norwegian-American hospitals and pathologist to St. Mary's of Nazareth Hospital; died, April 27, from carcinoma of the stomach.

Davis Scott Ray ⊕ Cuba, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1892; aged 59; secretary of the Fulton County Medical Society, Fulton County Tuberculosis Association, and Fulton County Physicians' Association; at one time coroner of Fulton County; died, April 16, from heart disease.

William Plummer Swett, Southern Pines, N. C.; University of Vermont, Burlington, 1876; aged 67; a member of the Medical Society of the State of North Carolina; died, April 13, from heart disease, when fire threatened to destroy the hotel where he had been called to attend a patient.

David Fount Howard, Brookfield, Mo.; Washington University Medical School, St. Louis, 1903; aged 51; a member of the Missouri State Medical Association; local surgeon for the Chicago, Burlington and Quincy Railroad; died, April 22, from arteriosclerosis.

Harrie Augustus Littlefield, Newberg, Ore.; University of Oregon, Portland, 1897; aged 46; major, M. C., U. S. Army, and discharged, June 5, 1919; a veteran of the Spanish-American War; died at Tucson, Ariz., April 15, from pulmonary tuberculosis.

Murray Wisner Seagers ⊕ St. Augustine, Fla.; University of the City of New York, 1895; aged 49; a member of the staff of Flagler Hospital, St. Augustine; chief surgeon of the Florida East Coast Railway; died, April 19, from ulcer of the stomach.

Dora Greene Wilson ⊕ Kansas City, Mo.; Northwestern University Woman's Medical School, Chicago, 1886; aged 56; president of the Jackson County Medical Society in 1917; died at Michael Reese Hospital, Chicago, April 4, from uremia.

James M. Daly, Little Rock, Ark.; University of Arkansas, Little Rock, 1897; aged 52; a member of the Arkansas Medical Society; secretary of the Clark County Medical Society in 1920; died, April 17, from cerebral hemorrhage.

Edward Douglas Beauchamp, Bloomfield, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1882; aged 62; at one time president of the Davis County Medical Society; also a druggist; died, April 1, from pneumonia.

Maxim D. Romm, New York; University of Wurzburg, Germany, 1882; aged 67; a member of the Medical Society of the State of New York; at one time visiting physician to Beth Israel Hospital; died, April 22.

James Anderson McKee ⊕ Sacramento, Calif.; California Medical College, Oakland, 1880; Rush Medical College, 1886; aged 66; for two terms a member of the state senate; died, April 20, from cerebral hemorrhage.

William Marshall Barron, Latrobe, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1892; aged 58; a member of the Medical Society of the State of Pennsylvania; died, April 15, from typhoid fever.

Horace Lee Husted, Muscatine, Iowa; State University of Iowa, Iowa City, 1909; aged 37; a member of the Iowa State Medical Society; at one time health officer of Muscatine; died in Iowa City, April 23.

Thomas Alexander Buys, Brooklyn; New York Homeopathic Medical College and Hospital, New York, 1897; aged 50; obstetrician to Cumberland Street Hospital, Brooklyn, for twenty years; died, April 20.

John C. Hartman, Jr. ⊕ North Braddock, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1899; aged 46; a member of the North Braddock council and school board for two terms; died, April 23.

Edwin A. McCornack ⊕ Elgin, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1881; College of Physicians and Surgeons, Chicago, 1889; aged 66; died, April 14, from heart disease.

Claiborne H. Mannar, Rockville, Md.; Bellevue Hospital Medical College, 1898; aged 59; a member of the Medical and Chirurgical Faculty of Maryland; died, April 13, from cerebral hemorrhage.

William Seldon Peirce, Warren, Pa.; University of the City of New York, 1884; aged 63; at one time coroner of Warren County; died, April 13, from cerebral hemorrhage.

B. Howard Lawson, Detroit; Homeopathic Hospital College, Cleveland, 1871; aged 90; at one time vice president of the staff of Grace Hospital, Detroit; died, April 15.

David Rossmann, Wilmington, Del.; Medico-Chirurgical College of Philadelphia, 1912, aged 31; a member of the Delaware State Medical Society; died, April 10.

Harry J. Arnold, Columbus, Neb.; College of Physicians and Surgeons, Baltimore, 1890; a member of the Nebraska State Medical Association; died, April 13.

Samuel M. Gladney, Terrell, Texas; University of Louisville, Ky., 1877; aged 66; a member of the State Medical Association of Texas; died, April 13.

Henry N. Drewry, Altamont, Ill.; Chicago Medical College, 1876; aged 73; died at the Alton (Ill.) State Hospital, April 10, from cerebral hemorrhage.

David Franklin, Louisville, Ky.; Hospital College of Medicine, Louisville, Ky., 1882; aged 66; was found dead, April 7, from accidental asphyxiation.

William P. Murray, Lynndyl, Utah; Ensworth Medical College, St. Joseph, Mo., 1905; aged 52; also a druggist; died in Glendale, Calif., February 8.

Edward S. Kimball, Washington, D. C.; Georgetown University, Washington, D. C., 1866; aged 76; a veteran of the Civil War; died, April 12.

Miles Minor Glass, East St. Louis, Ill.; Rush Medical College, 1886; aged 60; also a druggist; died, March 29, from cerebral hemorrhage.

George Loren McCoy, Philadelphia; University of Pennsylvania, Philadelphia, 1896; aged 48; died, April 6, from uremia.

Charles A. Koder ⊕ Philadelphia; Jefferson Medical College, 1882; aged 60; died, April 9, from cerebral hemorrhage.

George Wooden, Crossville, Ill.; Kentucky School of Medicine, Louisville, 1889; aged 58; died in Oklahoma, recently.

Aurelius Calvin Sherwin, Boston; University of Vermont, Burlington, 1872; aged 80; died, April 8, from pneumonia.

Aaron Markoff, Providence, R. I.; University of Tomsk, Siberia, 1880; aged 65; died at Miami, Fla., April 8.

H. L. Lamar, Rockport, Ind.; Hahnemann Medical College and Hospital, Chicago, 1886; aged 71; died, April 7.

Cornelius Lydecker Demarest, Washington, D. C.; Bellevue Hospital Medical College, 1879; died, April 2.

Joshua H. Nunn, Halls, Tenn.; University of Louisville, Ky., 1885; aged 58; died, April 3.

H. L. Jacobs, Harrisburg, Ark. (license, Arkansas, 1903); aged 69; died, April 10.

⊕ Indicates "Fellow" of the American Medical Association.

Correspondence

THE SHEPPARD-TOWNER BILL

To the Editor:—Perhaps I am undertaking an ungrateful task in attempting by this means to combat what seems to have been a great popular sentiment for the Sheppard-Towner bill. I am encouraged to do this, however, by the appearance in THE JOURNAL, April 30, of a letter by Mrs. William Lowell Putnam of Boston which demonstrates quite clearly that there is at least one courageous soul among the sex, whose desire for better things is based on practical considerations and common sense rather than on unreasoned sympathy and popular glamor. Mrs. Putnam is well qualified to speak on the issue. She has been closely identified with child welfare and maternity work for many years, and has shown an interest and knowledge of the medical problem which is not, unfortunately, found to be a general characteristic of those who give themselves up to the study of this problem. This is shown in her statement that the social and economic matters affecting pregnancy are not of greater importance than the purely medical. It is most unfortunate that the medical profession has not contributed to this view by its own efforts but has relegated a great deal of the agitation on the subject to lay persons. A great many additional objections may be added to those brought forward by Mrs. Putnam against this contemplated measure. No one can deny that proper or sufficient obstetric care is inaccessible to large numbers of our people, and that the United States occupies a position in the column of morbidity and mortality with reference to pregnancy which is not commensurate with its standing as a leading nation.

It may be stated that there is no one factor of as great importance to the health and economic status of a country as a mother well qualified physically to bear and bring up healthy children. The entire fabric of a nation so closely depends on this relationship that there would seem to be no worthier governmental function than to provide or supervise it. But the question remains, Can this be accomplished by the mere appropriation of funds along the lines indicated in this measure, if expended by and supervised by a minor government bureau? Ought we not to look on proper maternity care for the people as one of a number of functions that should be relegated not to a minor, but to a major department, equal in standing and importance to those that are now existing. Without a further scattering of such efforts, an attempt should rather be made to coordinate them under a national department of health or public welfare.

The Sheppard-Towner measure contemplates turning over to the Children's Bureau of the Department of Labor the supervision and practical expenditure of large sums of money, together with the establishment of close relations with the individual states of the Union that includes a supervision of how they shall spend their funds for the same purpose. A department which has been tinctured in a questionable fashion by fads and theories, which has shown itself extremely partial to labor as an entity, which has furthered in some respects class consciousness, and has allowed its power to be used for ulterior purposes, cannot reasonably be entrusted with such an important function as that contemplated by this measure. The Children's Bureau has done excellent work, but it was primarily organized to consider the question of children in industry; and while it might well include in its activities a supervision of their health, it seems unreasonable to conclude that its ministrations can be effectively extended to include the prenatal stage of its wards. Moreover, the scheme as proposed would lead to a centralization of power which is most undesirable in a devlopment that should depend for its success on local and individual effort, a movement in which personality must always exist as a prime determining factor. A broad general policy inaugurated by an essential department of the national government can accomplish a great deal through methods of advice and supervision; but this should not include the intimate relation with local agencies through financial arrangements that in themselves would soon lead to unfortunate consequences and probably wreck the entire scheme.

It is unfortunate, moreover, that the medical profession has not as yet come to the realization that obstetrics and gynecology are major divisions of medical practice, and that in order to assure this position our medical schools must be impressed with this fact. For this the profession is to some degree responsible. The laity must be brought to an appreciation not only of the importance of proper obstetric care but also of the need for further educational opportunities for medical students, at present insufficient to care for all applicants. Moreover, in this, as in many other measures of so-called medical or social reform, too much responsibility has been thrown upon the social workers, visiting nurses, etc., and the physician graciously permitted to occupy a subordinate position. It is no longer possible for medicine to surround itself with the mysticism of the past; there must be a thorough understanding between the physician and the layman, but this cannot be secured if the latter's point of view is made the overshadowing one. Ideals in medical practice have been subjected to many unreasonable restrictions in recent years by the imposition of a variety of laws and acts, but it is questionable whether by such means much improvement has resulted. May we not regard the measure under discussion in a similar light, for by elevating the accessories to obstetric science and turning them over into the hands of laymen will not the dignity of the purely medical aspect be lowered? I believe that the medical profession should oppose the Sheppard-Towner bill as an ineffective measure which, if passed, will ignore or postpone the creation of a national department of health or public welfare. The measure will merely provide for the creation of another elaborately organized and costly bureau in a department whose chief concern and interest lie elsewhere. The practical solution of the important question of proper obstetric care will be deferred and become buried in a mass of sociologic experiments conducted largely by nonmedical persons whose well-meant activities will be swayed by sentiment rather than knowledge.

GEORGE W. KOSMAK, M.D., New York.

THE INCREASED DUTY ON TOOTH BRUSHES

To the Editor:—The attention of the Oral Hygiene Committee of Greater New York has been called to the fact that in the new tariff bill is a clause which increases the duty on imported brushes. This includes imported tooth brushes.

Tooth brushes are essential in the maintenance of mouth hygiene, and mouth hygiene is closely related to health; therefore any duty which increases the cost of tooth brushes will work a hardship on a large class of our people. Parents of large families will find it difficult properly to provide their children with this necessary article for mouth cleanliness.

Our committee respectfully requests your cooperation. We ask your readers to send letters to their congressmen and their senators, protesting against any increase of duty on imported tooth brushes; and we earnestly request that tooth brushes be placed on the free list, as they are by no means luxuries but articles of necessity for the health and welfare of the people.

THADDEUS P. HYATT, D.D.S., New York.
Chairman, Oral Hygiene Committee
of Greater New York.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

March, 1921, **55**, No. 2

Effects of Anoxemia on Respiratory Center in Decerebrate Animals. L. M. Fraser, R. S. Lang and J. J. R. Macleod, Toronto.—p. 159.
Periodic Breathing and Effects of Oxygen Administration in Decerebrate Cats. J. J. R. Macleod, Toronto.—p. 175.
Concentration of Lactic Acid in Blood in Anoxemia and Shock. J. J. R. Macleod, Toronto.—p. 184.
Comparison of Electrical Conductance of Electrolytes and Their Toxicities to Fish. F. B. Powers, Urbana, Ill.—p. 197.
Light-Spot Adaptation. K. Dunlap, Cleveland.—p. 201.
Studies on Visceral Sensory Nervous System. VI. Lung Automatism and Lung Reflexes in Cryptobranchus; Physiology of Lung of Necturus. A. B. Luckhardt and A. J. Carlson, Chicago.—p. 212.
Study of Low Oxygen Effects During Rebreathing. E. C. Schneider and D. Truesdell, Garden City, N. Y.—p. 223.
Physiology of Stomach. LIII. Secretory Response of Gastric Mucous Membrane to Water and Saline Solutions. G. F. Sutherland, Chicago.—p. 258.

American Journal of Roentgenology, New York

March, 1921, **8**, No. 3

*Diagnosis of Primary Tumors of Lung. A. C. Christie, Washington, D. C.—p. 97.
Clinical Importance of Different Types of Pulmonary Tuberculosis as Determined by Roentgen-Ray Examination. R. G. Allison, Minneapolis.—p. 103.
Value of Lateral and Oblique Roentgen-Ray Studies of Chest. W. A. Evans, Detroit.—p. 106.
Simple and Practical Method for Rapid Hardening of Gas Tubes. S. H. Levy and H. Mann, New York.—p. 112.
Technic of Roentgen-Ray Examination of Kidneys. W. S. Lawrence, Memphis.—p. 115.
Subphrenic Pneumoperitoneum. I. C. Rubin, New York.—p. 120.
Detection of Retroperitoneal Masses by Aid of Pneumoperitoneum. L. R. Sante, St. Louis.—p. 129.
Collateral Treatment of Malignant Cases Undergoing Radiotherapy. E. H. Skinner, Kansas City, Mo.—p. 138.

Diagnosis of Primary Lung Tumors.—An accurate diagnosis of lung tumor, with a definite opinion as to its malignant or benign character, Christie says, can be made in many cases by consideration of the mode of onset, the preliminary symptoms, and the roentgen-ray findings. When, however, the roentgen-ray appearance is not characteristic, the diagnosis must be established by the further course of the disease, and the presence of such signs as enlarged lymph nodes in the neck or axilla, and the character of the sputum and pleural effusions. It must further be kept in mind that there are certain noncancerous conditions occurring in the lung which may readily be confused with cancer, especially if only the roentgenologic evidence is relied on. Among those especially like to lead to error are gumma of the lung, mediastinitis, caseous pneumonia and certain inflammatory processes about the hilum.

Archives of Internal Medicine, Chicago

April 15, 1921, **27**, No. 4

*Metabolism in Pellagra: Study of Urine. M. X. Sullivan, R. E. Stanton and P. R. Dawson, Spartanburg, S. C.—p. 387.
*Hemochromatosis. W. B. Blanton and W. Healy, Richmond, Va.—p. 406.
*One Thousand One Hundred Forty-Six Goiters in One Thousand Seven Hundred Eighty-Three Persons. S. Levin, Lake Linden, Mich.—p. 422.
Variations of Acid Concentration in Different Portions of the Gastric Chyme, Methods of Gastric Analysis. F. D. Gorham, St. Louis.—p. 434.
Nature of Specific Hemolysins and a Standard Method of Preparing Antisheep Hemolysin. L. G. Hadjopoulos, New York.—p. 441.
*Effects of Quinin on Liver, Blood Cells and Urine of Rabbits. D. M. Siperstein and M. Litman, Minneapolis.—p. 449.
*Pulmonary Botryomycosis. F. A. McJunkin, St. Louis.—p. 457.
*Idiopathic Purpura with Unusual Features. A. S. Rosenfeld, Portland, Ore.—p. 465.
Present Status of Cardiodynamic Studies on Normal and Pathologic Hearts. C. J. Wiggers, Cleveland.—p. 475.
*Interpolated Contractions of Heart with Especial Reference to Their Effect on Radial Pulse. M. M. Myers and P. D. White.—p. 503.

Urine in Pellagra.—The results of the study of the urine in pellagra made in the U. S. Pellagra Hospital in 1917, Sullivan and his associates summarize as follows: The mineral metabolism seemed to be abnormal especially in the actively pellagrous stage as witnessed by the low P_2O_5 excretion despite the fact that the diet taken at the time was a generous one with abundance of milk. Indications were present of a heightened putrefactive process in the intestines. The presence of casts or albumin or both casts and albumin in the urine gave evidence of more or less kidney change in about 50 per cent. of the cases. Marked pellagra can occur with no evidence of kidney change. There was low excretion of total nitrogen and the ordinary urinary ingredients. The urea ratio, in general, was low, and in certain cases with fair total nitrogen the urea ratio was lower than should be expected—a finding which suggests liver insufficiency. There was a heightened ratio for ammonia nitrogen and undetermined nitrogen. The metabolic level during the active stage of the disease was low as further shown by the low excretion of uric and creatinin. The creatinin coefficient was much below normal. The utilization of protein was found to be subnormal, even after several weeks of a remedial diet. With at least a month on the curative diet, the urinary ingredients rose to approximately normal amounts, the urea ration rose to normal and the ammonia ration fell to normal. The abnormality of the urinary findings was greater for the systemic type of pellagra than for the dermal type.

Hemochromatosis.—To the eighty-one cases of hemochromatosis reported in the literature Blanton and Healy add four. An analysis is presented of the clinical findings of cases reported in the literature and the four new cases are cited in full.

Goiter.—Levin examined 1,783 persons, ranging in age from new-born to 61 years, for enlarged thyroids. One thousand one hundred and forty-six had enlarged thyroids with 682 simple goiters, 420 adenomas and cystomas and forty-four colloid goiters. The incidence curve shows that goiters increase in both sexes during puberty, dropping to a small degree after the growth of the individual is attained. The curve remains in the female for the child-bearing period, going down at about 38 or 40 years, when it rises again for the menopause. In the male, the curve gradually drops till 35 or 40 years, when there is a small rise due to the growths in the glands asserting themselves, the male having no special metabolic change to influence the enlargement. The simple goiters maintain the high percentage till 35 years is attained and the adenoma and cystoma sustain the height of the incidence curve after that age. Levin directs attention to the fact that in a zone in which thyroid enlargements occur, there is a normal physiologic hypertrophy, and this should not be called goiter.

Effect of Quinin on Liver and Blood Cells.—Quinin hydrochlorid, administered intravenously, in moderate doses, to healthy rabbits, apparently produced progressive degenerative changes in the liver cells which increase with increasing dosage; a moderate transitory polycythemia rendered persistent by repeated dosage and polyuria.

Botriomycosis of Lung.—With the pulmonary symptoms predominating at the beginning of the disease and persisting for several weeks in such a manner as to suggest pulmonary tuberculosis, McJunkin's case resembled a primary bronchopneumonia which terminated fatally. The histologic lesion is that of a typical granuloma and is one not encountered in infections with pyogenic cocci commonly examined microscopically. The zooglea-like matrix likewise is unique. The appearance of the delicate circle of hyalin material about individual organisms, which stains positively and is not a retraction zone, suggests a true bacterial capsule, and, if confirmed by further observations, especially in connection with animal inoculation, would indicate a distinct species of capsulated coccus.

Idiopathic Purpura.—Two cases of idiopathic purpura are described by Rosenfeld which showed a familial tendency, repeated joint hemorrhages, and association of joint hemorrhages with the symptoms of Henoch's purpura. Spontaneous fracture of the olecranon occurred in one case.

Interpolated Contractions of Heart.—A brief historical review of the subject of interpolated beats is given by Myers and White; likewise, figures stating the frequency with which interpolated beats and premature ventricular contractions have been found in the graphic records of the Cardiographic Lab-

oratory of the Massachusetts General Hospital. Points in regard to the differential diagnosis of this form of arrhythmia are discussed; the five conditions from which it must be differentiated in the arterial pulse being: first, the occurrence of two premature ventricular beats in succession; second, constant alternation of the pulse in which there is a delay in the weaker beats; third, auriculoventricular heart block associated with an occasional return to one-to-one rhythm for three beats in long stretches of fourth beat which fail to appear in the arteriogram, and fifth, short paroxysms of tachycardia. Emphasis is laid on that type of tracing which is most frequently misinterpreted, namely, where in the course of a phase of regular rhythm there occurs an interpolated beat which, not showing in the curve, causes a delay and diminution in the size of the next normal wave.

California State Journal of Medicine, San Francisco

April, 1921, **19**, No. 4

Reveries of a General Practitioner. M. Creamer, Los Angeles.—p. 143.
Indications for Infusion of Blood Substitutes and Transfusion of Blood in Cases of Traumatic Hemorrhage and Shock. E. Butler, San Francisco.—p. 145.
Fractured Femur. H. H. Dignan, San Francisco.—p. 147.
Episodic Mental States and Border-line Conditions in Psychiatry. C. L. Allen, Los Angeles.—p. 150.
For Better Treatment for Crippled Children. H. L. Langnecker, San Francisco.—p. 152.
Early Diagnosis of Pulmonary Tuberculosis. J. C. King, Banning.—p. 152.
Pet Airedale Undergoes Serious Operations. E. B. Breitinger, Bakersfield, Calif.—p. 156.
Modern Radiotherapy. F. H. Rodenbaugh, San Francisco.—p. 156.

Endocrinology, Los Angeles

March, 1921, **5**, No. 2

*Diabetes Insipidus a Hypopituitary Syndrome. G. Maranon, Madrid.—p. 159.
*Physiologic Hyperthyroidism. H. Brooks, New York City.—p. 177.
Degenerative Changes in Seminal Epithelium and Associated Hyperplasia of Interstitial Tissue in Mammalian Testis. A. Kuntz, St. Louis, Mo.—p. 190.
*Special Services Rendered Human Organism by Sympathetic and Parasympathetic Systems. F. M. Pottenger, Monrovia, Calif.—p. 205.
*Changes in Endocrine Glands of Tumor-Bearing Female Albino Rat. F. S. Hammett, Philadelphia.—p. 216.
Pegment Changes Following Removal of Epithelial Hypophysis and Pineal Gland in Frog Tadpole. W. J. Atwell, Buffalo.—p. 221.

Diabetes Inspidus a Hypopituitary Syndrome.—Maranon belives that the internal secretion of the posterior lobe of the hypophysis exercises, physiologically, a controlling action on the elimination of water through the renal filter and that, through the disturbance of this controlling mechanism, diabetes insipidus is produced. In his opinion, the hypophysial oliguric hormone may, perhaps, act partly directly on the renal cell (either increasing its power to concentrate dissolved matter, or increasing its capacity to retain water), and partly by means of the nervous system, collaborating with the oliguric centers at the base of the encephalon as postulated by Pende. The modifications of these centers would be transmitted to the kidney, probably by way of the sympathetic, as some of the experiments seem to show. It is very probable, as Cushing and Biedl have suggested, that the hypophysial hormone ascends by the tuber cinereum to act on the proximal mesencephalic centers. Maranon and Rosique showed experimentally in one instance that the lesion producing a very intense diabetes insipidus was the fibrous scar which was produced around the shore which separated the hypophysis from the nervous tissue of the infundibular region. Maranon insists on the importance of the emotions in the pathogeny of this disease.

Physiologic Hyperthyroidism.—Brooks points out that a condition may exist under which symptoms of thyroid disturbance appear, symptoms mistakenly regarded as indicating serious and permanent disease and that in such cases treatment should not be directed to prevent or circumvent these efforts on the part of the gland, but to direct or guide nature's efforts. It is unwise to attempt measures, and particularly radical measures, which inflict changes or limitations of a permanent character on the gland. There are many conditions which, particularly in youth, are met only by an active secretion on the part of the thyroid; in fact, very many of the so-called youthful characteristics are really manifestations of thyroid activity. The tachycardia of the pronounced hyperthyroid patient is represented in the physiologic hyperthyroidism stage by palpitation. The physiologic demand for an increased thyroid secretion is often met by an increase in the size as well as in the activity of this gland, and in most instances this is induced by a hypertrophy or hyperplasia, as well as by a mere hypersecretion of the gland. The large and prominent thyroid is typical of the mentality and emotional side of both boy and girl toward the development of sex characters and full maturity. The more charming the young woman, the more virile and attractive the youth, the more constantly will it be found that a large gland is present and the more certainly will it be noted that, under normal conditions, such a person responds to emotional and mental stimuli with a quick aggressive and appropriate reaction. Still another physiologic evidence of thyroid activity or overactivity in the youth is an increased demand and utilization of food. Again at this time, artistic perceptions are most keen. All these traits are dependent, at least to a considerable extent on a certain degree of thyroid flexibility and overactivity. Periods of great emotional output, are accompanied by enlargements, though perhaps temporary, of the thyroid. The tremor, characteristic of both the hyperthyroid and the enthusiast, may be present, and even exophthalmus may become evident or accentuated. Surgical or other medical treatment is not indicated. Failure to comprehend and correctly manage these cases leads to exophthalmic goiter, neurasthenia or eventual nervous and physical inadequacy.

Function of Sympathetic and Parasympathetic Systems.—Pottenger directs attention to the fact that the sympathetic nerves and the sympatheticotropic glands of internal secretion aid in the defense of the organism against such condition as enemies from without, infection, pain, anger, injury, heat, cold, asphyxia, and shock. The parasympathetic nerves and parasympathicotropic glands of internal secretion provide the body with an appetite and the secretions—salivary, gastric, biliary, pancreatic, and intestinal—for the digestion of food, and motor power to the gastro-intestinal tube, for mixing the food with the secretions and propelling it onward, and for expelling the refuse from the body.

Changes in Endocrine Glands of Tumor Bearing Animals.—A case is described by Hammett of a tumor-bearing albino rat in which marked alterations in weights of all the endocrine glands were observed at dissection. The hypofunction or hyperfunction of these several tissues serves to explain some of the abnormalities observed in the other tissues, and can be correlated in part with certain clinical observations reported on man.

Journal of Industrial Hygiene, Boston

April, 1921, **2**, No. 12

Campaign Against Miners' Nystagmus in Colliery District of Liege, Belgium. N. Stassen.—p. 451.
Tetrachlorethane Poisoning and Its Prevention. D. C. Parmenter.—p. 456.
Discussion of Public Health Bulletin No. 106, Comparison of an Eight-Hour Plant and a Ten-Hour Plant. A. H. Ryan.—p. 466.
Reply to Discussion of Public Health Bulletin No. 106, Comparison of An Eight-Hour Plant and a Ten-Hour Plant. P. S. Florence.—p. 479.

Journal of Infectious Diseases, Chicago

April, 1921, **28**, No. 4

Avian Botulism (Type A) or Limber Neck. R. Graham and H. Schwarze, Urbana.—p. 317.
*Diphtheria Carriers and Their Treatment with Mercurochrome. G. A. Gray and B. I. Meyer, Mare Island, Calif.—p. 323.
*Diphtheria Infections, with Particular Reference to Carriers and to Wound Infections with B. Diphtheriae. J. S. Simmons; J. T. Wearn and O. B. Williams, Takoma Park, D. C.—p. 327.
*Bacterial Parasites of Human Mucous Membranes. W. W. Oliver and W. B. Wherry, Cincinnati.—p. 341.
Study of an Organism from Nephritis in Sheep. C. P. Fitch and D. C. Beaver, St. Paul.—p. 345.
Study of Gaseous Requirements for Growth of Various Bacteria. G. E. Rockwell, Cincinnati.—p. 352.
*Influenza Studies. IV. Effect of Vaccination Against Influenza and Some Other Respiratory Infections. E. O. Jordan and W. B. Sharp, Chicago.—p. 357.
*New Method of Adding Cresol to Antitoxins and Antiserums. C. Krumwiede and E. J. Banzhaz, New York.—p. 367.
Correlation of Rabbit Pneumonia and Human Influenzal Pneumonia. C. C. Saelhof, Chicago.—p. 374.

Treatment of Diphtheria Carriers with Mercurochrome.—On the occurrence of three cases of diphtheria all patients,

personnel and civilian employees in the U. S. Naval Hospital compound were immediately examiued and Schick tests, nose and throat cultures were made. Of 544 Schick tests, 104, or 19.1 per cent. were positive. These susceptible men were immediately given 1,000 units of diphtheria antitoxin and a course of three injections of toxinantitoxin was commenced. All new patients brought to the hospital were first taken to the laboratory where cultures were made and where they received the Schick test before they were admitttd to their wards. A rather high percentage of carriers of diphtheria bacilli were found, 162 of 680 persons examined being positive. The majority of positive reactions were secured from the nasal passages, and Gray and Meyer believe were in no small part due to the thoroughness used in making the cultures, by having the swabs come in contact with all parts of the mucous membranes. Their percentages of 23.8 is considerably in excess of the 2.76 per cent. found in 3,215 persons examined at Camp Sherman, Ohio, in 1918. It conforms, however, fairly closely with the figures of Labit of the French army, who obtained 28.9 per cent., and at times 50 per cent., of carriers in the environment of diphtheria at a military hospital. Of the total number of carriers Gray and Meyer were able to treat, consecutively, thoroughly and systematically, only ninety. Eighty-eight of the ninety carriers treated with mercurochrome were made carrier free with an average of only 19.1 treatments or applications of the germicide. The remaining two of the ninety carriers resisted all efforts as they continued to harbor the bacilli in tonsillar crypts and in the scars of a peritonsillar abscess. In not over ten persons treated with mercurochrome solution was there any complaint as to the germicide being irritating. The 1 per cent. solution of mercurochrome was used as a routine application by means of a medicine dropper, spray or swab. In the more resistant cases, the 2 per cent. strength was used and in cases showing any evidences of congestion or irritation, the 0.5 per cent. strength was used.

Diphtheria Carriers.—Between October, 1918, and August, 1919, seventy-five cases of diphtheria bacilli were treated at the Walter Reed General Hospital. The successful treatment of carriers depended not so much on the kind of antiseptic used but on the ability to reach the organism with the antiseptic, or when possible on complete removal of the infected foci. Simmons and his associates urge that the danger of active wound infection should be recogniżed and early treatment with large doses of diphtheria antitoxin should be given. Forty-eight and 42 per cent., respectively, of the strains from contact throat carriers and wound carriers were very virulent, while 84 6 per cent. of those from convalescent throat carriers and 80 per cent. of those from wound cases were very virulent. Neither morphology, fermentation reactions nor any other cultural characteristic gave any indication of the degree of virulence of the organism studied. No diphtheria bacilli were found in cultures of the blood, urine or feces of cases or carriers, except from one fatal wound case postmortem.

Bacterial Parasites of Human Mucous Membranes.—In an examination of the flora of human mucous membranes, Oliver and Wherry isolated *Bacterium melaninogenicum* (N. Sp.) from the throat, tonsils, infected surgical wound of the abdomen, from urine collected as aseptically as possible from a suspected focal infection of the kidney, and from the feces of a case of chronic dysentery superimposed on an original amebic infection; *B. duplex-monliquefaciens*, in bronchial sputum; *M. minutissimus* (N. Sp.) from the mixed flora in the aphthous ulcers of the gingival and buccal mucosa of a case of postpoliomyelitic paralysis; *M. reniformis* (*Diplococcus reniformis*, Cottet, 1900) was isolated from the vaginal pus in a case of vulvovaginitis in a child.

Effect of Vaccination Against Influenza.—The prophylactic effect of a widely used vaccine containing Pfeiffer bacilli, streptococci and pneumococci has been studied clinically and statistically by Jordan and Sharp. They recorded during a period of about seven months the respiratory ailments which developed among 6,066 persons, approximately half of whom had received the vaccine. Some of these were attacked by influenza in the 1920 wave, which occurred within two months of the vaccination; in addition, the usual number of pneumonia and common cold cases among those observed afford material for comparisons. Rhinitis and bronchitis developed with frequency about equal in vaccinated and unvaccinated groups. The influenza attacks among the 2,873 vaccinated numbered 118 (4 1 per cent.) and among the 3,193 unvaccinated numbered 152 (4.8 per cent.); seven pneumonia complications with two deaths occurred among the 118 vaccinated patients and twelve with two deaths in the 152 unvaccinated. Both the influenza and pneumonia attack rates are hence somewhat lower among the vaccinated, but the difference is not great. Pneumonia, not associated with influenza, was also less frequent among the vaccinated, only six of nineteen pneumonia patients having been vaccinated. That any considerable degree of protection against influenza was conferred by the vaccine seems unlikely.

New Method of Adding Cresol to Antiserums.—A mixture of equal parts of ether and cresol is presented by Krumwiede and Banzhaf as a new preservative for antitoxins and serums. This mixture is added in amounts necessary to give the required concentration of cresol. The addition of this mixture causes much less precipitate than does cresol alone. Subsequent precipitation is not necessarily limited by the ether, it is never greater than that in products containing cresol alone. The mixture of ether and cresol is more strongly antiseptic than cresol alone. In therapeutic application, the ether is not a disadvantage. In the case of intravenously injected antitoxin, the indication that the ether may under certain circumstances reduce the incidence of adverse reactions warrants further comparative work. Ether may be added to the toxin-antitoxin mixture with disturbing the balance of the mixture.

Journal of Medical Research, Boston

November, 1920, January, 1921, **62**, No. 2

*Russell's Fuchsin Bodies. G. McConnell and A. Lang, Cleveland.—p. 99.
Blood of Normal Monkeys. E. B. Krumbhaar and J. H. Musser, Jr., Philadelphia.—p. 105.
Studies in Diphtheroids. R. R. Mellon, Rochester, N. Y.—p. 111.
*Bacillus Botulinus. P. F. Orr, Boston.—p. 127.
Heterotransplantation of Kidney. L. Loeb, St. Louis.—p. 137.
Development of Mononuclear Phagocyte of Lung. H. H. Permar, Pittsburgh.—p. 143.
*Leukocytic and Fibroblastic Reactions About Transplanted Tissues. M. S. Fleisher, St. Louis.—p. 163.
*Autotransplantation and Homoiotransplantation of Cornea, Iris and Lens. M. S. Fleisher, St. Louis.—p. 173.
Tuberculosis in Guinea-Pigs with an Experimentally Produced Endothelial Leukocytosis. F. A. McJunkin, St. Louis.—p. 202.
Migration and Fate of Mononuclear Phagocyte of Lung. H. H. Permar, Pittsburgh.—p. 209.
Nature of Action of Nonspecific Protein in Disease Processes. 1. Typhoid Protein (Dead Typhoid Bacilli) and Soluble Toxin. D. M. Cowie and R. M. Kempton, Ann Arbor, Mich.

Russel's Fuchsin Bodies.—In the course of a study of 100 specimens of dental granulomas, not abscesses, McConnell and Lang were struck by the frequent occurrence of Russell's fuchsin bodies, eighty-six of the cases containing them in greater or lesser number. Further study of these bodies leads them to believe that they are the result of degenerative changes occurring in the cell protoplasm but not in the nucleus. The type most commonly affected is the plasma cell, but any other variety of tissue cell may undergo a similar degeneration. The red blood cells are not concerned in their formation.

Bacillus Botulinus Toxin.—The toxins produced by ten different strains of *Bacillus botulinus* were found by Orr to be comparatively thermolabile. The heating of any food material to the boiling point destroyed all trace of botulinus toxin which might be present. The toxin produced by Strain 2 (Nevin) is apparently much more resistant than any of the other toxins.

Reactions About Transplanted Tissues.—It is shown by Fleisher that the reactions about the transplanted tissues in immunized heterologous animals are essentially of the same nature as reactions in normal heterologous animals, with the additional feature that the leukocytic invasion is slowed in the immune animals. Various tentative suggestions are made to explain those differences in the homologous and heterologous reactions.

Study of Transplanted Tissue.—As a result of Fleisher's work it appears possible that living tissue, either connective tissue or epithelium, is not invaded by host tissue of either

the same of different type. The maintenance of a balance between tissues would seem, therefore, to depend, at least in part, on the life of the tissue.

Journal of Parasitology, Urbana, Ill.

March, 1921, **7**, No. 3

Measurements of Trypanosoma Diemyetyli from Different Hosts and Their Relation to Specific Identification, Heredity and Environment. R. W. Hegner.—p. 105.
New Blood Fluke from Turtles: Proparorchis Artericola gen. et spec. nov. H. B. Ward.—p. 114.
New Amphibian Cestode. L. B. Diekey.—p. 129.
Microsporidia Parasitic in Copepods. R. Kudo.—p. 137.
*Effects of Secretions of Certain Parasitic Nematodes on Coagulation of Blood. B. Schwartz.—p. 144.
Microsporidian Occurring in Smelt. F. Schrader.—p. 151.
First Instar of Wohlfahrtia Vigil Walker. O. A. Johannsen.—p. 154.

Effect of Secretions of Nematodes on Blood Coagulation.—In view of the fact that the delay in coagulation of blood due to extracts of nematodes occurs in vitro, that it varies with extracts of different species of worms, and that extracts of certain species produce no delay in coagulation, Schwartz believes that it may be concluded that specific substances, other than proteins in solution, must be involved. The substances in question appear to be physiologically related to hirudin and snake venom, and like the latter are probably part of a complex of toxic principles. So far as present knowledge goes, nematodes which contain substances that inhibit coagulation of blood to a marked degree are zoologically related, belonging to the family Strongylidae, the members of which have a buccal capsule adapted to lacerating the intestinal mucosa. That the injection of their secretions into the intestinal mucosa, by certain biting nematodes, resulting in minute hemorrhages, is of etiologic importance in nematode diseases appears very probable.

Laryngoscope, St. Louis

March, 1921, **31**, No. 3

Results Obtained from One Year's Use of Audiometer in Otologic Clinic. L. W. Dean and C. C. Buneh, Iowa City.—p. 137.
Some of More Important Measurements of Parts of Temporal Bone. E. Amherg, Detroit.—p. 147.
Lymph Drainage of Accessory Nasal Sinuses. W. V. Mullin and C. T. Ryder, Colorado Springs.—p. 158.
Four Cases of Radical Frontal Sinus Operation with Unusual Pathologic Findings. F. O. Lewis, Philadelphia.—p. 179.
Simple, Bloodless and Painless Operation for Complete Exenteration of Ethmoid Labyrinth. H. Hays, New York.—p. 186.
Operative Procedure in Chronic Persistent Obstruction in Lachrymal Sac. F. H. Brandt, Boise, Idaho.—p. 191.
—p. 207.
Diagnostic Sign in Progressive Deafness. J. W. Downey, Baltimore.

Medical Record, New York

April 23, 1921, **99**, No. 17

Genesis of Some So-Called Neurasthenic States. T. A. Williams, Washington, D. C.—p. 681.
Fads and Fashions in Medical Practice. F. B. Wynn, Indianapolis.—p. 683.
Nature of Educational Hygiene. I. S. Wile, New York.—p. 688.
Maternal Mortality Associated with Pregnancy and Labor in Bronx During Past Ten Years. A. J. Rongy, New York.—p. 691.
Value of Pedographs in Recording and Diagnosing Abnormal Foot Conditions in Children. J. Grossman, New York.—p. 696.
Tourniquet for Arsphenamin Injections. G. E. Barnes, Herkimer, N. Y.—p. 698.
Concept of Roentgen-Ray Pathology. XII. Gastropathies. A. J. Pacini, Washington, D. C.—p. 699.
Dementia Praecox. J. T. A. Wright, Amityville, N. Y.—p. 702.

Michigan State Med. Society Journal, Grand Rapids

April, 1921, **20**, No. 4

Clinical Features as Determining Factors in Application of Radium and Roentgen Rays in Malignancy. P. Eisen, Detroit.—p. 119.
Physiologic Action of and Therapeutic Indications for Roentgen Rays. J. H. Dempster, Detroit.—p. 123.
Congenital Syphilis. C. K. Valade, Detroit.—p. 127.
Essential Hypertension. F. M. Barker, Detroit.—p. 130.
Two Cases of Endemic Typhus—Brill's Disease. W. D. Mayer, Detroit.—p. 132.

Nebraska State Medical Journal, Norfolk

April, 1921, **6**, No. 4

Four Cases of Pituitary Disease. G. W. Covey, Lincoln.—p. 97.
Thrombosis and Embolism of Mesenteric Vessels. B. B. Davis, Omaha.—p. 101.
Variation in Strength of Tincture of Digitalis Dispensed in Lincoln as Tested by Biochemical Methods. A. L. Smith, Lincoln.—p. 104.
Chronic Prostatitis. W. L. Ross, Jr., Omaha.—p. 106.
Dr. Irving W. Potter's Method of Elective Version in Obstetrics. D. Hansen, Lincoln.—p. 109.
Epidemic Encephalitis in Gage County. F. W. Buckley, Beatrice.—p. 111.

Rhode Island Medical Journal, Providence

April, 1921, **4**, No. 4

Light from Under Bushel. C. W. Skelton, Providence.—p. 55.
Some Important Fractures Frequently Overlooked. J. D. Kelley, Providence.—p. 59.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

January, 1921, **43**, Part 4

*Left-Handedness and Mirror Writing, Especially Among Defective Children. H. Gordon.—p. 313.
Tonus and Reflexes. J. K. A. W. Salomonson, Amsterdam, Holland.—p. 369.
Aphasia: An Historical Review. H. Head.—p. 390.

Lefthandedness in Mentally Defective.—The observations reported on by Bordon were made mostly in special schools for mentally defective children. The investigation originated from the observation made in April, 1918. In one of the classes nine (37 per cent.) of the children out of twenty-four were writing with their left hands, and doing most of their work lefthandedly. The percentage of lefthanded children (i. e., with marked lefthanded activities) in ordinary schools was 7.3; in mental defective schools it was 18.2. Lefthandedness in mental defective schools was more frequently associated with defects of speech than is righthandedness. In the case of twins, when one is lefthanded and the other righthanded, the lefthanded twin is frequently backward, less developed, highly nervous, or even in a mental defective school, whereas the righthanded twin is normal and in an ordinary elementary school. Among twins (a boy and a girl) there is a very high percentage (nearly one third) where one is lefthanded and the other righthanded. Among normal children the lefthanded are frequently the most efficient and capable; among the mental defectives it is exactly the reverse, lefthandedness being often associated with marked deficiency. Spontaneous change of lefthandedness to righthandedness in writing among mental defectives is often found to be associated with progress in school work and in intelligence. The hypothesis suggested by Gordon is that something has occurred which has interfered with the proper functioning of the dominant hemisphere—in the majority of cases described it is the left hemisphere. Such a supposition would explain: (1) Why there are so many lefthanded in mental defective schools. The left hemisphere being affected has interfered with the proper functioning of the right hand, perhaps in only a slight degree, as many among the older children change spontaneously from left to the right hand in writing. The same cause has probably affected the functioning of many of the higher intellectual centers, supposed to be situated in the same hemisphere, involving such peculiarities as mirror writing and defective speech. (2) It would also explain why, in the case of left and righthand twins, the lefthanded twin and not the righthanded is found in these special schools.

Medical Journal of Australia, Sidney

Feb. 26, 1921, **1**, No. 9

Papilledema. A. E. Mills.—p. 167.
Banti's Disease in Child. W. S. Brown.—p. 172.

March 26, 1921, **1**, No. 13

Developments in Production of Therapeutic Serums in Australia. W. J. Penfold.—p. 245.
Urethral Irrigation. J. F. Mackenzie.—p. 250.
Epithelioma of Hand, with Tendency to Spontaneous Cure. C. E. Corlette and K. Inglis.—p. 250.

National Medical Journal of China, Shanghai

December, 1920, **6**, No. 4

Treatment of Uterine Fibroids. Way-ling New.—p. 226.
Soy Bean Products. W. H. Adolph and C. M. Wu.—p. 231.
Work of Council on Health Education. W. W. Peter.—p. 234.
Scientific Medicine and Public Health. T. N. Tang.—p. 236.

Bulletin Médical, Paris

March 26, 1921, **35**, No. 13

Bacteriology of Diphtheria. L. Martin and G. Loiseau.—p. 253.
*Abnormal Forms of Diphtheria. H. Darré.—p. 259.
Doses of Diphtheria Antitoxin. Loiseau and D. de la Rivière.—p. 264.
*Prophylaxis of Diphtheria. L. Martin and G. Loiseau.—p. 267.

Abnormal Forms of Diphtheria.—Darré discusses the simple catarrhal form of sore throat, without membranes, but for which the diphtheria bacilli are responsible; every sore throat is suspicious when diphtheria is epidemic. Another perplexing form is when the diphtheria attacks adenoids first. The extreme pallor, small pulse and other signs of severe intoxication should give the alarm, for the diphtheria toxin is absorbed with extraordinary rapidity from adenoiditis. Another type described simulates follicular tonsillitis or there may be a form suggesting herpes. The most deceptive form is when the violent pain in the neck, trismus and the aspect of the pharynx suggest a phlegmon around the tonsil.

Prophylaxis of Diphtheria in Boarding School.—Two cases of diphtheria developed among the 600 girls of the school. They were isolated and ten carriers were found among those that sat near them at table and class. The carriers were isolated, but another case developed, and it was found that the places at the table left vacant by the isolated had been filled by other girls. This resulted in discovery of eleven more carriers. When this practice was stopped, there were no further cases. Some of the carriers showed virulent bacilli up to 122 and 132 days. Possibly the Schick test might reveal which of the carriers are less liable to be contagious as they possess antibodies enough to attenuate the diphtheria bacilli.

Bulletins de la Société Médicale des Hôpitaux, Paris

March 11, 1921, **45**, No. 9

Relations Between Epidemic Encephalitis and Epidemic Hiccup. G. Lemoine.—p. 321. Idem. Dargein and Plazy.—p. 326.
Case of Icterohemorrhagic Spirochetosis. Dargein and Plazy.—p. 323.
Primary Pneumococcus Septicemia. Brouardel and J. Renard.—p. 328.
Urticaria from Fatigue and Colloidoclasis. E. Joltrain.—p. 330.
Paget's Bone Disease with Wassermann Reaction. Pasteur Vallery-Radot, H. Stévenin and E. Fatou.—p. 339.
Prognosis and Sequelae of Epidemic Encephalitis. Cruchet.—p. 344.
*Arterial Tension in Tabes. P. E. Démètre.—p. 349.
*The Benzoin Reaction in Spinal Fluid. G. Guillain, G. Laroche and P. Lechelle.—p. 355.
Compression of Spinal Cord in Case of Recklinghausen's Disease. G. Guillain.—p. 357.
Vaccine Therapy of Typhoid Spondylitis. H. Dufour, Debray and Guyard.—p. 364.
Vaccine Therapy Effectual Even in Superposed Experimental Infection. H. Dufour.—p. 366.

Blood Pressure and Epinephrin Treatment in Tabes.—Démètre has found the arterial tension exceptionally low in all tabetic patients examined, free from pronounced disease of the aorta. The assumption of a deficit in epinephrin conforms to the facts observed in regard to the asthenia and hypotension, for epinephrin treatment restores these conditions to practically normal and arrests the gastric crises and the lightning pains. The cure of neuralgia with epinephrin has been reported from various quarters and Röhmer found the gastric crisis arrested in fifteen or twenty minutes and that the effect lasted for several hours in his four cases, and also in a case of laryngeal and in one of rectal crises. Zanfrognini obtained similar results with epinephrin by the mouth. Marinesco has given the epinephrin by subcutaneous injection, with complete success in eight of the tabetics thus treated, and Démètre has had constant success in this line in quite an extensive experience. He injects 1 c.c. of the 1:1,000 solution of epinephrin, repeating it next day at need. Lightning pains subside completely in half an hour; the tabetics feel stronger and the blood pressure rises. He tabulates the details of fifteen cases, saying that the benefit from epinephrin confirms that the gastric crises and the lightning pains are manifestations brought on by subnormal arterial pressure. Hence treatment with epinephrin is logical.

The Benzoin Reaction in the Spinal Fluid.—Guillain, Laroche and Lechelle state that their colloidal benzoin reaction was constant in all cases of general paresis and of active neurosyphilis, while it was invariably negative in nonsyphilitic disease of the nervous system. The colloidal gold reaction is sometimes positive in other than syphilitic disease of the nervous system, especially in epidemic encephalitis.

Journal de Médecine de Bordeaux

Feb. 25, 1921, **92**, No. 4

Fibrous Polyp of Rectum in Elderly Man. J. Daraignez.—p. 91.
*Treatment of Fracture of Joints and of Separation of Epiphysis. H. L. Rocher and Lasserre.—p. 92.
Reform of Medical Education. B. Mothe.—p. 95.

Treatment of Fracture of Joints and Separation of Epiphyses.—The importance of radioscopy with these injuries is emphasized. It is wise also to apply stereoscopic radiography. The reduction should be done under the control of the roentgen ray and generally under inhalation anesthesia. Radioscopy should also be applied with the plaster cast in place, examining in two planes, one perpendicular to the other. If the position is not correct, an operation is called for at once; it may reveal that interposition of tissue prevents proper reduction. By heeding these rules, fine results can be constantly obtained with fracture of a joint, even fracture of the elbow in children.

March 25, 1921, **92**, No. 6

Tumor in Broad Ligament. P. Bégouin and F. Papin.—p. 147.
Mastoiditis in Infants. A. Brindel.—p. 149.
Stages of Development of Constipation. Dargein.—p. 154.
*Sydenham and Epidemic Encephalitis. H. G. de Cardenal.—p. 161.

Sydenham and Epidemic Encephalitis.—Cardenal quotes from Sydenham's "Practice of Medicine" an account of an epidemic fever, 1673 to 1675, which seems to be identical with the present epidemic encephalitis. He kept the patients from lying down, fearing the congestion of the brain therefrom, and he described persisting hiccup as forming part of the clinical picture. He refers to mild nervous sequelae of the disease as continuing for some time, but disappearing as strength was regained.

Journal de Radiologie et d'Electrologie, Paris

January, 1921, **5**, No. 1

*Measurement of Doses in Roentgenology. H. Guilleminot.—p. 1.
*Radiotherapy of Uterine Cancer at Erlangen. A. Béclère.—p. 10.
The Organization of a Hospital Roentgenologic Service. A. Gunsett.—p. 23.
Roentgenography of the Teeth. Majour and Laquerrière.—p. 27.
Dermoid Cyst in Frontal Sinus. Berruyer and Laquerrière.—p. 29.
Technic for Roentgenologic Examination of the Aorta. Delherm and Thoyer-Rozat.—p. 30.

Roentgen-Ray Dosage.—Guilleminot recalls that Villard introduced twelve years ago a method of measuring the quantity of roentgen rays generated by the ionization of the air. But this and the chemical and other quantimeters lack a definite, reliable, constant unit. He has worked out a unit for fluoroscopic quantimetry which, he says, can be applied with far greater precision than any of the other methods allow. The intensity is estimated by calculation of the square of the distance in comparison with a luminous scale.

Radiologic Treatment of Uterine Cancer.—Béclère quotes from Seitz and Wintz' recent publications giving the technic and results of their deep cross-fire roentgen-ray treatment in twenty-four cases of uterine cancer. Three sittings were given, from twelve to fourteen weeks apart, and in all but one of the cases the cancer has vanished from sight, from palpation, and from microscopic examination. The interval since is too short to speak of a permanent cure.

Journal d'Urologie, Paris

January, 1921, **11**, No. 1

Hydronephrosis Simulating Hydatid Cyst in Liver. E. Bérard and C. Dunet.—p. 1.
*Catheterization of the Ureter. R. Darget.—p. 5.
*Cystic Dilatation of Lower End of Ureter. Pollet.—p. 15.
Giant Kidney Calculi. E. Christian.—p. 25.

Catheterization of Ureter.—Darget discusses the blunders that may result from misinterpretation of the findings with the ureter catheter. In the absence of pus, the concentration in urea and chlorids will reveal the diseased side, but the findings as to the functional value of the sound kidney are often misleading. The Ambard constant is a more reliable guide.

Cystic Dilatation of Lower End of Ureter.—Pollet reports three cases to emphasize the importance of opening up the cyst to permit free flow of urine. The simplest means for this is with the electrocautery.

Revista Méxicana de Biología, Mexico, D. F.

November, 1920, **1**, No. 2

*Endemic Goiter in Mexico. F. Castillo Nájera.—p. 47.
Bacteriology of Rhinoscleroma. E. Cervera.—p. 61.
Experimental Injection with Pulque Fungi. F. Ocaranza.—p. 74.
*Biology of the Ovary. E. Ramirez and I. Ochoterena.—p. 88.

Endemic Goiter in Mexico.—The data presented show that goiter is very prevalent in certain parts of Mexico, up to 20 or 25 per cent. in parts of the state of Guerrero. It does not seem to be endemic in the central states nor in the federal district nor in the peninsula of lower California, but the province of Mexico has a few endemic foci, as also the states on the West coast, and Vera Cruz has certain zones with 8 to 10 per cent. of the population affected. Two cases are reported in which 50 cg. of thymol twice a day for three months, with intervals of five to ten days each fortnight, was followed by reduction of the goiter.

Biology of the Ovary.—A number of photomicrograms are given which confirm the antagonistic action of the interstitial cell and the corpus luteum; as one begins functioning the other tends to rest.

Semana Médica, Buenos Aires

Feb. 10, 1921, **28**, No. 6

*Thermo-Esthesiometer. A. M. Sierra.—p. 153.
*Multiple Growth Exostoses. A. Casaubón and F. Bazán.—p. 160.
*Operative Treatment of Pulmonary Tuberculosis. Gumersindo Sayago and J. M. Allende.—p. 164.
Cocain Addiction. Mally.—p. 179.

Clinical Thermo-Esthesiometer.—Sierra reviews different methods for testing the sensibility of the skin to heat, cold and touch, and describes some simple ones of his own devising. Fuming sulphuric acid in a third of water gives a temperature of over 104 F. Ammonium sulphocyanid in an equal volume of water reduces the temperature below 41 F. A test tube, drawn out to a point, containing one of these serves for measuring the sensibility of the skin, as throwing light on disease of the nervous system.

Multiple Exostoses.—The exostoses began to develop at the age of 4; the girl is now 13. Scarcely any bone is exempt, but the majority are near the epiphyses.

Operations for Pulmonary Tuberculosis.—In two cases of pulmonary tuberculosis with adhesion of the diseased lung to the chest wall and large cavity, one patient was a woman of 38, and marked improvement followed resection of the seventh to the tenth ribs, a total extent of 40 cm. In the second case, a bone-periosteum flap from the crest of the tibia was implanted in the subcutaneous cellular tissue and beneath the periosteum of the fourth rib, over the cavity. The aim was to induce a reaction in the pleura which would start sclerosis and immobilize the wall of the chest over the diseased portion of the lung.

Deutsches Archiv für klinische Medizin, Leipzig

March 8, 1921, **135**, No. 5-6

*Forms of Jaundice. F. Rosenthal and P. Holzer.—p. 257.
Pathology of Circulation in the Coronaries. B. Kisch.—p. 281.
Periarteritis Nodosa. C. Kroetz.—p. 311.
Acute Polymyositis After Gas Poisoning. G. Scharmann.—p. 336.
*Toxic Swelling of Liver. A. Bittorf and M. v. Falkenhausen.—p. 346.
Leukocyte Blood Picture During Menstruation. K. Garling.—p. 353.
*Acute Yellow Atrophy of the Liver. W. Weigeldt.—p. 358.
Tactile Perception of Second Pulmonary Sound. Gerhardt.—p. 368.
*Erasmus and the Plague. O. Feis.—p. 371.

Mechanical and Dynamic Jaundice.—Rosenthal and Holzer discuss the proportions of bilirubin and cholesterin in the blood in the different forms of jaundice.

Toxic Swelling of the Liver.—The liver was smooth and enlarged in the ten cases described but it was not tender and was not hard. Pronounced alimentary levulosuria testified to severe functional derangement of the liver but there was no fever. The cause seemed to be intestinal autointoxication from improper and inadequate food.

Acute Yellow Atrophy of the Liver.—Weigeldt reports two more cases with leukocyte inclusions. Histochemical analysis of the vacuoles in the polynuclear neutrophil leukocytes revealed that they were droplets of fat in all the three cases.

Erasmus and the Plague.—A letter written by Erasmus of Rotterdam at the beginning of the sixteenth century describes Erasmus' sickness on a trip through Germany, evidently a mild form of bubonic plague.

Deutsche medizinische Wochenschrift, Berlin

Jan. 13, 1921, **47**, No. 2

*Experimental Testing of Prophylactic Preparations Against Venereal Disease. P. Manteufel and H. Zschucke.—p. 37.
Problems in Syphilis Treatment. F. Lesser.—p. 39. Conc'n in No. 3.
Changes in Blood Pressure After Injection of Epinephrin No Gage of Tonus of Autonomic Nervous System. Lehmann.—p. 41.
Test for Albumoses and Peptones in Urine. Fittipaldi.—p. 42.
*Indican in Kidney Disease. E. Becher.—p. 42.
Value of Alcohol Test Breakfast. Friedrich and Neumann.—p. 43.
Treatment of Infantile Gonorrheal Vulvovaginitis. Patschke.—p. 44.
Regulation of Dosage in Phototherapy. Jentzsch-Graefe.—p. 46.
The Koch-Lilienfeld Roentgen-Ray Apparatus. Hirsch.—p. 46.
General Exanthem After Roentgen Irradiation. Ginzberg.—p. 47.
Eradication of Pediculi Pubis. L. Dub.—p. 48.
The Eye and the Central Nervous System. Steindorff.—p. 48.

Experimental Tests of Individual Prophylactic Measures Against Venereal Disease.—Manteufel's report was summarized in the Berlin Letter, p. 1183.

Indican in Kidney Disease.—Becher states that the Obermeyer urine indican reaction is not adapted for demonstration of indican in the blood, as it is not sufficiently sensitive. He prefers the more active method of Jolles, in which a hydrochloric acid solution containing thymol and ferric chlorid is employed. Indican increases in the blood parallel with the residual nitrogen, sometimes even a little more rapidly, in anuria of mechanical origin or from acute necrotic nephrosis or extensive interstitial focal nephritis. In acute nephritis, indican increases ordinarily relatively late and only to a slight extent as compared with urea and residual nitrogen, the kidney probably passing it more readily than it does urea. In chronic renal insufficiency, indican in the blood is increased earlier and more markedly than residual nitrogen or urea. Specific disturbances of secretion as affecting indican are doubtless responsible. In infectious diseases and cardiac insufficiency there is no parallelism between the indican and the uremia. In renal insufficiency the indican that normally occurs only in the blood passes also into the tissues, exudates and the spinal fluid. The most marked increase is, however, in the blood serum. After nephrectomy there is an increase of residual nitrogen and urea, due to the toxic effect of decomposed albumin, but no parallel increase in indican.

Jahrbuch für Kinderheilkunde, Berlin

1921, **94**, No. 3

*Myography of Spasmophilia. O Bossert and R. Gralka.—p. 145.
*The Incubation in Infectious Disease. K. Preisich.—p. 173.
Results of Butter-Gruel Infant Feeding. S. Wolff.—p. 183.
*Protein Therapy in Infants. E. Slawik.—p. 192.

Spasmophilia.—Bossert and Gralka would restrict the term spasmophilia to children with overexcitable nervous system from constitutional causes. This type of true spasmophilia may be influenced by dieting. There is also an overexcitability left by infectious diseases. In a third group the cause of the overexcitability is still a mystery. The response of the muscles to electric tests confirms this classification. Abnormal parathyroid functioning modifies calcium metabolism, and this may entail a tendency to edema, the subcutaneous tissues imbibing water; also to carpopedal spasm from the musculature sharing in this imbibition. In contrast to the tetany group, is the group in which laryngospasm is the cardinal symptom; there is usually extreme hyperexcitability of the nerves while the muscle responses are like those in normal children. These children have been fed with cow's milk. The calcium deficiency in this group seems to be felt most in the brain. Quest noted in child cadavers with exceptionally low calcium content of the brain, that the children had all died from convulsions. The prognosis depends on the special organ involved. In rachitis it is the bones that suffer most from the deficiency of calcium; in tetany, the muscles; with laryngospasm, the nervous system, and with convulsions, the brain. These various types may be amenable to dietetic and medical measures, the overexcitability subsiding with the other symptoms. Myographic curves of each type are reproduced.

Incubation with Infectious Diseases.—Preisich protests against accepting for the incubation the period between known contact with infection and the development of disease. The infecting agent may be harbored like any saprophyte before it begins to exert a pathogenic action. From this moment to development of symptoms is the true incubation period. One of the practical conclusions from his research is that after complete convalescence from an infectious disease, the patient should wait, before resuming his ordinary life, for a period corresponding to the generally accepted incubation or latent period.

Protein Therapy for Infants.—Slawik injected infants parenterally with white of egg, breast milk or other substances in treatment of various pathologic conditions. The results were disappointing, probably on account of the inadequate development of the defensive forces at this age. Actual benefit was realized only with pyodermatitis and gonococcus infection.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

January, 1921, **54**, No. 1

'Postoperative Thrombosis. R. T. v. Jaschke.—p. 1.
Case of Laceration of Wall of Vagina. Dyroff.—p. 7.
Coition Injury of Vagina in Puerperium. Kayser.—p. 13.
'Acute Edema of Cervix During Delivery. E. Zweifel.—p. 20.
Horny Pavement Cell Cancer of Ovary. M. Boettger.—p. 22.
'Experiences with Radiotherapy. W. Benthin.—p. 34; Idem. H. Treber.—p. 40.

Prevention of Postoperative Thrombosis.—Jaschke says that the factors which are liable to entail thrombosis are mainly mechanical. Since his table has been arranged for the legs to lie straight and on cushions, there has been no instance of thrombosis originating in the popliteal space. But the most important prophylactic measure, he declares, is the routine practice of giving digitalis before the operation if there is the slightest doubt as to the functional capacity of the cardiovascular system. This tends to keep the blood stream from getting sluggish at points where thrombosis otherwise is liable to develop. Scrupulous hemostasis is another factor in success, ligating the vessels separately without clamping them, also enforcing massage, passive movements, and systematic breathing exercises—all three or four times a day. In his last 1,362 operations of all kinds, thrombosis has developed in only 0.9 per cent.; with embolism in 0.15 per cent. Getting the patients up early has reduced the thrombosis cases by a half and the embolism cases by a third, compared with the preceding six year period.

Acute Edema of the Portio at Delivery.—Zweifel adds another case to the twenty-two he has compiled from the records. The prolapsed vagina and portio were reduced and the foot of the bed raised. Labor began a few hours later and spontaneous delivery followed, and by the tenth day there was not much left of the edema.

Experiences with Radiotherapy.—Benthin relates that in two cases a cancer developed in the ovary one and three years after an intensive course of roentgen-ray exposures given as a precautionary measure after removal of a cancer in the cervix. Another unusual experience was the pigmentation of the whole body after two series of roentgen and radium exposures. Roentgen exposures during two years in treatment of excessive menstrual hemorrhages brought transient amenorrhea with certain symptoms of the artificial menopause in one case, but a normal pregnancy followed almost at once, with delivery at term of a healthy child. One woman of 35 developed a radium ulcer of the intestine from prophylactic radium treatment after removal of a uterine cancer. The radium ulcer was mistaken for a rectal cancer and was excised.

Remote Results with Radiotherapy of Cancer.—Treber tabulates the outcome in 783 cases of cancer of the uterine cervix at four German clinics given actinotherapy in 1913 to 1915. There are 12.3 per cent., 11, 22.3 and 20 per cent. still surviving. The survivors include nineteen women whose condition was absolutely inoperable. Treber's practical conclusion is that operative measures alone do not make such a good final showing as irradiation alone. He advocates treating operable cancer of the cervix with mixed cross-fire. Then, eight or twelve weeks later, when there are no further clinical signs of the cancer, he operates by the Wertheim abdominal total extirpation, and four weeks after this begins the prophylactic exposures. This has been the method in vogue during the last year at the Munich clinic.

Monatsschrift für Kinderheilkunde, Leipzig

November, 1920, **19**, No. 2

*Modification of Milk for Infant Feeding. E. Moro.—p. 113.
Metabolism in Rickets. Freise and Rupprecht.—p. 115.
*Congenital Defects at Base of Spinal Cord. H. Gelpke.—p. 137.
*Rectal Prolapse in Children. W. Schwarzburger.—p. 168.

Triple Dilution of Milk for Infant Feeding.—Moro opposes feeding new-born babes one-third milk to two-thirds water. He thinks that such dilutions are too weak. For the last twenty years he has recommended a 50 per cent. dilution of whole milk for the new-born, and has never seen any bad results from it.

Congenital Defects in Lower Segments of Spinal Cord.—Gelpke says that myelodysplasia and spina bifida may be associated, but in that case they are coordinate phenomena of the same disturbance in development; neither is subordinate. Fuchs' "rudimentary forms of spina bifida" he regards as signs of degeneration that give a valuable indication of the existence of a spina bifida occulta.

Rectal Prolapse in Children.—Schwarzburger applied in thirty-seven cases of prolapse of rectum or anus, Thiersch's method of running a silver wire around the anus under the skin. The results were generally satisfactory though the wire ring caused some pain at first. Most of these children were between 1½ and 2 years of age. Undernutrition proved, during the war period, to be a predisposing cause. Diarrhea is a common precipitating factor. Oxyurids are incriminated by some writers. The prognosis in children is vastly more favorable than in adults. As a rule, prolapse in very young children will heal spontaneously before the age of 5. During the epidemic of dysentery, 1919, many cases of prolapse appeared in children when the epidemic was at its height, but disappeared with the dysentery.

Münchener medizinische Wochenschrift, Munich

Oct. 29, 1920, **67**, No. 44

A "Diagnostic Tuberculin." E. Moro.—p. 1253.
*Etiology of Dupuytren's Contracture. G. Ledderhose.—p. 1254.
Operative Treatment of Extension Contracture in the First Phalanx of Finger. Schede.—p. 1256.
Latent Syphilis. P. Schneider.—p. 1259.
Silver Arsphenamin in Multiple Sclerosis. E. Speer.—p. 1260.
Spirochete Staining in Nerve Tissue. F. Jahnel.—p. 1263.
Vagotonia in Relation to the Ear. C. Biehl.—p. 1263.
*Intraperitoneal Infusion. M. Weinberg.—p. 1264.

Dupuytren's Contracture and Arthritis Deformans.—Ledderhose says that his investigations on the clinical aspects of arthritis deformans have led him to the conviction that Dupuytren's contracture or fasciitis palmaris is an integral part of the symptomatology of arthritis deformans; furthermore, that a patient who presents symptoms of arthritis deformans in any of the large joints or in the spine will also give evidence of characteristic changes in the palmar aponeurosis. He thinks he has proved that the first expressions of arthritis deformans may be frequently demonstrated from the end of the "teens" on, if attention is directed to the symptomatic limitations of motion in the joints and furthermore to slightly visible, slightly palpable and (in roentgenograms) easily perceptible changes of form in the articulating surfaces. Arthritis deformans seems to rest on a predisposition —possibly a chemical alteration of the articular cartilage— which through static disturbances, traumas, or the wearing processes of advancing age is developed into an anatomic and clinical morbid entity. There is marked agreement between arthritis and fasciitis in that both frequently begin in youth, may remain entirely latent for a long period, and often after a long life have not progressed so far as to present pronounced deformation of joints or marked contracture of fingers.

Intraperitoneal Instead of Subcutaneous Infusion.—Weinberg reports that intraperitoneal infusion may, in properly selected cases, be superior to subcutaneous infusion in dealing with sick children suffering from loss of fluids. The opportunities for resorption are excellent, and the procedure

is exceedingly rapid. The shock effects are very slight. If the capacity for resorption is good, in a given case, intraperitoneal infusion may make it possible to tide over a dangerous, acute stage in which subcutaneous infusion would fail to accomplish the purpose.

Therapeutische Halbmonatshefte, Berlin

Dec. 1, 1920, **34**, No. 23

Pathology and Surgery of the Prostate. A. W. Fischer.—p. 653.
Therapeutic Effect of Heat Rays in Otology. W. Oeken.—p. 661.
A Modified Type of Tourniquet. G. Baller.—p. 668.

Wiener Archiv für innere Medizin, Vienna

Feb. 15, 1921, **2**, No. 2

*Vascular Hypertonia. Hitzenberger and Richter-Quittner.—p. 189.
*Calcium in Blood Corpuscles. Richter-Quittner.—p. 217.
*Infectious Irritation of Bone Marrow. R. Löwy and H. Dimmel.—p. 233.
*Pathology of Gastric Secretion. M. Leist and O. Weltmann.—p. 245.
Morphologic Basis for Flint's Murmur. H. Elias.—p. 271.
*Blood Picture After Injection of Calcium. O. A. Rösler.—p. 281.
*Dental Pathology and Internal Disease. E. Antonius and A. Czepa.—p. 293.
Polyneuritis After Influenza. O. Klein.—p. 329.

Metabolism with Vascular Hypertonia.—The sugar content of the blood in thirty-eight cases of high blood pressure is tabulated, with other details. They show that hyperglycemia was the rule with both primary and secondary vascular hypertonia. The hyperglycemia in these conditions differs from that in diabetes in that it is independent of the diet. It is evidently not the result of disturbance in assimilation of sugar but a permanent overproduction. With primary vascular hypertonia, there is frequently an excess of uric acid in the blood, but this is not due to retention of uric acid, and hence, it differs essentially from the hyperuricacidemia of gout. The triad, hypertonia, hyperglycemia and hyperuricacidemia may be the result of an excess of epinephrin. The vascular hypertonia is the most prominent symptom, but the hyperglycemia is equally constant, and both seem to be the manifestation of some disturbance in metabolism, possibly from excessive functioning of the chromaffine tissue. Alcoholism, abuse of nicotine, excessive protein diet, emotional stress, syphilis, and lead poisoning may be favoring factors. Around this may group a number of phenomena which may be due in part to the high blood pressure and in part to its consequences, the sclerosis of the arterioles. According as these phenomena develop in brain or heart or kidneys, we have a cerebral, a cardiac, abdominal or kidney type. The hypertonia increases the resistance to the blood stream in all the vessels.

Calcium Content of the Blood.—No calcium was found in the blood corpuscles of man or animals under normal conditions.

Infectious Irritation of the Bone Marrow.—Löwy and Dimmel give a colored plate and describe three cases of atypical blood picture in septic conditions, showing the wide range of reactions of which the blood-producing system is capable.

Pathology of Gastric Secretion.—Leist and Weltmann compare their findings with a modified duodenal tube in the healthy and in cases of hyperacidity or achylia. The findings in the fasting stomach and at other times showed among other things that with dropsy gastric secretion is at a remarkably low ebb. The retention of chlorids in the tissues and edema and the inability to utilize them for the gastric secretion may be responsible for this subacidity or anacidity.

The Blood Picture Under Calcium.—Rösler reports the results of extensive research on the modification of the blood picture and the blood platelets under the influence of calcium injected by the vein.

Importance of Infectious Processes at the Roots of Teeth for the Origin of Internal Diseases.—Antonius and Czepa have been raying systematically the patients in Falta's service, and found in 225 with various diseases that 66 per cent. had some infectious process at the root of one or more teeth. This was twice as many as had chronic tonsillitis. Only thirty-nine of the 148 with these teeth infectious processes were given thorough dental treatment, but the benefit in this small group confirmed the causal relation between this occult pus focus and the internal disease, nephritis, chronic septic endocarditis, joint and muscular rheumatism, neuralgia, etc. In the forty cases of endocarditis, twenty-nine showed the occult pus focus at the root of a tooth, and 92 per cent. of the twenty-five bilateral nephritis cases; in 68 per cent. no other cause for the nephritis could be discovered.

Wiener klinische Wochenschrift, Vienna

Dec. 9, 1920, **33**, No. 50

Paradoxical Effects of Heart Poisons. E. P. Pick.—p. 1081.
*Acid Reaction in Perforating Ulcer. J. Prader.—p. 1085.
*Hot Air as Hemostatic in Operations. H. Körbl.—p. 1087.
A Note on Sarcomas. L. Kumer.—p. 1088.
Tests for Malingering. F. Deutsch.—p. 1090.

Significance of Acid Reaction of Peritoneal Fluid in Perforating Ulcer.—Prader reports eleven cases which furnish considerable evidence for the assumption that an acid reaction of the peritoneal fluid in ulcer perforations, even though pathogenic bacteria may be present, is to be regarded as ordinarily indicative of a favorable prognosis, provided the general condition of the patient is fairly good. Primary closure of the peritoneal cavity without drainage is thus justified. Whether this assumption is correct will have to be established by more extensive observations.

Hot Air Current as a Hemostatic in Operative Surgery.—Körbl recommends highly the hot air current as a means of checking hemorrhage both during and after operations. The jet of hot air brings about complete checking of the hemorrhage in the operation wound in from fifteen to thirty seconds, which connotes a great saving of time and material otherwise required to ligate many small vessels. The larger bleeding vessels are ligated before the hot air current is applied. The field for this method includes more especially large wounds of the soft parts (amputation of the breast, umbilical hernia), in which the checking of hemorrhage from the many small vessels in the fatty and connective tissue requires so much time; furthermore, wounds which present large cavities (goiter operations, for example), and especially bone operations in which checking of hemorrhage by means of ligatures is not feasible and which often give rise to marked postoperative hemorrhage. Körbl has performed a series of such operations, using the hot air current as a hemostatic, and secured primary healing with no hematoma formation. In goiter operations and breast amputation he found he could dispense with the drain he had been in the habit of employing for the first few days. The method, of course, is not used in suppurative processes.

Zentralblatt für Chirurgie, Leipzig

Dec. 11, 1920, **47**, No. 50

Rare Type of Ileus After Gastro-Enterostomy. A. Fromme.—p. 1505.
Modification of Operation for Cleft Palate. M. Linnartz.—p. 1512.
Mammary Gland Enlarged After Prostatectomy. Zuckerkandl.—p. 1513.

Zentralblatt für Gynäkologie, Leipzig

Dec. 4, 1920, **44**, No. 49

Meaning of Term "Metropathia Haemorrhagica." R. Schröder.—p. 1401.
Abnormally Long Gestation. B. Schulz.—p. 1404.
*Adnexitis Complicating Pregnancy. H. Martius.—p. 1410.
*Treatment of Eclampsia. C. H. Stratz.—p. 1415.
Prolapse Through Urethra of Bladder Papilloma. B. Ottow.—p. 1416.
*Urethral Tampons. H. Kritzler.—p. 1419.

Adnexitis as a Complication of Pregnancy.—Martius reports two cases, one of which resulted fatally, to illustrate that adnexitis as a complication of pregnancy is not so rare as is commonly supposed, but that the condition remains latent and is not diagnosed. The treatment should follow the same principles as apart from pregnancy.

Prophylaxis of Eclampsia.—Stratz reports the case of a young pregnant woman whose mother had passed through a severe attack of eclampsia. In the patient the urine was normal, but at the ninth month she complained of occipital headache. Taking into account her mother's experience, he at once instituted prophylactic treatment: milk diet, small doses of chloral, etc. Three days later considerable albumin appeared in the urine, but in a few days even this had disappeared. The milk diet was continued for several weeks, and at term the patient gave birth to a normal child without further symptoms of eclampsia. Stratz thinks that he is justified in regarding this case as one of aborted eclampsia. Slight indications of eclampsia are sufficient to justify treatment before a definite diagnosis is established.

Urethral Tampons for Diagnostic Purposes. — Kritzler recommends slender tampons, such as dentists use, 3 cm. long, for collection of secretion in the female urethra for diagnostic purposes, more especially when gonorrhea is suspected. The tampons are left in place for three or four hours, with string attached.

Zentralblatt für innere Medizin, Leipzig

Dec. 11, 1920, **41**, No. 50

Physiognomic Signs of Congenital Syphilis. Kraupa and Runk.—p. 849.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 26, 1921, **1**, No. 9

The Roentgen Rays. H. Haga.—p. 1104.
The Roentgen Rays in the Service of Medicine. J. K. A. Wertheim Salomonson.—p. 1112.
*Antianaphylaxis in Treatment of Asthma, etc. J. Dekker.—p. 1122.

Therapeutic Antianaphylaxis.—Dekker reviews a number of articles that have appeared in The Journal and in the *Presse médicale* on this subject during 1919 and 1920. He refers particularly to the works on asthma, urticaria, migraine, etc., and relates his success with the peptone treatment in a case of long recurring asthma.

Acta Medica Scandinavica, Stockholm

Nov. 10, 1920, **54**, No. 1

*The Blood Platelet Count. H. C. Gram.—p. 1.
*Duration of Systole. L. S. Fridericia.—p. 17.
*Migration of Fat. H. C. Geelmuyden.—p. 51. Conc'n in No. 2, p. 147.
*Mode of Action of Meningococcus Antiserum. O. Thomsen and F. Wulff.—p. 65.

Blood Platelet Count.—Gram found a striking parallelism between the erythrocyte volume and the hemoglobin percentage in 611 cases of various diseases. Hence from the hemoglobin figure, the number of erythrocytes can be computed, and on this basis the platelets can be estimated. The platelets are counted in the sedimentation plasma of citrated venous blood. Platelet counts below 200,000 are often accompanied with hemorrhages. References to 125 publications on the platelets are listed, and the independence of the platelets from the other formed elements of the blood is emphasized.

Duration of Systole.—Fridericia discusses here the pathologic changes in the duration of the electrocardiogram of the ventricle. The systole is shorter with a negative T peak, and the abnormally long systole with weak heart and mild aorta disease throws light on both diagnosis and prognosis, as he describes with tabulated details of 124 cases.

Passage of Fat to the Liver.—Geelmuyden states that he found glycogen in the liver of ten diabetic coma cadavers but the highest fat content was 7 per cent., even with high lipemia. He explains that carbohydrates favor the production of sugar from fat in diabetes. The new production of sugar occurs in the liver, and at the expense of fat, and possibly of albumin. The carbohydrates thus act like a poison for the metabolism. They induce the fat to migrate to the liver, with resulting production of excess of sugar, and glycosuria. The mistake in the study of diabetes in the past has been that the elements of the metabolism have been studied separately, instead of embracing the whole field of the blood sugar and glycogen, the glycosuria, fat migration and ketonuria, albumin transformations, and the metabolism of matter and energy. Diabetic hyperglycemia and glycosuria are not due to defective oxidation of carbohydrate in the organism, but to excessive production at the expense of both fat and albumin. Pregnancy glycosuria is an actual diabetes except that it is transient. Phosphorus and chloroform poisoning induce the passage of fat into the liver, with fat infiltration or fatty degeneration, lipemia and ketonuria, but no or very little glycosuria. If, as seems to be the case, the sugar content of the blood drops abnormally low in chloroform poisoning, this may be the cause of tardy chloroform fatalities. The action of chloroform in a diabetic may suddenly exaggerate production of ketone bodies, and thus bring on coma. In the periodical acetone vomiting of children, the migration of fat and the ketonuria occur in their purest form. Fat may pass into the urine and the blood, and the sugar may drop from 0.14 to 0.07 per cent. but there is no glycosuria. Vomiting usually ushers in ketonuria and migration of fat. There is migration of fat during fasting; the glycogen in the liver is also at a low ebb, but there is no glycosuria. The cause of the overproduction of sugar in diabetes is probably to be sought in the nervous or endocrine systems, not in the metabolism.

Mode of Action of Serotherapy. — This communication reports the results and explanation of experimental and clinical research on antimeningococcus serum. Phagocytosis was much more pronounced with a homologous antiserum.

Hospitalstidende, Copenhagen

Jan. 19, 1921, **64**, No. 3

Meningococcus Infection Problems. O. Thomsen and F. Wulff.—p. 33. Begun in No. 2.—p. 17.

Jan. 26, 1921, **64**, No. 4

*Experimental Research on Influence of Exertion on Size of Heart. K. Secher.—p. 49. Conc'n in No. 5, p. 65.

Influence of Physical Exertion on Size of Heart.—Secher tabulates the heart findings in 31 wild rats (brown) forced to run until exhausted, comparing them with 11 normal rats of the same species and with 11 that died from the effects, at once or within a few hours up to three days. The findings confirm that acute overexertion entails dilatation of the heart and that this may reach a fatal point, but also that the acute dilatation may retrogress. The rat hearts increased by 15 per cent. to 20 or 27.6 per cent. over the normal size. In a further series of experiments with laboratory rats, 25 were given daily training in a treadmill and the findings are compared with those in 10 normal controls. They confirm that training enables the heart to stand extreme exertion without dilatation, the heart muscle growing capable of standing great strain. The mass of muscle also increased by about 5 per cent. The results thus confirm the general assumptions on this subject, including Külb's research on war dogs, and the findings with comparative anatomy which show that the swiftest animals and birds have the relatively largest hearts.

Feb. 2, 1921, **64**, No. 5

Atrophy of Left Thorax with Right Tuberculosis. V. Friis-Møller.—p. 73. Conc'n in No. 6, p. 81.

Feb. 9, 1921, **64**, No. 6

*Pathogenesis of Köhler's Disease. H. Abrahamsen.—p. 87.

Köhler's Disease. — Abrahamsen gives roentgenograms showing the almost complete absence of the scaphoid bone in a boy of 7 who had recently begun to limp and complain of pains. There was no history of trauma or paralysis, and the developmental defect was entirely different from the findings with Köhler's disease. The boy was given thyroid treatment for two or three months, and the bone proliferated rapidly but irregularly, so that it soon assumed the aspect characteristic of typical Köhler's disease. It seems evident that the developmental defect is the primary lesion.

Hygiea, Stockholm

March 16, 1921, **83**, No. 5

Etiology of Influenza. H. L. Davide.—p.150. Conc'n No. 6, p. 177.

Ugeskrift for Læger, Copenhagen

Feb. 17, 1921, **83**, No. 7

*Destruction of Pleural Adhesions. N. R. Christoffersen.—p. 243.
Dyspepsia with Appendicitis and Cholecystitis. Wildenskov.—p. 249.

Feb. 24, 1921, **83**, No. 8

Parkinsonian Type of Epidemic Encephalitis. P. Levison.—p. 275.
Aviators' Psychology. J. Fog.—p. 280.

Breaking up Pleural Adhesions.—Christoffersen has applied in three cases, described in detail, Jacobaeus' method of destroying bands in the pleura by cauterizing them with a long thin platinum cautery introduced through a trocar. The work is done under control of an endoscope, likewise of narrow caliber, and introduced through a trocar. The procedure is simple and easy, he says, when one has learned to manage the thoracoscope. Jacobaeus had applied this technic in seventeen cases in 1916, and he and others have used it since with gratifying results, rendering artificial pneumothorax possible in cases otherwise excluded from its benefits. Four roentgenograms show conditions "before and after."

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MULTIPLE MALIGNANT NEOPLASMS*

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There are some types of neoplasms in which multiplicity of primary foci of growth is the usual finding or is quite common. The types most usually displaying this characteristic are benign growths or those showing only a little tendency toward malignant degeneration. Many of the malignant tumors do, however, display this characteristic, and probably more frequently than is commonly supposed. Ewing [1] describes this tendency of multiple foci of growth in various malignant tumors.

A survey of the literature on this subject since 1910 revealed comparatively few articles, and in some of these the phrase "multiple carcinoma" was applied in cases of multiple metastases from a primary growth. A series of 200 cases of basal cell cancers, the type most commonly appearing as multiple growths, was reported by Barber [2] in 1915. Adamson [3] reported a case in which he speaks of and describes zoniform distribution of multiple basal cell carcinomas. In 1914, Plass [4] reported the fatal termination of a case in which he described multiple primary carcinomas. Richards [5] reported a case of interest in this connection in which there was noted cancer of the tonsil, and sarcoma of the scapula. Savatard [6] describes the recurrence of prickle cell cancers of the face. He describes the occurrence of prickle cell growth on a lupus base and states that he has never seen a basal cell cancer of such origin. One of my cases listed under Group 1 of this paper presents that condition.

There is a rather voluminous literature about two types of cancer that are multiple; cancer of the coal tar workers, and that associated with xeroderma pigmentosa. Since these have been so well described they will not be mentioned further in this paper.

The cases recorded here are those in which there were observed multiple malignant growths either of the same type or of different types. In the majority of cases the neoplasms were simultaneously present, though in some cases there was a sequence of development, the first growths having been successfully treated. Care was taken in the latter cases to rule out those in which there was the possibility that the second growth was a recurrence, or what might be more accurately termed a neoplastic recidive. The recording of metastatic growths was also guarded against. Several cases that had been recorded as multiple melanosarcoma were excluded on this basis.

Three thousand cases of malignancy were reviewed, and 143, or 4.7 per cent., of cases of multiple growths collected. In all cases possible a study of the pathology of the tissues was made, and of the cases in which this was not possible only those in which a definite clinical diagnosis could be made were included. For convenience of description the cases are grouped according to the types, or association of types present.

GROUP 1. BASAL CELL CARCINOMAS

The basal cell type of the squamous cell cancers is by far the most common of the multiple malignancies, and probably occurs more frequently than is indicated by the eighty-six cases collected. The site is nearly always on exposed areas of skin, and thus this disease is more prone to occur in persons whose occupation keeps them outdoors. Twenty-five per cent. of cases occurred in farmers. The distribution as to sex was fifty-five cases, 65 per cent. in males, and thirty cases, 35 per cent. in females. The history of duration of the disease ranged from six months to thirty-eight years, the average being eight years. The extremes of age of the patients were 22 years in the youngest and 89 years in the oldest. The average age was 66 years. There were but five patients under 50 years of age.

TABLE 1.—DISTRIBUTION OF BASAL CELL CARCINOMAS

	Scalp	Neck	Forehead	Temple	Eyelids	Nose	Cheeks	Upper Lip	Lower Lip	Hands	Shoulder	Back	Leg	Ears	Arm	Chest
Cases....	4	12	22	26	17	40	42	6	1	15	2	1	1	5	1	1
Lesions..	7	12	29	34	21	51	66	6	1	19	2	1	1	8	1	1

The usual site of the rodent ulcer is the upper part of the face, and it rarely occurs below the level of the lips. There were seven cases in which lesions were noted on the lip, and only one of these occurred on the lower lip. Rodent ulcers appeared on the dorsum of the hand in fifteen cases; three were noted on the shoulders and back, and one occurred on the leg. In every instance of the eighty-six cases there was at least one carcinoma on the upper part of the face or scalp.

Table 1 gives the distribution of the basal cell carcinomas noted.

The term "basal cell cancer" was introduced by Krompecher, who in 1900 traced the origin of growth to the basal cells of the malpighian layer, and described this histogenesis. The histologic study of the foregoing cases revealed the characteristic, rather compact masses of cells, which are circumscribed and separated

* From the Surgical Service, Barnard Free Skin and Cancer Hospital.

1. Ewing, James: Neoplastic Diseases, Philadelphia, W. B. Saunders Company, 1918.
2. Barber, R. F.: Med. Rec. **87**: 753, 1915.
3. Adamson, H. G.: Brit. J. Dermat. **29**: 81 (April-June) 1917.
4. Plass, E. D.: Johns Hopkins Hosp. Rep. **17**: 66, 1914.
5. Richards: Guys Hosp. Gaz. **24**: 69, 1920.
6. Savatard, Louis: Diagnosis of Early Epithelioma of the Skin, Brit. J. Dermat. **32**: 375 (Dec.) 1920.

from the surrounding tissues. A few of the sections showed some tendency to infiltration of the subdermal tissues, but this was by downward growth of reticulated strands, and not an infiltration of the lymph spaces by single cells or small groups of cells, such as is seen in the malignant carcinoma of mucous membrane origin or in the prickle cell growths of the skin.

GROUP 2. COINCIDENCE OF BASAL CELL AND PRICKLE CELL CANCERS

Group 2 comprises twenty cases, in each of which there occurred single or multiple basal cell carcinomas in patients having also a prickle cell cancer or a cancer of mucous membrane origin.

The distribution of the basal cell growths in this group is comparable to that shown in the cases recorded in Group 1. The youngest patient in the group was 34, the oldest 82, and the average age, 65 years. There were sixteen males and four females. The duration of growth was from one year to thirty years, and the average duration was five years. The distribution of the more malignant tumors of this group was: seven of the mucous membrane of the mouth; six on the face other than the lip; three on the mucocutaneous border of the lower lip, and four on the hand. The duration of these growths was from four months to five years. The average time of growth was less than one year, and only one had existed more than two years.

Five of the carcinomas originating on the mucous membrane were buccal growths, two of which had formed large verruca-like masses. There were submaxillary metastases in each case. There was one instance of malignancy originating on the upper alveolar ridge, invading the antrum, causing occlusion of the left nares, and bulging of the malar region. There was one case of carcinoma of the esophagus at about the level of the seventh cervical vertebra, in which metastases to the neighboring lymph glands were found.

The distribution of the prickle cell carcinomas of the face was: one on the left cheek with destruction of the eye; three on the right cheek; one on the right side of the nose involving the right eye, and one on the chin. Of the three growths of this type on the lower lip, all had metastasized to the submaxillary region. In all

TABLE 2.—DISTRIBUTION OF PRICKLE CELL GROWTHS

Site	Buccal	Maxilla	Esophagus	Right Cheek	Left Cheek	Lower Lip	Nose	Hand	Chin
Cases	5	1	1	3	1	3	1	4	1
Metastases	4	0	1	1	0	3	0	4	0

four of the cases presenting prickle cell cancers of the hand there were metastases to the axilla. Three of the tumors were on the dorsum of the right hand and one on the thumb of the left hand.

Table 2 indicates the distribution of the prickle cell growths, and mucous membrane cancers of this group, and the number of cases of each. The cases in which metastases were found are noted, and it is seen that the tumors of buccal origin, of the lower lip and of the hand are more prone to metastasize than are the cancers of the upper jaw and upper part of the face. This fact has been borne out by observations in many more cases than are listed here.

GROUP 3. MULTIPLE MALIGNANT SQUAMOUS CELL CARCINOMAS

In Group 3 are included seven cases, each of which presented more than one prickle cell cancer, or multiple squamous cell carcinomas of mucous membrane origin. There were five mucous membrane cancers seen in three patients of this group, the remaining growths being prickle cell in type. The distribution of the lesions seen in this group of patients is indicated in Table 3.

The clinical history of Case 2 in this group is of interest. The patient was a miner, and during the use of the torch attached to his cap, hot oil would splash over his face. This had repeatedly burned his lower lip, and two distinct ulcerations had appeared, one at each corner of his mouth, and, persisting, had spread

TABLE 3.—DISTRIBUTION OF LESIONS IN GROUP 3

Case	Hand	Lower Lip	Upper Jaw	Cheek	Nose	Ear	Eyelid	Buccal	Tongue
1	+	+							
2	...	++							
3	..	+	+						
4	..	..	..	+	+	+	+		
5	+	+							
6	..	..	+	..	..	..	..	+	
7	..	..	..	..	..	..	..	..	++

simultaneously at about equal rates of growth. Microscopic study showed both to be prickle cell cancers. The duration was about two years, and there were bilateral submaxillary metastases. Prickle cell cancers are not common in the upper part of the face, and in this respect Case 4 resembled the multiple rodent ulcer type, except that there was considerable piling up of tumor tissue. Microscopic study of the tissues displayed the definite characteristics of the more malignant growths.

In each of two cases, Cases 6 and 7, there were two neoplasms of mucous membrane origin, and in neither instance were the growths simultaneously present. In the first there was an apparently successful removal of a buccal carcinoma, the patient remaining free from cancer for a period of seven years, at the end of which time there appeared a small ulceration at the site of trauma by an upper molar tooth, of the lower alveolar ridge. Microscopic study showed this ulceration to be an early cancer of the alveolar border. The history of the last case is similar, as a right hemiresection of the tongue was performed, followed three years later by the appearance of a small ulcer on the left border of the tongue at the site of trauma by a ragged tooth. Clinical as well as microscopic study was afforded in each of these instances, and the late ulcers were without doubt recurrences of primary cancer foci.

The history of duration of growth of the tumors in this group was from three weeks, the shortest, to five years, the longest. The average duration was fourteen months, and in but one instance was the duration longer than two years. The average age of the patients in this group was 59 years. The youngest was 45, and the oldest, 72. All were men.

The usual result of the incomplete removal of a cancerous growth is the stimulation of the remaining cells to more active proliferation. May not some of the cases reported as of unusually late recurrence be the occurrence of new foci of neoplastic tissue? A case of interest in this connection is one at present under observation. The patient now presents, twenty-two years following a radical breast operation, an ulcerating cancer over the upper part of the scar. This case has not been included as one demonstrating multiple cancers, because the present growth is within the limits of the old operative field, and no microscopic study was obtainable. The suggestion that a neoplasm may stimulate an immunity reaction enough to prevent

an immediate growth of residual cells following a subtotal resection has often been discussed.

Histologic study of the prickle cell tumors of the last two groups displayed the somewhat variable picture seen in a series of sections of the acanthomatous cancers. Pearl formation was rather frequently present, and less often there was some infiltration of leukocytes in the surrounding tissues. The tendency toward tubular growth and rapid infiltration of the deeper structures was seen in a few cases. There is always some fibrosis of the tissues surrounding a cancer, but in the more malignant tumors this seems to have little effect in checking the growth of the cancer. In tumors of mucous membrane origin the pearl formation is absent; but the squamous cell characteristics, the infiltration of deep tissues and occasional tubular formation of growth are present.

GROUP 4. MULTIPLE BREAST CARCINOMA

Group 4 comprises fourteen cases of bilateral cancer of the breast. The youngest patient in this group was 25, and the oldest, 73 years of age. The average age was 46. The history of duration of the disease was from one month to seven years, and the average time of growth twenty-four months. All occurred in the female breast.

Ewing states that bilateral carcinoma of the breast is not uncommon, but that simultaneous occurrence is rare. This occurred in four cases, or 28 per cent., in this series. In three cases the appearance of the second growth was noted within a few months after the first. In three cases an apparently successful removal of the first growth was accomplished, followed by the appearance of cancer in the opposite breast in from one to four years later. There were found bilateral metastases in five cases, and unilateral metastases in five others. The frequency of bilateral occurrence has been estimated at from 5 to 9 per cent. of all cases of breast carcinoma. In the study of the so-called Schimmelbrusch cancer by Bloodgood, serial sections of breasts were made and multiple foci of cancer demonstrated in the same breast.

All cases in this group belonged to the adenocarcinoma type of growth. The histogenesis of adenocarcinoma of the breast has been shown to be papillary ingrowths of mammary cysts; and the names "intracanalicular cancer" and "villous cancer" have been applied to this type of growth. There is a tendency of many of the adenocarcinomas of the breasts to remain encapsulated, and thus they are likely to be less malignant and of longer duration than some other types of breast tumors. The adenomalignum, however, grows rapidly, metastasizes early, and may be one of the most malignant of breast neoplasms.

In one of the cases in which there was simultaneous appearance and growth of tumors of the two breasts, there was early ulceration and rapid spreading over the chest and abdomen, with the formation of the typical picture of carcinoma en cuirasse of Velpeau.

GROUP 5. COINCIDENCE OF BREAST AND OTHER TYPES OF CANCER

In Group 5 are included five cases, all of which presented carcinoma of the right breast and neoplasms of other than breast origin. The location and types of the various tumors and the respective ages of the patients have been indicated in Table 4. In each of Cases 1 and 2 the tumors of the breast and cervix were both present on admission to the hospital, but the history of symptoms indicated in each case that the growth in the breast was of about six months longer duration than that of the cervix. The history of duration of the breast cancers were fifteen and twenty-four months, respectively.

The average duration of the scirrhous carcinomas of this group was twenty months. Microscopic study of the sections proving to be scirrhous in type showed the infiltration of the cancer cells through a dense fibrous stroma characteristic of these growths. There was some round cell infiltration in one of these.

GROUP 6. MULTIPLE CYSTIC CARCINOMAS

Names that have commonly been given this type of growth are epithelioma adenoides cysticum and multiple benign cystic epitheliomas. These growths do not metastasize, and do not as commonly display ulceration and erosion such as that seen in the rodent ulcers, but they do invade and destroy surrounding tissues, and the view is held that they are more properly classed as malignant than as benign growths. This point was emphasized by Dr. Engman in a discussion of one of these cases in which invasion of the deeper layers of the skin was noted, and one of the growths had infiltrated the whole upper right eyelid, penetrating deeply into the orbit.

TABLE 4.—LOCATION OF TUMORS IN GROUP 5

Case	Age	Breast	Cervix	Forehead	Nose	Cheek	Scalp
1	44	Scirrhous	Squamous				
2	48	Medullary	Squamous				
3	73	Medullary	.....	Basal cell	Basal cell		
4	77	Scirrhous	.....	.....	.....	Basal cell	
5	33	Scirrhous	.....	.....	.....	.....	Basal cell

There were four cases presenting this type of neoplasm, two of the male and two of the female sex. The ages were 18, 31, 34 and 51 years. The history of duration was four, fifteen, six and four years, respectively. The areas involved were face, scalp, neck, chest, arms and vulva.

The origin of this type of tumor has been variously stated as from hair follicles, from sebaceous glands, and from sweat glands. There is some structural variation seen in different cases belonging to this type of growth, and probably any one of the tissues mentioned above may at times give rise to these tumors. The growth appears on the skin as hard, pearly nodules, which are sharply circumscribed. The cells are rather embryonal in type, and may be seen in alveolar arrangement, forming cysts having a colloid or mucoid material content. Finger-like strands of cells or masses of cells may be seen dipping into the alveoli.

GROUP 7. MELANOMAS

There were four patients presenting malignant melanotic tumors, either multiple or associated with other types of neoplasm. Two patients in this group presented multiple melanotic growths. The first was a man who gave a history of the appearance of pigmented nodules, one each on the neck and the chest, both of which, after a period of about nine months, began to grow rapidly. Both were excised, but widespread metastases appeared in a few weeks. The second was a man, aged 71, who for many years had had pigmented nevi on the forehead and the left eyebrow. There was a simultaneous malignant degeneration and growth noted in these tumors, which proved to be melanocarcinomas.

In the other cases of this group there were multiple basal cell cancers associated, in one instance, with a melanosarcoma of the back, and in the other instance, with multiple melanocarcinomas of the face, hands, scalp and neck. These patients were both men, aged 60, and 58 years, respectively.

The outstanding gross and histologic characteristic of melanomas is, of course, the presence of pigment, melanin, in the cells. The most common origin of this type of growth is from pigmented nevi, though in many cases it is impossible to state the source of the pigment-bearing cells. I have seen several cases in which there were deeply pigmented metastatic nodules, whereas the original growth had shown no melanin content. The peculiarly high grade of malignancy of melanotic neoplasms has long been recognized. I have never seen recovery in a patient who presented metastatic melanomatous growths.

GROUP 8. MULTIPLE CARCINOMAS OF THE STOMACH

There was one case, that of a man, aged 61, in which multiple cancers of the stomach were found. The duration of the symptoms was four months, and the history was not unusual. A subtotal gastrectomy was performed, and the specimen removed at operation presented four distinct masses in the wall, two of which were at the pyloric end, one anteriorly and one posteriorly placed. Two were about midway in the stomach wall, one on the anterior and one on the posterior wall. There was a punched out, necrotic crater in each of the masses, apparently gastric ulcers, in each of which malignant degeneration had taken place. Neither metastasis nor implantation from a single primary focus would explain all the carcinomas present.

Histologic study of the growths disclosed them to be of the adenocarcinoma type, in which there is a retention of the glandular structure of the mucosa. There was a more densely cellular mass than is seen in normal mucosa, and there was marked infiltration into the submucosal layers. There was also present considerable round cell infiltration.

GROUP 9. CASES PRESENTING MORE THAN TWO TYPES OF NEOPLASM

There were two cases in which more than two types of malignant neoplasm were present. The first of these cases has been reported.[7] There were present seven neoplasms, including a basal cell carcinoma of the forehead, a sarcoma of the antrum, and bilateral adenocarcinomas of the breasts.

The second case was that of a woman, aged 69. Both breasts had contained nodules for twenty-five years, and in the last year, rapid growth of tumors in both breasts was noted. The left lower alveolar border was the site of a malignant squamous cell carcinoma, from which there were metastases to the submaxillary region. There was also present a large carcinoma of the cervix, which bled rather freely on manipulation, and which had infiltrated the surrounding pelvic tissues.

The growth of the breast tumors in the latter case was virtually simultaneous in the two breasts, and though no microscopic examination was obtainable, the clinical picture admitted no doubt of malignancy. In view of the history of a preexisting chronic mastitis, and the fact that growth was noted in the breasts before symptoms of the mouth and cervical cancers appeared, the possibility of the breast tumors being metastatic from either cannot be entertained.

7. Withers, Sanford, and Owen, L. J.: Report of Case of Multiple Neoplastic Tumors, J. A. M. A. **75**: 742 (Sept. 11) 1920.

SUMMARY OF GROUPS

The grouping of the cases as given above is purely for convenience of description, and in several instances there are cases presenting the same type of growth in two or more groups. Groups 1, 2, 5, 7 and 9 contain cases of basal cell cancer, making a total of 111 patients presenting this type, or 78 per cent. of the total series. Groups 2, 3, 5 and 9 include twenty-nine cases of malignant squamous cell growths (prickle cell and mucous membrane cancers), or 20.5 per cent. of the cases. Groups 4, 5 and 9 include twenty-one cases of breast cancer, making 14.8 per cent. of the cases. The other types of neoplasm in the series are: cervix, two cases, 1.4 per cent. of the total; cystic dermal carcinoma, four cases, 2.8 per cent.; melanomas (sarcoma and carcinoma), four cases, 2.8 per cent.; one case of carcinoma of the stomach, 0.7 per cent., and one case of sarcoma of the antrum, 0.7 per cent. of the total,

Table 5 indicates briefly the number of cases presenting various types of growth in each group. The prickle cell and mouth cancers are not differentiated in the table.

TABLE 5.—VARIOUS TYPES OF GROWTH, ACCORDING TO GROUPS

Group	Malignant Basal Cell	Malignant Squamous Cell	Breast	Cervix	Cystic Dermal Cancer	Melanoma	Stomach	Sarcoma
1	86	..	..	..	..	..	..	..
2	20	20	..	..	..	..	..	..
3	..	7	..	..	..	..	..	..
4	..	..	14	..	..	..	..	..
5	2	1	5	2	..	..	..	..
6	..	..	..	..	4	..	..	..
7	2	..	..	..	..	4	..	..
8	..	..	..	..	..	..	1	..
9	1	1	2	1	..	..	..	1

COMMENT

The time that must elapse after the treatment of a malignant disease, before a cure is said to have been accomplished, has been extended from one to three, and later to five years or more. There can be no doubt that metastases that have been apparently dormant for more than five do occur. Bloodgood [8] reports a case in which lung metastases from a sarcoma of the femur caused death after a period of nine years. A considerable number of such cases have been recorded. I, however, believe that many cases recorded as metastases or residual growth from neoplasms previously treated are not such, but are new foci of growth. One case in illustration is that previously mentioned, of a cancer appearing on the chest wall near the sternum, twenty-two years after a radical breast amputation. I have under observation a patient from whom a prickle cell cancer of the temple was removed four years ago, the resulting scar being smooth and pliable. A few weeks ago there appeared another lesion so situated that the old scar was cut into in the excision of the second growth, which proved to be another prickle cell cancer. Another instance is that of a woman who was a "four and one-half cure" of a carcinoma of the cervix, when growths that were termed late vaginal metastases appeared. There was no opportunity for microscopic examination, but from physical findings I believe that the case was one of a primary cancer of the vagina. Another case, which I believe is one of multiple cancers, is one in which there was freedom from all signs

8. Bloodgood, J. C.: J. Radiol. **1**: 147 (March) 1920.

of malignancy for five years following the excision and plastic repair of a basal cell cancer of the forehead. At present the patient has a basal cell cancer in the area of the skin flap. I will not at present cite further cases, but I believe that there are many more which, with more thorough investigation, could be grouped as multiple neoplasms.

A patient who has apparently been successfully treated for a malignant disease is not immune to the growth of further neoplastic tissues. If the origin of his tumor was an embryonal rest, he may have many more, potentially malignant, in his tissues. If the important etiologic factor is specific cancer infection, an organism, then reinfection can occur. If it was at the site of chronic irritation, then might not it be that his tissues are prone to react unfavorably to chronic irritation and show malignant degeneration at such points? Savatard emphasizes that multiple growths of cancer of the face must be borne in mind where one has appeared. An article on cancer infection by A. J. Ochsner [9] would, it seems to me, emphasize the possibility of frequent multiplicity in malignant disease.

During the observation of a patient for metastatic or residual cancer following treatment of the original disease, the possibility that he may present new foci of neoplastic tissue should not be overlooked, and all points of irritation of tissues of whatever source should, if possible, be eliminated.

Washington and Theresa Avenues.

GRANULOMA FROM INDELIBLE PENCIL

MAX BALLIN, M.D.
AND
HARRY C. SALTZSTEIN, M.D.
DETROIT

REPORT OF CASE

Miss P. H., aged 37, clerk, seen, Sept. 23, 1920, fell, September 3, as she was carrying an indelible pencil in her right hand, the point entering the dorsum of the hand and breaking off. A swelling slowly formed about the point of entrance. Ten days later a small incision was made, but only a small quantity of serum was obtained.

Examination, September 23, revealed a tumor-like induration, 2 inches in diameter, on the dorsum of the right hand, overlying the second and third metacarpals. The midportion was bluish, and in its center was a small, indolent, bluish, sinus tract. Flexion of the fingers—especially the second and third—was limited.

September 25, a 2-inch elliptical incision was made surrounding the tumor on the dorsum of the hand. A small granuloma was located between the second and third extensor tendons. It was intensely blue stained; the dye had infiltrated into the tissues between the two tendons and between the second and third metacarpal bones. There was considerable soft, bluish, necrotic tissue. This was cleanly dissected and curetted away. The wound healed by first intention, but it took five weeks to establish complete function in the fingers.

IRRITATING EFFECT OF INDELIBLE PENCIL

Indelible or copying pencils are made of a mixture of graphite, alum, kaolin, and a basic anilin dye of the triphenylmethane group, generally methyl violet. Anilin and other coal tar products are intense local irritants. All workers in coal tar and analin industries are subject to eczema and acne, and Schamberg showed that they were frequently affected with papillomas of the forearms and hands. Papilloma and carcinoma of the bladder are more frequent among anilin workers than other individuals. Anilin dyes rubbed into the skin produce hypertrophy of the epithelium. Rubbing a rabbit's ear daily with anilin or coal tar will produce epithelial hypertrophy, and, if persisted in long enough, a carcinoma will develop. Ophthalmologists have long known that a bit of an ordinary (graphite) pencil in the eye was only a mechanical irritant, while very minute bits from a copying pencil quickly produced chemosis, edema of the lid, and cloudiness of the cornea. If not removed, or if a larger piece had found its way into the eye, there was necrosis, purulent inflammation of the cornea and staphyloma. The inflammation is chemical, not bacterial, for the pus is sterile.[1]

Erdheim [1] has observed twenty-three cases of injury of the hand, foot or body due to retained pieces of indelible pencil, and has studied the pathologic changes when it is injected subcutaneously into animals.

Within half an hour after closing a piece of indelible pencil in the abdominal subcutaneous tissue of a rat, guinea-pig or other animal, there is a soft edema of the skin, spreading widely, sometimes involving half the abdomen. This disappears after some hours. In twenty-four hours there is a large cystlike cavity in the subcutaneous tissues surrounding the indelible mass, and into the fluid of this the dye dissolves. The cyst shrinks in from four to six days, and is partially replaced by necrotic tissue; but it acts as a depot for continuous diffusion of the dye into the tissues for weeks. The necrosis extends widely—as far as the dye penetrates. There is marked leukocytic infiltration and barrier wall formation, but the process differs from the ordinary infection in that there is very little discharge or throwing off of tissue, and it differs from the usual foreign body reaction in that necrosis is much more evident, is progressive, and involves all contiguous tissues.

Foreign body giant cells are seen about some of the fat cells in the periphery. The blue color pervades everything. The epithelium covering the lesion is markedly thickened, and this hypertrophy includes the stratum granulosum and lucidum as well as stratum spinosum.

CONCLUSION

Pieces of indelible pencil broken off in tissues should be immediately and thoroughly removed. If extracted within an hour, there is no further trouble. After this the anilin violet dissolves and invades the tissues, causing irritation and gradual formation of granulomas. When the process has progressed to this stage, complete excision of all stained tissue is required.

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9. Ochsner, A. J.: Ann. Surg. **73**: 294 (March) 1921.

1. Erdheim, S.: Ueber Verletzungen mit Tintenstiften, Arch. f. klin. Chir. **106**: 91, 1914; Zur Pathologie und Therapie der Tintenstift- (Kopierstift-) verletzungen, Arch. f. klin. Chir. **113**: 772, 1920. Medical Science, Abstracts and Reviews **111**: 239, 1920.

Industrial Medicine in Italy.—Sixty physicians enrolled for the recent graduate course at Rome on the pathology, hygiene and medical aspect of industrial medicine, or, as the Italians call it, *la medicina del lavoro.* Eight professors delivered the lectures at the university institute for hygiene, including two from the law faculty. The clinic at Milan for occupational diseases has now two fellowships at its disposal for graduate work. One is offered by the Siccardi endowment and the other by the society, "Friends of the Clinica del Lavoro." The stipend is 1,800 liras a year, and a gold medal is also conferred. This is open only to graduates of Italian universities. Prof. R. Cassanello has also inaugurated at Spezia a course of public lectures on occupational pathology and hygiene, which are said to be much interesting the public.

LOCAL ANESTHESIA FOR SIMPLE MASTOID OPERATIONS

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As the advantages of the method seem pronounced in seventy-two cases in which local anesthesia was employed for the performance of simple mastoid operations, it is presented here for consideration.

PREOPERATIVE PREPARATION

The preoperative preparation of the patient consists of shaving the part as usual. The meal previous to the operation is omitted and a simple enema may be given. One-fourth grain of morphin and $\frac{1}{150}$ grain of atropin are given one-half hour before the operation. The patient is not brought to the operating room until all preparations for the operation have been completed and the operator and his assistants are ready to begin the operation. The patient is placed in a comfortable position on the operating table. This requires careful attention, as the comfort of the patient is very important. The field is prepared in the usual manner. As in all work with local anesthesia, the mental attitude of the patient plays a great part. Prior to the operation the word "mastoid" and "operation" are avoided; an expression such as "open the bone" or "get out the pus" is used. During the operation it is advantageous for the operator to carry on a conversation with the patient having no bearing on the operation.

TECHNIC OF ADMINISTERING ANESTHETIC

For all of the cases, 1 per cent. procain with from 1 to 2 drams of 1:1,000 epinephrin solution to the ounce has been used. The procain and epinephrin are boiled separately. An ordinary 2-c.c. Luer syringe with a No. 23 gage 1-inch needle has been used. The subcutaneous tissues are first infiltrated, beginning at a point directly posterior to the external auditory meatus in the line of incision and following the line of incision to its most upper and anterior point, and then downward anterior to the pinna as far as the level of the tragus. The next infiltration begins at the same point as the first, and extends downward to about 1 inch below the mastoid tip. At this point a slightly deeper injection is made; this effectively blocks the great auricular nerve. Directly below the mastoid tip a deeper injection is now made; this blocks the posterior auricular nerve. The branches of the small occipital nerve are now blocked about 1½ inches posterior to and on a level with the external auditory meatus. The needle is now inserted from behind the ear into the posterior wall of the external auditory canal, nearly to the attachment of the tympanic membrane. This step is very important, as the patient will experience pain when the periosteum around the canal is elevated, and the pinna is pushed forward if this injection is not made. Finally, the needle is thrust under the periosteum in four or five places so that the anesthetic completely infiltrates all the periosteum that is to be elevated. All this is done before the skin incision is made, and it is not necessary to use any more anesthetic after the operation has been begun.

It requires from 6 to 8 c.c. of solution to complete the anesthesia. As soon as the last injection has been made, skin clamps are used to hold the mastoid sheet and towels in position. It is not necessary to wait after the injection has been finished before the incision is made.

THE OPERATION

The technic of the operation differs in no way from the same operation under a general anesthetic. After making the incision through the skin, periosteum and intervening structures, the operator is happily surprised to find an almost bloodless field. Occasionally it may be necessary to clamp one or two of the larger vessels with hemostatic forceps; but after the self-retaining retractors are placed in position, the field is practically bloodless. In this series of cases an electrically driven bone drill has been used almost exclusively to make the first opening in the bone. After that, rongeur forceps and bone curets are used in the usual way. If it is desired to uncover the lateral sinus, this can be done painlessly without any further use of anesthetic. In cases in which there is an extradural abscess, the inner table of bone can be removed as necessary. In two cases in which there was a meningitis extending from the middle ear or mastoid, the dura was incised and a drain inserted. In one case the lateral ventricle was aspirated to relieve intracranial pressure.

ADVANTAGES

A general anesthetic is more or less difficult to administer to a patient undergoing a mastoid operation, on account of the position of the patient, small amount of space and danger of contaminating the field of operation. If the patient's tongue has a tendency to fall backward, or if there is an excess of mucus, the difficulties are still further increased. Then, too, the operator and his assistants usually inhale a considerable portion of the anesthetic. A large proportion of mastoid operations follow an attack of measles, which may also have been complicated with pneumonia and in which a general anesthetic would be given more or less reluctantly. In this series, thirty-five were mastoid cases that followed otitis media complicating measles, and five of the patients had or were recovering from bronchopneumonia at the time of operation. By employing local anesthesia, we were able to operate earlier in a large percentage of the cases than would have been possible if it had been necessary to give a general anesthetic. In one case of frank lobar pneumonia, operation was performed on the third day of the pneumonia. The patient recovered uneventfully from the pneumonia, and the mastoid wound was healed on the twelfth day.

Many patients resent taking a general anesthetic; they fear the anesthetic more than the operation, especially if they have previously taken ether. They dread the operation much less if they are told that their condition can be remedied by simply injecting a solution around the ear to alleviate the pain. It is a great relief to most patients to inform them that they will be allowed to drink water as soon as they come from the operating room. It is also gratifying to the operator to see the patient fall into a natural sleep after the operation, instead of nauseated and uncomfortable while reacting from a general anesthetic. In fact, many patients actually fall asleep while being operated on.

This method is applicable to all patients except children too young to be reasoned with. In this series the ages range from 15 to 32. However, there is no reason why patients much younger than 15 should not be operated on by local anesthesia, provided they have not been terrorized.

As the middle ear and mastoid are directly connected with the respiratory tract, it naturally follows that diseases of these two organs are practically always the result of infection from the respiratory tract, as tonsils, accessory sinuses and lungs. Consequently, with infection harbored in the respiratory tract, there is always a possibility of a pneumonia or bronchitis getting a foothold after irritation with a general anesthetic.

The first case in which this method of anesthesia was used was a case of mitral regurgitation, with signs of decompensation. The patient was admitted to the hospital with measles. He developed acute mastoiditis and acute endocarditis. He was considered a very poor risk for operation. However, when he developed a marked periostitis over the mastoid bone and a Bezold abscess with a decided septic temperature, it was decided to open the mastoid. The anesthesia was found completely satisfactory and the operation was completed without affecting the heart condition. The next three were cases in which a general anesthetic was not desirable. The last sixty-eight cases have been consecutive admissions to the hospital, and operation was performed under local anesthesia regardless of whether a general anesthetic was contraindicated or not. In none of the cases has it been necessary to give ether or other general anesthetics to complete the operation.

CONTRAINDICATIONS

There does not seem to be any contraindication for the use of this method except in the very young. In this series there were five cases of double mastoid operation, the second operation being performed in from two days to three weeks after the first. Each one of these patients readily consented to the second operation by the same method, not one of them expressing any desire to have a general anesthetic.

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THE SPIROCHETICIDAL VALUE OF DISODIUM ETHYL ARSINATE (MON-ARSONE)*

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The success of the arsphenamin group of arsenicals in the treatment of syphilis soon led to a trial of other groups, especially the well-known aliphatic compounds, such as sodium dimethyl arsinate (sodium cacodylate) and disodium methyl arsinate (new cacodyl or arrhenal). The success of the arsphenamin group was assured by a firm foundation of animal experiment which preceded their practical use and gave a rational germicidal basis for their application. As much could not be said for the proposed substitutes. They were advocated on a limited clinical experience which was misleading, because the improvement noted was symptomatic rather than specific. Thus, sodium cacodylate was early advocated in this country by a distinguished and lamented surgeon,[1] and is still advertised for use in syphilis. But the application to sodium cacodylate of the tests which resulted in the discovery of arsphenamin showed that, while arsphenamin is effective in one tenth of its fatal dose, sodium cacodylate, even in toxic doses, has no effect on the spirochetes of syphilis.[2] This finding has been confirmed by a number of observers.[3] There may be some clinical improvement after the use of sodium cacodylate, as the drug, like potassium iodid, may favor absorption of the exudate; but there is no adequate destruction of the cause of the exudate. In other words, the treatment is symptomatic rather than etiologic, and the results cannot be regular and lasting.

Recently another substitute for asphenamin has been proposed—disodium ethyl arsinate, or mon-arsone.[4] In spite of the history of sodium cacodylate, this homologous drug has been advocated as less toxic than arsphenamin and more parasitotropic, although no evidence on the latter point is submitted. Some studies have just been made on these compounds by Voegtlin and Smith,[5] using trypanosomes as test organisms. They found that for sodium cacodylate and ethyl arsinate the ratio of minimum lethal dose : minimum effective dose was 1, while the same ratio for neoarsphenamin was 28, and for arsphenamin, 17. These results with trypanosomes are convincing in general, but naturally for a conclusive answer to the question of the value of this drug in syphilis, it is desirable to know its actual effect on *Spirochaeta pallida* and experimental lesions. In consequence of a request for information on this point, the experiments here described were carried out. They show that the spirocheticidal value of mon-arsone is too small to warrant any practical use of this compound in human syphilis.

TABLE 1.—MINIMUM LETHAL DOSE

Rabbit	Dose per Kilogram, Gm.	Result	Principal Lesions
994	1.0	Death in 4 hours	Hemorrhage of ileum
992	0.66	Death in 24 hours	Hemorrhagic nephritis
163	0.55	Death in 24 hours	Hemorrhagic nephritis
V 3	0.33	Death in 24 hours	Hemorrhagic nephritis, hemorrhage from liver
97	0.33	Death in 72 hours	Hemorrhagic nephritis
V 5	0.2	Death in 48 hours	Hemorrhagic nephritis
V 7	0.1	Death in 96 hours	Hemorrhagic nephritis
V 8	0.1	Death in 72 hours	Hemorrhagic nephritis
V 10	0.075	Death in 96 hours	Hemorrhagic nephritis
Ty	0.075	Death in 72 hours	Hemorrhagis nephritis
V 5	0.05	Lived, apparently not affected	

The problem was to determine the relation of the minimum lethal dose or maximum tolerated dose of disodium, monoethyl arsinate ($C_2H_5—As\begin{matrix}=O\\—O—Na\\—O—Na\end{matrix}$) to the therapeutically effective dose. The minimum lethal dose was determined by injecting rabbits intravenously with varying doses according to body weight, and observing results. The drug was obtained from the manufacturers in ampules containing 2 gm. in 10 c.c. of sterile water.

The minimum lethal dose may be taken as 0.075 gm. per kilogram. The pictures, clinical and pathologic, were strikingly uniform, and consisted of somnolence and hemorrhagic tubular nephritis. The corresponding fatal dose for a 70 kg. adult would be 5.25 gm. The dose of 2 gm. which is advocated is, therefore, closer to the theoretically dangerous point than is considered safe with other arsenicals. The corresponding minimum lethal dose for rabbits for sodium cacodylate is 0.15 gm., and for arsphenamin 0.1 gm. per kilogram.

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*From the Division of Laboratories, Army Medical School.

1. Murphy, J. B.: The Arsenical Treatment of Syphilis, J. A. M. A. **55**: 1113 (Sept. 24) 1910.

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3. Castelli: Arch. f. Schiffs- u. Tropen-Hyg. **16**: 605, 1912. Alston: Brit. M. J. **1**: 360, 1911. Neisser: Beitr. z. Path. u. Therap. d. Syph., 1911, p. 261

4 Wright, B. L.; Kennell, L. A., and Hussey, L. M.: M. Rec. **97**: 607 (April 10) 1920.

5. Voegtlin, Carl, and Smith, H. W.: J. Pharmacol. & Exper. Therap. **15**: 475 (July) 1920; **16**: 449, 1921.

The minimum effective dose was determined by giving different doses, intravenously, to rabbits with chancres and examining daily for effects on the spirochetes and the lesions. The strain used was the V strain, which has been in rabbits since 1912 and produces good chancres on scrotal inoculation.

TABLE 2.—MINIMUM EFFECTIVE DOSE

Animal	Dose per Kilogram Intravenously, Gm.	Control	Daily Examinations for Spirochetes 1	2	3	4	Results
V 11	0.025	+	+	+	+	+	No effect on spirochetes; lesion smaller but persisted
V 5	0.05	+	+	+	+	..	No effect on spirochetes or lesion
V 10	0.075	+	+	+	+	⊕	No effect on spirochetes; lesion smaller; death from nephritis 4th day
V 7	0.1	+	+	..	..	⊕	Some effect on lesion; death from nephritis on 4th day
V 8	0.1	+	+	—	⊕	..	Some effect on lesion; death from nephritis on 3d day
V 5	0.2	+	+	⊕	..	..	Some effect on lesion; death from nephritis on 2d day
V 3	0.33	+	⊕—	..	..	..	Spirochetes killed; death from nephritis on 1st day
V 12	0.005 arsphenamin (silver)	+	—	—	..	—	Spirochetes killed; lesion resolved

⊕ = death from drug.

The following is an illustrative experiment:

V 5 was inoculated subcutaneously in the scrotum, November 6.

December 13: Large chancre; spirochetes +.
December 16: Spirochetes +. Mon-arsone, 0.05 per kilogram, intravenously.
December 17: Spirochetes +; active.
December 18: Spirochetes +; active.
December 20: Lesion not affected.
December 28: Lesion not affected; spirochetes + 0.2 gm. per kilogram; mon-arsone intravenously.
December 29: Spirochetes +.
December 30: Dead; hemorrhagic nephritis.

Animal V 10 is especially instructive in relation to the claims of parasitotropism. This animal had a good chancre which shrank noticeably after a dose of 0.075 gm.; but good active spirochetes could be found for three days. On the fourth day the animal died of hemorrhage nephritis.

If the death of the spirochetes is taken as a standard of the minimum effective dose, this would be 0.33 gm., while the minimum lethal dose is 0.075. In other words, the $\frac{\text{M.L.D.}}{\text{M.E.D.}}$ is $\frac{0.075}{0.33}$ or a negative quantity. If effect on the lesion is taken as the standard, then $\frac{\text{M.L.D.}}{\text{M.E.D.}} = \frac{0.075}{0.075}$, or 1. In other words, the substance has as much or more poisonous effect on the tissues as on the spirochetes.

COMMENT

In view of these results, it is difficult to understand the claims that this is an "ideal" arsenic compound for the treatment of syphilis. It lacks the essential characteristics of the arsphenamin group, namely, high spirocheticidal value.[6]

The work of Voegtlin and Smith [5] has thrown considerable light on the probable nature of the parasiticidal action of arsenicals. They have shown that all these compounds act as R — As = 0. The arsphenamin group must be oxidized to this form, and their relative action depends on the relative rate of excretion. The pentavalent aliphatic compounds must be reduced to the same form. Reduction is more difficult in the body than oxidation, and a large amount of the drug is excreted unchanged and without action.

It is seen that mon-arsone does not stand in the same class at all with the arsphenamin series, so far as experimental syphilis is concerned. Of course, it is true that the animal test is not always conclusive. For example, if mercury were being tested experimentally as a spirocheticide today for the first time, it would be thrown out at once as too toxic.[7] This conclusion would be reached because the rabbit is especially susceptible to mercury [8] and because mercury is not as suited for the intensive, intravenous method of treatment as the arsenicals. As between different arsenicals, however, the results of experimental therapeutics can be accepted as fair and conclusive.

SUMMARY

1. Disodium ethyl arsinate, or mon-arsone, tested on rabbits infected with syphilis shows no spirocheticidal power. The tissues are fatally poisoned as soon as or before the spirochetes are affected.

2. For its practical use in syphilis there is no such germicidal basis as exists in case of the arsphenamin group.

6. Pharmacology of Arsenicals, Current Comment, J. A. M. A. **76**: 595 (Feb. 26) 1921. Warning Against Untried Medicaments, General News, ibid. **74**: 1654 (June 12) 1920.

7. Nichols, H. J.: J. Exper. Med. **14**: 202, 1911.
8. Kolle, W., and Ritz, H.: Deutsch. med. Wchnschr., 1919, No. 18.

SOME DIFFICULTIES IN THE DIAGNOSIS OF EMPYEMA COMPLICATING PNEUMONIA *

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The frequency with which pneumonia is complicated by empyema varies much in different epidemics. But it is an ever-present danger, one always to be looked for in any patient, recovering from pneumonia, in whom the temperature fails to remain normal. Other complications, such as delayed resolution, lung abscess, otitis media, endocarditis and arthritis, may be present, but empyema must always be borne in mind and looked for assiduously in a delayed or protracted convalescence.

When the physical signs of empyema are frank, there is usually no difficulty in recognizing its existence; yet, in exceptional cases, even exploratory puncture with the finding of pus may be misleading. It is with such cases that the present note has to deal; interlobar empyemas are not included.

In the last few years, we have observed a number of cases in which, following an attack of pneumonia, dulness over the affected lobe became more intense, even flat, with distant or absent breath sounds, not infrequently egophony, and diminished or absent vocal fremitus; often with dulness over the lower dorsal spines and a paravertebral triangle of dulness on the unaffected side. Given such physical signs, exploratory puncture is always indicated. If a syringeful of pus is obtained, the diagnosis is practically certain, and drainage is indicated.

It sometimes happens, however, that only a drop or two of pus is obtained, and then the interpretation of the finding is more difficult. The accompanying case histories are illustrative.

* From the Medical Clinic of the Cincinnati General Hospital.

REPORT OF CASES

CASE 1.—A negro man, aged 24, single, was admitted to the hospital with frank lobar pneumonia of the left lower lobe. The disease followed the usual course, with fever, neutrophilic leukocytosis of 25,400 and rusty sputum, terminating by lysis. The temperature, however, did not remain normal, irregular elevations occurring. There were found at first only physical signs indicative of delayed resolution. Soon, however, the dulness increased to flatness, breath sounds were scarcely audible, and there was egophony at the angle of the scapula, with a paravertebral triangle of dulness on the opposite side. The heart was not displaced. Exploratory puncture was performed, but no pus was obtained in the syringe. On withdrawal of the needle, however, a drop of thick, yellow pus was expressed from it. Examination under the microscope revealed numerous pus cells, a few alveolar epithelial cells and *dust cells,* the latter proving conclusively that the pus was derived from the lung, in all probability from the contents of a bronchus. Surgical treatment was not resorted to. The signs persisted, and the patient, extremely asthenic, died within a few days. At necropsy, there was found in the left lower lobe an unresolved pneumonia, with purulent secretion in the bronchi. The affected part of the lung was airless. There was no empyema.

CASE 2.—Mrs. L. C., white, a widow, aged 32, was admitted to the hospital with temperature, 103.2 F.; respiration, 36, and pulse, 132. She was extremely toxic, with 14,000 leukocytes, of which 88 per cent. were polymorphonuclears. There was dyspnea. A history was not obtainable, beyond the fact that the patient had been ill about two weeks before admission, the onset being with chill, fever and pain in the left side. Physical examination revealed herpes on the upper lip, slight movement of the alae nasi, and flatness over the left base. Vocal fremitus was very weak on the right, and absent on the left. There was dulness beginning at the sixth dorsal spine, with Grocco's sign on the right. There was no egophony. The voice sounds and breath sounds were weak and distant. An exploratory puncture was made in the ninth left interspace posteriorly, and about 2 c.c. of pus was obtained. Microscopically, only pus cells were found. Surgical consultation was obtained, and resection of a rib was decided on.

The operation was performed under ether anesthesia two days after admission. The pleural cavity was found to be entirely free from fluid. Shortly after the pleura was entered there was a sudden gush of blood from the mouth, and the patient expired on the operating table. Necropsy was obtained. The cause of death was found to be a small aneurysm of the arch of the aorta, about the size of the terminal phalanx of the thumb, which had eroded the trachea and ruptured into the latter. The left lung was filled, in its lower lobe, with multiple abscesses, the largest measuring about 3 cm. in diameter. The bronchi were occluded with yellow, creamy pus. The left lower lobe was airless. Doubtless, the contents of a small abscess was aspirated, but as pus cells alone were found, we were misled into assuming the presence of empyema. In this case, because of the signs characteristic of fluid, we see no way of avoiding the mistake.

COMMENT

There have been many instances in which, with a delayed resolution, all the signs of fluid in the pleural cavity have been observed. At times, the signs persist for two or three days, only to disappear for a short time or permanently. Not infrequently, the signs of fluid are present one day, absent the next, and reappear the third day. In such cases, exploratory puncture usually fails to reveal pus.

I have come to the conclusion, as a result of numerous necropsy findings, that all of the evidences of fluid in the pleural cavity may result when, in addition to infiltration of the lung, the bronchi are filled with secretion. This, in effect, is a massive pneumonia, a condition which has long been known to simulate fluid in the pleural cavity.

That such a condition may exist as a sequel of pneumonia and lead to the presumption of an empyema has not, I believe, been sufficiently appreciated. Dry taps or the presence of dust cells in the pus, as well as variability in the physical signs from day to day, serve to differentiate the conditions. In many instances, too, the roentgen ray is helpful in diagnosis. A well defined Grocco's sign or egophony, or both, may often be found; but displacement of the heart, an unreliable sign, unless a large, left-sided effusion exists,[1] is lacking. Neutrophilic leukocytosis, though usually low, is often present, with remittent, rarely intermittent, fever.

THE OCCURRENCE OF PELLAGRA IN PATIENTS APPARENTLY RECEIVING AN AMPLE DIET

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Pellagra not infrequently develops in patients receiving treatment for other conditions in institutions which provide an adequate and varied ration. Occurrences of this kind tend to prejudice the clinician against the dietary etiology of pellagra. However natural under such circumstances the conclusion against the dietary etiology may appear to be, the study of several such cases coming under our observation has convinced us that the reasoning involved is defective and the conclusion not necessarily warranted.

The following history, typical in our experience, illustrates this:

M. S., a colored woman, aged 32, received at the Georgia State Sanitarium, Sept. 10, 1920, was well developed and well nourished. There was no evidence of pellagra. A mental diagnosis of alcoholic hallucinosis was made. She remained in a general ward several weeks but ate poorly, and was moved to the infirmary, October 31, on account of a poor appetite, loss of weight, and general weakness. For several days she took practically no food voluntarily and was tube fed. The nurses reported that she was eating, and the tube was not resorted to after November 5. From this time on the ward physician paid no special attention to her eating, as the menu was sufficient and her appetite was reported as fair or good.

A very mild pellagrous dermatitis was noticed about the wrist, December 31, and in a few days the lesions were quite well developed and involved the knuckles and bases of the thumbs. The dermatitis was quite symmetrical bilaterally. A diarrhea began within a few days. The mouth or tongue did not become appreciably red or sore.

While in a general ward the patient had access to a fairly liberal supply of food, with the following menu: For breakfast, hominy grits or oatmeal, a biscuit and a roll (wheat), beef hash, and coffee; for dinner, wheat bread, corn bread, beef (roast or stew), and two vegetables (potatoes, sweet potatoes, beans, peas, turnips, green salad, and rice being most frequently used); for supper, wheat bread, syrup (or occasionally stewed fruit) and tea. The menu in the infirmary differed from that given above in that hash and syrup were usually omitted, a cup of fresh milk given regularly at each meal, and butter given at breakfast and supper.

After the development of pellagra, an effort was made to get the facts concerning the patient's eating. Several nurses were independently questioned, and without any essential

1. In a recent case of left-sided pleural effusion, 1,800 c.c. of serous fluid was aspirated, yet there was no displacement of the heart, the right border remaining 3 cm. to the right of the median line in the fourth interspace before and after the thoracentesis. In this case, too, Grocco's sign was absent.

variation they stated that the woman had practically never eaten any beef and that she never drank her milk, only using about an ounce in her coffee daily, but that she frequently ate fairly well such articles as grits, bread, rice, potatoes and other vegetables. The patient's own story coincided with this.

In connection with the foregoing it may be stated that one of us has studied the diet of several individuals in good circumstances who have developed pellagra outside of institutions with the result that strong dietary eccentricities, principally against the protein-containing foods, were usually found to have existed prior to the onset of pellagra, thus confirming the observations reported by Roberts.[1]

It will thus be seen that it is not proper to assume that because a patient is provided with a certain diet this also is eaten; there is danger of drawing erroneous conclusions when the knowledge in hand concerns the available food supply rather than the diet actually consumed by the patient.

THE EFFECT OF SMALL DOSES OF ATROPIN ON THE HEART RATE*

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In a study of the action of atropin I have been somewhat surprised at the slowing of the heart rate produced by small doses. This is especially important if we use the pharmacopeial dose, which is 1/120 grain, or 0.0005 gm.; with this dosage the only influence on the heart seems to be a slowing of the rate. So far as I know, atropin is never given for the purpose of slowing, and in many cases this action on the heart in practice would be unimportant. If, however, the object of giving atropin is to eliminate vagus control, as is sometimes advised in excessive slowing after digitalis, or other cases in which the pulse is slow and irregular,[1] the pharmacopeial dose in most cases will produce the opposite effect.

With regard to the action of atropin on the heart, Wood[2] says: "The characteristic results of its administration are a rapid pulse, . . . but atropin may cause a primary slowing of the pulse, *very brief and only occasionally to be demonstrated.*" Sollmann[3] calls attention to the fact that therapeutic doses of atropin do not usually affect the pulse rate, but that experimental doses greatly increase it. Also because atropin acts on the vagus center as well as the vagus endings, it may cause a primary slowing. Stevens[4] says that, prior to the acceleration, there is occasionally some slowing from stimulation of the inhibitory center in the medulla. Green[5] says that therapeutic doses of atropin have little accelerator effect on the heart rate of very young animals or of young children, owing to the fact that the vagus tone is less developed in the young; 1 mg. (1/60 grain) or larger doses produce in man a perceptible acceleration of the heart beat. He does not mention a decrease in rate. Poulsson[6] says that, after primary stimulation (aufanglicher Erregung), atropin paralyzes the vagus ending. Dixon[1] states that some cardiac slowing is occasionally seen in man soon after an administration of atropin, but that the slowing is at most very transient.

Cushny[7] does not mention a slowing produced by atropin, but states that the action on the vagus endings is purely depressant. However, he mentions a stimulation of the central nervous system.

If we could get the central action independent of the peripheral action, we should expect only slowing. With small doses we may get such an action, and apparently at some stages in the action of larger doses, presumably while only a part of it has been absorbed, slowing is sometimes seen. None of the authors state that slowing is the only result of a small dose, and most authors do not mention this slowing of the heart rate. However, clinicians[8] inform me that it is a common occurrence; especially has it been observed in exophthalmic goiter and in cases of vagotonia. This statement I accept readily, since it was after doses of pilocarpin which did not, per se, produce slowing that I first observed the slowing influence of small doses of atropin. Pilocarpin creates an artificial vagotonia, and in larger doses, as is well known, produces pronounced slowing. The accompanying experiments give an idea of the action of small doses of atropin on the heart rate.

METHODS

Atropin sulphate was dissolved in sterile water so that 1 c.c. contained 1/60 grain or 1/30 grain (0.1 per cent. and 0.2 per cent.). The drug was injected hypodermically. The discussion refers to this method of administration, though in some cases it was taken by mouth with the same effect.

In all these cases the pulse was counted for the interval one-half or one minute. They are sufficient to show that small doses of atropin, when they affect the pulse rate, slow it only. With larger doses there may be a primary slowing, followed by the usual atropin effect due to paralysis of the vagus endings.

ANALYSIS OF THE ACTION

Atropin could cause a slowing of the heart rate by: (1) stimulating the vagus endings; (2) stimulation of the ganglions on the vagus, as nicotin does; (3) stimulation of the inhibitory center in the medulla, and (4) depressing the heart muscle directly. It has been shown above[7] that any influence of atropin on the vagus endings is paralytic, and consequently would tend to quicken the heart rate. However, Simon[9] states that after small doses of atropin, vagus stimulation results in a greater fall of blood pressure than before atropin. This might mean a stimulation of the vagus endings. Pilcher and Sollmann[3] could not confirm this observation. This point I am now investigating.

The heart muscle is not influenced even by doses of atropin that paralyze the vagus endings, and in isolated muscle preparations from the terrapin's heart are not influenced by a wide range of concentration of atropin.[10] Pilcher and Sollmann[11] found in anesthetized dogs that after section of the vagi, atropin

1. Roberts, S. R.: Types and Treatment of Pellagra, J. A. M. A. **75**: 21 (July 3) 1920.

* From the Laboratory of Pharmacology and Therapeutics, University of Illinois College of Medicine.

1. Dixon: Manual of Pharmacology, Ed. 4, 1915, p. 81.
2. Wood: Therapeutics, Its Principles and Practice, Ed. 14, 1908, p. 96.
3. Sollmann, Torald: Manual of Pharmacology, 1917, p. 280.
4. Stevens: Modern Materia Medica and Therapeutics, 1913, p. 76.
5. Green: Handbook of Pharmacology, 1914, pp. 113, 117.
6. Poulsson: Lehrbuch der Pharmacologie, 1920, p. 109.
7. Cushny: Pharmacology and Therapeutics, 1918, pp. 31, 318.
8. A. J. Ochsner, Chicago, and J. T. Halsey, New Orleans, in personal communications to the author.
9. Simon, J.: Arch. di farmacol. sperm. C. Scienze aff. **15**: 254, 1913; abstr. Therap. Montsh. **27**: 594, 1913.
10. Green: Handbook of Pharmacology, 1914, p. 117.
11. Pilcher and Sollmann: J. Pharmacol. & Exper. Therap. **5**: 318, 1913.

produced no increase in the rate; so they conclude that the muscle or intrinsic ganglions are not acted on by atropin. The heart muscle, therefore, is not depressed. So far as I can judge, atropin has little action on ganglion cells, since stimulation of the cervical sympathetic still elicits secretion of the salivary gland when the nerve endings of the chorda tympani are paralyzed by atropin. We may assume that the ganglions and endings on the vagus are influenced in the same manner. This leaves the centers as the point of attack by small doses of atropin.

There is, however, other evidence in favor of a central action. Child [12] has shown that in animal life there is a metabolic gradient, and that the anterior pole of an animal is more susceptible to drugs than the caudal pole. Taschiro [13] has shown that this holds true for the nervous system. Dixon also calls attention to the action of anesthetics which attack the nervous system according to the law of dissolution, i. e., the highest parts, or those last developed in the evolutionary scheme, are the first attacked. Consequently, the central parts of the nervous system are more influenced by drugs than the peripheral parts. Working on this hypothesis, if we anesthetize a dog, the depression of the vagus center is so pronounced that atropin will paralyze the vagus endings before it stimulates the depressed center. For this reason, small doses of atropin will not show a slowing of the pulse in the anesthetized animal, while it will in the normal animal.

When atropin is administered, therefore, the dose must be proportionate to the object in view. If the object in view is to eliminate vagus control from the heart, double the pharmacopeial dose is required, and this dose will be too small in some cases. It is well known that animals differ greatly in their susceptibility to atropin. For instance, rabbits may feed on the leaves of *Atropa belladonna* without any perceptible effect, and they react but slightly to atropin. Leonard W. Jones [14] calls attention to an adventure which indicates that children are less susceptible to atropin than are adults. My own work suggests that negroes are less susceptible than white persons, though to make certain, Dr. H. A. Paskind is making a special investigation of this point.

DOSIMETRIC TABLE

Schmiedeberg [16] compiles a dosimetric table, most of which I can confirm; and in addition, add a first member to the series. The following is the dosimetric table as I found it:

0.5 mg. (1/120 grain): Slowing of the pulse rate, with just a trace of dryness of the throat.

From 0.5 to 1 mg. (1/120 to 1/60 grain): Dryness of the throat with thirst; tendency to irregularity of the heart; slowing of pulse rate; in some cases there may be quickened pulse.

2 mg. (1/30 grain): Rapid pulse preceded by very transient and but slight slowing; some dilatation of the pupil, but not in all cases (negroes did not react with dose); one eye may dilate more than the other; pronounced thirst; pupils somewhat dilated later.

7 mg. (1/10 grain): Considerable dilation of the pupils; disturbance of vision; difficulty of swallowing and micturition; rapid heart; thirst; headache.

From 8 to 10 mg. (⅛ to ⅙ grain) by mouth: Excitement; hallucinations; flushed face, dry skin, in addition to the foregoing symptoms with smaller doses. These larger doses were observed after the accidental administration of the drug.

EXPERIMENT 1.—A man, aged 30, a genito-urinary case, was given 1/50 grain of atropin by mouth.

Time	Heart	Respiration
2:30	84	21
2:40	84	21
2:46	84	21
2:51	—	—
3:01	72	21
3:11	72	24
3:16	68	—
3:26	66	21
3:30	72	21
1/100 grain of atropin sulphate hypodermically		
3:35	72	24
3:40	72	28
3:45	72	28
4:00	72	26
4:15	72	24

EXPERIMENT 2.—A healthy man, aged 46, weight 175 pounds.

Time	Heart	Respiration
	82	20
9:30 1/120 grain of atropin sulphate in solution by mouth		
9:35	84	20
9:45	84	20
9:50	84	20
10:00	84	20
10:05	78	20
10:10	78	20
10:20	74	18
10:40	72	18
11:00	72	18
11:15	68	18
12:00	66	18

This result in man was duplicated in another healthy man, aged 24, weighing 180 pounds. In these cases there is some tendency to irregularity. Apparently the heart is on the verge of breaking away from the vagus control.

EXPERIMENT 3.—Healthy man, aged 20.

Time	Heart Rate
1:25	86
1:28	86
1:30	86
1:35	86
1/120 grain of atropin by mouth	
1:40	84
1:45	90
1:50	80
1:55	80
2:00	76
2:05	80
2:10	82
2:15	74
2:45	72
3:05	62
3:10	64
3:20	60
3:35	64
4:00	60
4:30	62

EXPERIMENT 4.—A negro, aged about 28.

Time	Heart	Respiration	Diameter of Pupil Mm.	
3:10	72	20	3.0	
3:15	..	..	...	1/30 grain of atropin subcutaneously
3:20	60	20	2.5	Small volume pulse
3:25	64	20	1.5	
3:35	60	20	1.5	Very small volume
3:45	..	..	...	
4:00	75	20	1.5	Says heart is excited and beats faster; frightened
4:15	78	20	1.5	

EXPERIMENT 5.—A negro man, aged about 30.

Time	Heart	Respiration	Diameter of Pupil Mm.	
3:15	72	18	2.5	
3:17	..	..	...	1/30 grain of atropin subcutaneously
3:20	72	18	2.0	
3:25	60	18	2.0	Small volume (pulse)
3:35	56	18	2.0	
3:45	60	18	...	
3:50	56	18	1.5	
4:00	70	18	2.0	
4:15	72	18	2.0	

12. Child: Origin and Development of the Nervous System, University of Chicago Press, 1921.
13. Taschiro: Am. J. Physiol., 1914, pp. 33 and 36.
14. Jones, L. W.: An Adventure in Atropism, J. A. M. A. **76**: 813 (March 19) 1921.
15. Compare also Green (Footnote 10).
16. Schmiedeberg: Grundriss der Pharmacologie, Leipzig, 1913, p. 178.

EXPERIMENT 6.—A white man, weighing 150 pounds.

Time	Heart	Diameter of Pupil Mm.	
1:32	100	2.5	
1:36	1 c.c. (1/30 grain) atropin sulphate hypodermically		
1:40	100	2.5	
1:45	96		
1:50	106	not changed	
		2.5	
1:55	116		
2:00	128	2.0	
2:05	132		
2:10	132	2.5	
2:20	130		
2:25	128	R 4	
2:40	122	4 4	Mouth very dry
3:00	108	4 4	

SUMMARY

Small doses of atropin, if they influence the heart rate, only slow it. This slowing is produced by an action on the vagus center in the medulla. There may also be some stimulation of the vagus endings. Larger doses of atropin, 0.001 gm. (1/60 grain) still cause slowing, with a tendency to irregularity. This is the point at which the vagus endings begin to be paralyzed. If the dose is still further increased, 0.002 gm. (1/30 grain), the primary slowing of the heart rate may be so transient that it escapes notice. If the object in giving atropin is to paralyze the vagus endings and release the heart (presumably also to relax the smaller bronchioles), at least 1/60 grain, hypodermically, is necessary. In urgent cases, 1/30 grain should be given.

GASTRIC ANALYSIS

III. THE EXAMINATION OF THE ABNORMAL GASTRIC RESIDUUM *

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Various investigators [1] have said that the normal gastric residuum should not exceed 20 c.c. This conclusion was based on incomplete stomach evacuations by means of the old type stomach tube.[2] More accurate evacuations, made in our laboratory by means of the Rehfuss tube,[3] have demonstrated that the normal residuum averages about 50 c.c. in volume, a finding which has been verified by Fowler and Zentmire.[4]

The residuum, or the material found in the fasting stomach, represents the interdigestive phase of gastric activity. The latter term is used advisedly, as we have already pointed out, in other connections, that the stomach is never inactive. The term "empty stomach" is an erroneous one and should be discarded. In a recent contribution from this laboratory,[5] the mechanism by which the digestive phase merges into the interdigestive phase was discussed. Peristalsis ceases and the so-called peristole function comes into play, and with it are seen the tonal and hunger contractions. It is also probable that the tonus of the pylorus is reduced with more active intestinal regurgitation. In 55 per cent. of normal cases, bile is found in the stomach during the interdigestive period, and in practically all cases appreciable amounts of trypsin are found. From the secretory standpoint there is a marked lowering in the amount and the acidity of the secretion, as well as a distinct reduction in the velocity of its formation.

In the present article we shall attempt to offer a basis for the interpretation and study of the residuum, attempting to define normal limits and, where possible, point out pathologic variations. The accompanying table includes average data from the analysis of normal and abnormal residuums.

COMPARISON OF NORMAL AND ABNORMAL RESIDUUM

Determination *	Normal Findings	Abnormal Findings
Volume	50 c.c. (20-100)	In excess of 100
Food retention	Not found	May be present
Total acidity	30 (10-50)	70 and over
Free acidity	18 (0-30)	40 and over
Blood	Not found	Present
Pus	Not found	Present
Gastric mucus	Traces	Markedly increased
Pepsin index	2.8 Mett	Diminished
Trypsin index	9.1 ave. units	Diminished or plus
Cryoscopic index	—0.470	
Specific gravity	1.0056	

* Tube passed after simple lubrication and not with the addition of water, and the material aspirated in the upright and recumbent posture and on each side.

VOLUME OF RESIDUUM

The volume of the residuum is a matter of considerable importance, as an increase in the residuum means almost invariably an interference in the resumption of the interdigestive or rest phase of the stomach. In other words, the digestive period has encroached upon the interdigestive or rest phase. One hundred c.c. is merely selected as an arbitrary point, because in our experience wherever an increase in the residuum was of diagnostic importance, it equaled or exceeded this point. This does not for a moment invalidate the fact that serious organic disease may exist in the stomach in the presence of a residuum of normal quantity. On the contrary, the inference to be drawn from such a finding is the fact that the disease in question did not produce an alteration in the residuum so far as the quantity was concerned, but study would probably reveal that it had been altered in some other way. The second important point to determine is whether or not any increase is associated with food retention. This enables us to divide all increases in the quantity of residuum into two groups: Group 1, increase in volume without food retention—hypersecretory group, and Group 2, increase in volume with food retention.

Group 1 almost always belongs to the hypersecretory group, and indicates either a continued secretion as part of a high secretory output during the digestive period, which continues through the interdigestive period or indicates a permanent increase in secretory velocity. Both of these functional conditions may be seen with and without organic changes in the digestive tract. In the absence of any other finding, a marked increase in residuum in the absence of food retention may be due to a pure vagotonia, may be purely psychic, or it may be a tobacco hypersecretion. On the other hand, it is frequently seen in duodenal ulcer, less fre-

* From the Laboratory of Physiological Chemistry, Jefferson Medical College.

* The expenses of the researches on which this paper is based were defrayed by funds furnished by Mrs. M. H. Henderson.

1. Loeper: Leçons de pathologie digestive, Series 2, 1912, p. 17. Zweig: Magen- und Darmkrankheiten, 1912, p. 459. Kemp: Diseases of the Stomach, Intestine and Pancreas, 1912, p. 133. Wolff: Taschenbuch der Magen- und Darmkrankheiten, p. 22. Strauss, Riegel and Soupalt, cited by Loeper.

2. Harmer, T. W., and Dodd, W. J.: Sources of Error in the Use of the Stomach Tube for Diagnosis, Arch. Int. Med. **12**: 488 (Nov.) 1913.

3. Rehfuss, M. E.; Bergeim, Olaf, and Hawk, P. B.: Gastro-Intestinal Studies, J. A. M. A. **63**: 11-13 (July 4) 1914. Fowler, C. C.; Rehfuss, M. E., and Hawk, P. B.: J. A. M. A. **65**: 1021-1025 (Sept. 18) 1915.

4. Fowler, C. C., and Zentmire, Zelma: Studies of the Gastric Residuum, J. A. M. A. **68**: 167-170 (Jan. 20) 1917.

5. Rehfuss, M. E., and Hawk, P. B.: Gastric Analysis, J. A. M. A. **76**: 564 (Feb. 26) 1921.

quently in chronic appendicitis, and in a very small number of uncomplicated cholelithiasis cases. It, therefore, simply denotes a functional disturbance in secretory output which may or may not have its explanation in an associated organic pathologic condition. Among our patients we have two tobacco smokers who showed residuums of 400 and 210 c.c., respectively. One of these patients smoked twenty-five cigars a day. Another patient, nervous and very sensitive, with vagotonic manifestations and many of the findings of autonomic disturbances, showed a residuum of approximately 200 c.c. of pure secretion. As a general rule, however, this finding of a residuum of excessive volume is much more likely to be associated with organic disease, and duodenal ulcer is the prime offender. These findings are likely to occur in crises. We have seen, on several occasions, hypersecretory crises in which more than 1,000 c.c. of pure secretion was found in the stomach, to be followed in less than a week by return to normal residuum figures.

Group 2, or high residuum with food retention, is an extremely important one. In our experience, twelve hour retention or the persistent finding of an appreciable amount of macroscopic food in the stomach is always pathologic, and in 98 per cent. of cases is due to an organic lesion in or near the stomach. Nevertheless, in our studies on normal persons[6] we were able to demonstrate that overeating plus overindulgence in alcoholic beverages could undoubtedly produce twelve hour retention, a phenomenon which was not rare in preprohibition days. If dietary indiscretions exceed the factor of safety of the stomach, the normal digestive and interdigestive sequence will suffer, and temporary food retention may occur. This is not an infrequent event in the course of many acute illnesses, and is to be distinguished from the persistent retention seen in organic gastric disease. From our experience, cases which show food retention in the residuum, thus indicating prolongation of the digestive into the interdigestive phase, can be divided into the following groups:

A. Muscle defects:
   1. Atony—slight delay, but never twelve hour retention.
   2. Dilatation—persistent food retention.

B. Obstruction:
   1. Intragastric.
      (*a*) Neoplasm—one-half of all cases of gastric carcinoma.
      (*b*) Gastric ulcer—in about one-half of the cases.
      (*c*) Duodenal ulcer—in about 20 per cent. of cases.
      (*d*) Gastric syphilis—three out of eight cases in our series.
      (*e*) Benign tumors at pylorus—one case of fibroma seen.
      (*f*) Hypertrophic pylorus.
   2. Extragastric:
      (*a*) Tumors—commonest carcinoma of the head of the pancreas.
      (*b*) Adhesions and bands—from the gallbladder region to the first part of the duodenum and the pylorus.
      (*c*) Inflammatory masses involving the pylorus.

When there is persistent and distinct food retention, it is almost always due to an organic lesion at or near the stomach. Its presence is established by examination and, if necessary, reexamination after the administration of atropin to full dose. It is of no value to collect data regarding the incidence of food retention in carcinoma, for instance, as carcinoma of the pylorus is accompanied by early retention, and carcinoma of the body of the stomach or lesser curvature may progress to its termination without food retention. Taking all varieties, however, more than one half show retention. Contrary to our expectations, we are prepared to accept the dictum that ulcer of the duodenum is a more common cause of food retention than ulcer at the pylorus only, because it is numerically more frequent. Taking equal numbers of cases, retention is more frequent with gastric ulcer. We have seen pronounced food retention of the twelve hour type in three cases of gastric syphilis; in three cases of carcinoma of the head of the pancreas; in one case of chronic pancreatitis; in one case of fibroma of the pyloric outlet, and in six cases of adhesion formation, in all but two of which it was intermittent. On the other hand, we encountered one case of food retention with hypersecretion which persisted over a considerable time in a patient with renal stone and frequent colic. The importance of total and free acidity is largely embodied in the foregoing statement. A high total and correspondingly high free acidity belong to the hypersecretory type. If this finding occurs in crises, and the finding is associated with manifest deformity of the bulb on roentgen-ray examination, it is an almost pathognomonic complex of duodenal ulcer. On the other hand, about 40 per cent. of gastric ulcers show this phenomenon. A malignant ulcer can show precisely the same findings during the early stages. Total acidities which are low and are unaccompanied by demonstrable free acidity when associated with persistent retention are almost always due to malignant disease.

BLOOD

While it is true that imperfect stomach tube technic can readily account for the presence of blood in the stomach, its presence is nevertheless a matter of importance when careful technic is used, and particularly when the tip of the tube is coated with paraffin and the material siphoned off rather than aspirated. It is evident that this blood, and particularly occult blood in the residuum, may be due to either extragastric or intragastric causes. Swallowed blood is usually small in amount, discrete in appearance, aerated and floating on the surface of the specimen, and the microscopic examination of a residuum containing such blood usually shows some evidence of a lesion above the cardia. If it is microscopic, a test like the benzidin test will usually be found to be positive in streaks which on examination reveal epithelium not belonging to the stomach. The commonest causes are tonsillar, gingival or pyorrheal, postnasal, or even pulmonary hemorrhages.

Intragastric hemorrhages or intragastric blood are less commonly found than would be supposed in ulcer. On the other hand, this intragastric blood is found in more than 80 per cent. of the cases of malignant disease of the stomach. For example, in our own experience it was found in seven out of eight cases of gastric syphilis, and was practically constant in infected gastritis and achlorhydria hemorrhagica gastrica. Simple oozing from passive congestion, seen in portal hypertension, or in cardiac incompensation, can produce bleeding, and likewise hemorrhagic erosions. There is one form of stomach described by several writers, a single case of which we have observed, in which there was an almost constant oozing of blood from the stomach; but operation failed to disclose any evidence of a lesion on the exposed gastric wall.

6. Bergeim, Olaf; Rehfuss, M. E., and Hawk, P. B.: Unpublished data.

PUS

Pus should never be found in the gastric contents in health. With the exception of ulcerating carcinoma, gastric syphilis, infected gastritis, and the extremely rare acute phlegmon of the stomach or phlegmonous gastritis, pus should never be found in the stomach. And yet, in the last 400 cases, which alone were examined microscopically for the presence of pus, mucopus was found in 147, or 37.6 per cent. Ninety-two, or 23 per cent., of the patients had proved nose and throat affections, and only about 8 per cent. showed pulmonary lesions, and yet in each instance the presence of pus in the stomach was proof positive of a suppurative focus higher up. The unconscious swallowing of all individuals with infections in the nasal, oropharyngeal, and pulmonary tracts is too well known to merit description. The outstanding feature is the fact that the demonstration of purulent material in the fasting stomach is a most valuable method of demonstrating focal infections above the cardia. In at least 98 per cent. of cases, mucopus in the residuum is evidence of an extragastric focus. Not only does this method offer the most convenient means for demonstrating the possibility of such a focus, but the demonstration and eradication of such a focus is of cardinal importance in the study and therapy of resulting gastro-intestinal disturbances. We would suggest this study as a routine one in the investigation of the residuum. The fasting stomach can be considered as a drainage trap which collects much of the material draining from the postnasal, oropharyngeal and even the respiratory tracts, and the material which is difficult to demonstrate during the digestive period is surprisingly easy of demonstration during the fasting period when, owing to reduced acidity, the cellular picture is often intact.

CONCLUSIONS

1. The examination of the fasting stomach is in reality an examination of the interdigestive period of gastric activity.

2. The average normal findings and the mean variations are a basis for the interpretation of pathologic variations.

3. In the foregoing, the significance and the analysis of increased quantity, food retention, altered acidity, pus, blood and mucus have been discussed in detail. The general grouping of pathologic findings as suggested here is a simple means of interpretation of these findings.

4. The determination of swallowed mucopus as an evidence of focal infection above the level of the cardia is one of the simplest and most satisfactory means at our disposal for accurately determining the presence of an open focal infection.

5. The examination of the residuum is vitally important, as it is likely to reveal the presence of pathologic exudates which are obscured by the food material during the digestive phase.

Scarcity of Medicinal Herbs in Germany.—The *Medizinische Klinik* for February 13 states that the report of the Berlin chamber of commerce for 1920 shows that there was no domestic supply during the year of the medicinal herbs growing wild which are usually gathered for the drug market. It adds, "The reason for this deficiency is given as that the people who usually gather the wild herbs prefer the income from the new profession of being out of a job rather than the pay for the collected herbs. The amounts required had to be imported from other countries, while the plants rotted at home."

THE ROUTE AND RATE OF ABSORPTION OF SUBCUTANEOUSLY INJECTED SERUM

IN RELATION TO THE OCCURRENCE OF SUDDEN DEATH AFTER INJECTION OF ANTITOXIC HORSE SERUM *

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Most of the recorded cases of sudden death with symptoms of anaphylaxis which have resulted from injection of foreign proteins in man have followed subcutaneous injections. Furthermore, in most cases, the onset of the symptoms, and often the fatal termination, occurred a very few minutes after the injection. However, it should be impossible to produce death by subcutaneous injection of serum in ordinary amounts, because the normal rate of absorption from the subcutaneous tissues is very slow, and it is known from experimental anaphylaxis that in order to produce acute anaphylactic death the antigen must get into the circulation rapidly. This apparent discrepancy between fact and theory has been made the subject, at the suggestion of Dr. H. Gideon Wells,[1] of the investigation reported here.

In the sensitized guinea-pig, which seems to be the most highly sensitive animal to anaphylaxis known, it is difficult to produce acute anaphylactic death by a subcutaneous injection of antigen. Paul Lewis [2] found that from 6 to 10 c.c. of serum injected into a sensitized guinea-pig would not kill, and from the way the animals behaved he calculated that from 12 to 20 c.c. would be required to kill a sensitized guinea-pig, when injected subcutaneously. Rosenau and Anderson [3] injected 6 c.c. of serum subcutaneously into a series of sensitized guinea-pigs, and several of them died in acute shock. In a series of experiments outlined in the accompanying table I found 15 c.c. to be the smallest amount which, when injected subcutaneously, would cause death of sensitized guinea-pigs. If we take 6 c.c. as the minimum subcutaneous dose that will kill a 250 gm. guinea-pig, in proportion to body weight nearly 2 liters of serum would be required to kill a 70 kg. man, even if man could be as highly sensitized as a guinea-pig; and it is believed that he is not so reactive. Nevertheless, in spite of the difficulty of killing even the most readily sensitized animal known with a subcutaneous injection of antigen, a considerable number of cases of sudden death from anaphylaxis in man following the subcutaneous injections of horse serum have been described.

Rosenau and Anderson,[4] in their pioneer work on anaphylaxis, collected nineteen such instances from the literature, and state that they know personally of many more. Gillette [5] collected twenty-eight cases. Since these papers appeared, reports of sudden acute anaphylactic death occasionally appear in the literature. What Gillette has said about the instances that he collected appears to be true of all. "Practically all these cases have symptoms in common. In a few

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* From the Otho S. A. Sprague Memorial Institute and the Department of Pathology, University of Chicago.

1. This work was begun several years ago (1912); but on account of the war and other interruptions, its completion has been delayed until this time.
2. Lewis, Paul: J. Exper. Med. **10**: 1, 1908.
3. Rosenau and Anderson: Bull. 45, Hyg. Lab., U. S. P. H. S., 1908.
4. Rosenau and Anderson: Bull. 29, Hyg. Lab., U. S. P. H. S., 1906.
5. Gillette: Therap. Gaz. **32**: 159, 1909.

minutes after receiving the injection they are seized with an intense dyspnea, followed by edema and urticaria. The action of the heart continues long after respiration has ceased. . . . When death terminated the reaction, only two cases lived longer than ten minutes after receiving the serum." Indeed, it seems true that the sooner any serum reaction appears after injection, the more severe it is. Wiley [6] describes a case of a man, aged 34, who was given a prophylactic dose of 1,000 units of antitoxin subcutaneously, 4 inches above Poupart's ligament. He suffered no pain, but spoke of the "lump that raised" when the needle was withdrawn. He remained in his chair from two to three minutes, and then began to scratch his head vigorously, complaining of not being able to breathe. Breathing became more and more labored, and he died in not more than five minutes after the injection. Boone [7] related that a boy, aged 10 years, with diphtheria, was given 4,000 units of antitoxin below the shoulder blade. Just as the syringe was laid down, the boy cried out and choked. He suffered difficulty in breathing and convulsions. He finally stopped breathing, and in from five to six minutes after the injection, he was dead. Von Pirquet and Schick,[8] in their monograph on serum disease, speak about a case they saw in which an immediate reaction followed subcutaneous injection of serum. From fifteen to twenty minutes after injection, the patient went into collapse and almost died, but later recovered. Another case is described [9] of a 5-year-old boy who was given a prophylactic dose of diphtheria antitoxin in the scapular region. Before the injection he was completely well. About five minutes after injection, the physician was recalled to find the child dead.

These cases of fatal anaphylaxis are inconsistent with what is known about the rate of absorption from the subcutaneous tissues, and the rate of appearance of antigen in the circulation in the amount necessary to produce death in a highly sensitized animal. Besides being proved by the bulk of clinical experience, the slow absorption of serum from the subcutaneous tissues has also been proved experimentally by testing for the time of appearance of horse serum in the circulation of an animal which has received a subcutaneous injection of this serum.

J. H. Smith [10] injected serums containing agglutinin for *B. coli,* and antitetanolysin and antitoxin for diphtheria, subcutaneously into goats, rabbits and man. By testing samples of blood drawn at different intervals after injection, he found that at the end of five hours in the case of the antitoxin only one tenth of the amount injected had been absorbed, and that the maximum amount in the circulation was not reached until from two to three days after injection. W. H. Park [11] finds that after the subcutaneous injection of diphtheria antitoxin, only 2 units per cubic centimeter of blood are found in the circulation, while after intravenous injection the same amount of blood after the same length of time contains 20 units. Lemaire [12] found by means of the precipitin reaction that at the end of two hours after a subcutaneous injection of antitoxin there was only a trace of horse serum in the circulation. It was most abundant at the end of twenty-four hours. Practically the same results were obtained in experiments by Pfeiffer and Friedberger,[13] Bullock,[14] and Morgenroth and Levy.[15]

Since guinea-pigs can be sensitized with extremely small amounts of horse serum, it was thought that the anaphylaxis reaction would be admirably suited for study of the rate of appearance of horse serum in the circulation after subcutaneous injection. It has been the method of choice with investigators to test an unknown substance for the presence of a suspected protein. Accordingly, in order to use the method for this purpose, a series of dogs was injected subcutaneously with various amounts of normal horse serum. At intervals after the injection, samples of the blood and lymph were injected into guinea-pigs. After a period of incubation these animals were reinjected with horse serum to test their sensitization by this substance, which might have been present in the blood and lymph of the dogs. However, even when it was more than probable that enough horse serum had been absorbed into the circulation of the dogs to produce sensitization of the guinea-pigs, negative results were always obtained. It was found that when definite amounts of horse serum were deliberately added to samples of dog serum, and injected into guinea-pigs, sensitization to the horse serum was not produced. As much as 0.1 c.c. in 10 c.c. of dog serum would not sensitize, even though 0.000001 c.c.[4] of horse serum alone will produce a high sensitization. Not only will dog serum inhibit sensitization to horse serum, but other serums (human, cat, beef) will do likewise, and these serums will also inhibit sensitization to dog serum if the proportions are reversed. Further experiments showed that not only serums but also solutions of pure proteins (egg albumin) in the proper amounts will inhibit sensitization to another protein. The analysis of these phenomena and a theory for their explanation form the subject matter of a paper previously published.[16] In it is suggested that in the animal body the number of receptors that will take up a protein as antigen are limited, and when two antigens are injected in very unequal proportions the antigen in the largest amount will saturate most of the receptors to the extinction of available receptors for the smaller amount. Since the amount of antibody production is proportional to the number of receptors affected, the effect of the antigen injected in the smaller amount is almost completely obscured.

While the anaphylaxis reaction was proved to be worthless for demonstrating the presence of small amounts of horse serum or other protein in the serum of another animal, the complement fixation reaction was found to be ideally suited for the purpose. The presence of foreign proteins does not interfere with it. As small an amount as 0.0001 of a cubic millimeter in 0.5 c.c. of dog serum can be plainly detected.

Having shown that an extremely small amount of horse serum can be detected when added to dog serum, it was sought to determine whether it can be detected in the same proportion in the circulating blood.

A dog weighing 15.8 kg. was used. According to the method of Welcker,[17] a dog of this weight has 1,216 c.c. of blood (7.7 per cent. of body weight). A 1 : 5,000 solution of horse serum

6. Wiley, S. N.: Sudden Death After Injection of Diphtheria Antitoxin, J. A. M. A. **50**: 137 (Jan. 11) 1908.
7. Boone, E. L.: Sudden Death Following Use of Diphtheria Antitoxin, J. A. M. A. **50**: 453 (Feb. 8) 1908.
8. Von Pirquet and Schick: Die Serumkrankheit, Leipzig, Deuticke, 1905.
9. A note in Medical News, April 11, 1896.
10. Smith, J. H.: J. Hyg. **7**: 205, 1907.
11. Park, W. H.: Boston M. & S. J. **168**: 73, 1913.
12. Lemaire: Compt. rend. Soc. de biol. **60**: 578, 1906.
13. Pfeiffer and Friedberger: Zentralbl. f. Bakteriol. u. Parasitenk, I, **37**: 131, 1904.
14. Bullock: J. Path. & Bacteriol. **5**: 274, 1898.
15. Morgenroth and Levy: Therapeut. Monatsh. **23**: 6, 1909.
16. Lewis, J. H.: J. Infect. Dis. **17**: 241, 1915.
17. Welcker: Ztschr. f. rat. Med. **4**: 147, 1858.

was made, and 7.5 c.c. of this was injected intravenously into the dog. This amount of horse serum gave approximately a concentration of 1 : 1,000,000 in the dog's blood. After an interval of four minutes to allow for thorough mixing, a sample of blood was withdrawn from a leg vein of the dog. The serum was tested with the complement fixation test for horse serum. Although there was not complete inhibition of hemolysis, a sufficient inhibition was found to be called a positive reaction.

A dog weighing 12 kg. was injected with 5 c.c. of a 1 : 500 solution of horse serum directly into the blood stream. This amount of horse serum gave approximately a 1 : 100,000 dilution of horse serum in the dog's blood. The serum from a sample of blood withdrawn four minutes after injection gave an almost complete inhibition of hemolysis when tested with the complement fixation test for horse serum.

The relation of the concentration of foreign serum that must be present in the blood of an animal, in order that it can be detected by the complement fixation reaction, to the concentration that must be present to produce anaphylactic shock, is of importance in this connection. According to my experiments, complement fixation detects a concentration of horse serum in dog serum of from 1 : 100,000 up to 1 : 1,000,000. The minimum fatal intravenous dose of horse serum for a sensitized guinea-pig (from 0.00001 to 0.000001 c.c.) represents a concentration of from 1 : 200,000 up to 1 : 2,000,000, or approximately the same concentration as the amount detectable by complement fixation.

In order to determine the normal rate of absorption of horse serum from the subcutaneous tissues, a dog, after the removal of a sample of normal blood, was injected subcutaneously with 10 c.c. of horse serum and, at various intervals up to twenty-four hours after injection, samples of blood were taken. These samples, with the normal sample, were tested by the complement fixation test for horse serum. The results show that detectable amounts of horse serum first appear in the circulation one and one-half hours after injection and are present for the entire twenty-four hours. This result confirms those obtained by investigators with other methods, in that it shows that horse serum is absorbed from the subcutaneous tissues slowly and that it does not appear in the circulation rapidly enough to account for the acute anaphylactic deaths and the severe reactions which occur suddenly in men after antitoxin administration.

The reason that subcutaneous absorption is slow is probably that it takes place through the lymphatics, where the movement of the lymph is much slower than that of the blood. A review of the literature on the route of absorption from the subcutaneous tissues shows conflicting opinions as to whether it is lymphatic or vascular. All the experiments described were made with easily diffusible substances. Because of the confusion that exists, and since none of the experimenters used serum, a study of the route of subcutaneous absorption was made by means of the complement fixation test.

A dog under ether-morphin anesthesia was injected subcutaneously with horse serum. Samples of lymph taken from a cannula in the thoracic duct (the duct being excluded from connection with the vein), and of blood from a leg vein taken at various intervals after injection, were tested with the complement fixation test, horse serum being used as antigen. It was found that the first trace of horse serum appeared in the lymph forty minutes after the injection, and in the blood three and one-half hours after injection.

The experiment indicates that the main route of absorption is by the lymphatics, but that probably some absorption takes place through the blood vessels. However, it may be that the presence of horse serum in the blood can be explained by some connection between the lymphatics and the blood vessels other than at the mouth of the thoracic duct.

There must be, then, factors other than extreme sensitization to explain the occurrence of sudden death and immediate severe reactions after subcutaneous injections in man, because, even if extreme sensitization existed, the absorption from the subcutaneous tissues is not rapid enough to meet the requirements for a fatal or a severe reaction. Whatever these factors are, they must operate to produce the rapid appearance of the horse serum in the circulation. It is a common practice among physicians to massage the wheal produced by serum injections in order to promote absorption. It is possible that this procedure forces the serum from the subcutaneous spaces into the lymphatics, and therefore it reaches the circulation much sooner than by the usual process of absorption. In order to test this possibility, a series of guinea-pigs was sensitized by an intraperitoneal injection of horse serum; after a period of incubation they received various doses of horse serum subcutaneously, and the effect of massaging the site of injection was observed. The results are seen in the accompanying table.

EFFECT ON THE PRODUCTION OF ANAPHYLACTIC SYMPTOMS IN SENSITIZED GUINEA-PIGS OF MASSAGE OF THE SITE OF INJECTION OF THE SECOND DOSE OF ANTIGEN

Guinea-Pig.	First Injection C.c.	Second Injection of Horse Serum, 17 Days Later, Subcutaneously C.c.	Results
1	0.1	1	Showed slight symptoms; recovered
2	0.1	1	Showed slight symptoms; recovered
3	0.1	5	Showed definite symptoms; recovered
4	0.1	5	Showed very severe symptoms; recovered
5	0.1	10	Showed definite symptoms; recovered next morning
6	0.1	10	Showed very acute symptoms; recovered in one hour
7	0.1	15	Showed symptoms immediately; dead next morning
8	0.1	15*	Dead in five minutes
9	0.1	20	Showed acute symptoms immediately. Respiratory convulsions; recovered next morning
10	0.1	20*	Dead in forty-five minutes

* Massaged.

It is shown that a dose of horse serum which is not large enough to kill a sensitized guinea-pig when injected subcutaneously will kill quickly when the site of injection is vigorously massaged. The only feasible explanation of this fact is that the massage forces the serum into the circulation through the lymphatics. Another experiment designed to test the same idea is as follows:

A dog under anesthesia was prepared so as to obtain samples of lymph from the thoracic duct and of blood from a leg vein. Horse serum (10 c.c.) was injected subcutaneously on the abdomen, and the site of injection was immediately massaged vigorously. A sample of blood and lymph was taken immediately and at intervals of five minutes thereafter. There was a positive test for horse serum in the sample of lymph collected during the interval fifteen or twenty minutes after injection, and in the blood two hours after injection.

When compared with a similar experiment without massage described above, this experiment indicates that massage hurries the appearance of the horse serum in the circulation.

A further proof that substances can be forced into the lymphatics is the method which anatomists use in injecting the lymphatics of the subcutaneous tissues. A heavy substance like mercury is forced under the skin under high pressure. When sections are made of such an area, the lymphatics are found clearly outlined, owing to the presence of the easily stained mercury which was forced through the tissues along the lymphatics. An experiment designed to imitate this experiment of the anatomists was carried out as follows:

A large dog was anesthetized and prepared as in the preceding experiment so that samples of thoracic lymph and blood could be obtained at various intervals. About 200 c.c. of horse serum was forced from a pressure bottle, by means of compressed air, into the subcutaneous tissues of the abdomen. Such an injection produced a large board-hard lump about the size of an ordinary orange. The samples of blood and lymph were tested for horse serum by the complement fixation test. The sample of lymph obtained the first five minutes after injection gave a complete inhibition of hemolysis. The serum of the blood taken forty minutes after the injection showed the first traces of horse serum.

The effect of the extremely high pressure is clearly shown in the immediate appearance of horse serum in the lymph and its early appearance in the blood.

Although certain procedures can hasten the appearance of horse serum injected subcutaneously into the circulation, it is certain that in most cases they are not practiced. The usual history in fatal cases is that symptoms appear just after injection is made, usually before there is an opportunity for manipulation. It is very probable that in these unfortunate cases the injections are accidentally made into the blood stream. The subcutaneous tissues contain numerous blood vessels of good size, and it is quite possible for the point of the hypodermic needle to enter one of these vessels, emptying the contents of the syringe into the circulation. In order to produce death only a small amount need be injected into the circulation of a highly sensitized individual. Boughton [18] reports a fatal reaction following immediately after intravenous injection of 1 minim of horse serum into a man with horse asthma. The possibility of an accidental intravenous injection is made more probable by the experiences obtained after the subcutaneous injection of oils and fats. Fat embolism has occurred after such injections, and any possible cause of the fat embolism, other than accidental intravenous injection, apparently can be ruled out. Moeller [19] reports fat embolism occurring forty-three times in 315 patients injected subcutaneously with oily substances 3,835 times. Ebstein [20] found fat embolism seven times in 908 patients injected 8,292 times. Febriger [21] reports a case in which death followed subcutaneous injections of olive oil for nourishment made necessary because of a stricture of the esophagus. On the twentieth day of injection the patient coughed violently while the injection was being made, became cyanotic, suddenly collapsed, and became unconscious. In three hours he developed hemiplegia. The postmortem examination revealed fat emboli distributed all over the body. Heidingsfeld [22] emphasizes the fact that fat embolism occurs very often from paraffin prosthesis and from injections of mercury in oily menstruums.

18. Boughton, T. H.: Anaphylactic Death In Asthmatics, J. A. M. A. **73**: 1912 (Dec. 27) 1919.
19. Moeller Arch. f. Dermat. u. Syph. **37**: 420, 1896.
20. Ebstein: Allg. med. Centralbl., 1897, p. 49.
21. Febriger, quoted by Heidingsfeld: Lancet-Clinic **50**: 276, 1903.
22. Heidingsfeld: J. Cutan. Dis. **24**: 513, 1906.

The probability of accidental intravenous injections as the cause of sudden death emphasizes the need of care to ascertain whether a blood vessel is injured by the needle before a subcutaneous injection is made. Before the injection begins, an aspiration of the subcutaneous tissues should be made in order to see whether blood can be pulled into the syringe.

CONCLUSIONS

The complement fixation test can be used to detect extremely small amounts of one serum in the presence of larger amounts of another.

The absorption of serum from the subcutaneous tissues is very slow.

The main route of absorption from the subcutaneous tissues is through the lymphatics.

The rate of absorption of horse serum injected subcutaneously is apparently too slow to explain the cases of sudden anaphylactic death which have occasionally followed the administration of antitoxic serums in man.

Certain procedures, such as massage of the site of injection, and the injecting of large volumes under high pressure, can hasten the appearance in the circulation of horse serum injected subcutaneously.

Because of the suddenness with which it appears, and because of the analogy to the occurrence of fat emboli after the subcutaneous injection of oily substances, acute anaphylactic death in man following subcutaneous injections of horse serum is probably due to an accidental intravenous injection of the serum.

The need of care to exclude as far as possible the injury of a subcutaneous blood vessel during subcutaneous injection of horse serum is indicated.

HEMOGLOBINURIA AFTER A SECOND TRANSFUSION WITH THE SAME DONOR *

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Blood transfusion has been made almost completely devoid of danger by testing in vitro, before the transfusion, for the compatibility of the blood of donor and recipient. In the early days of transfusion, slight, serious or even fatal results were not an infrequent occurrence.

There are now many reports of large series of transfusions made after the blood tests had been performed, and only occasionally has a reaction occurred because of the presence of agglutinins or hemolysins for the red cells of either the donor or the recipient. Reference is made here only to reactions due to agglutinins or hemolysins, not to rise of temperature or chills, such as might follow any intravenous injection. The cause of some of these unfavorable reactions due to agglutinins and hemolysins, even after the bloods have been tested, might be explained by the case reported here.

REPORT OF CASE

A boy, aged 6, admitted to Columbia Hospital, Nov. 15, 1920, with a severe, afebrile attack of purpura, whose family and past history was unimportant, was well up to seven days before admission, when he first had nosebleed. The nosebleed continued intermittently for seven days; then bleeding from the gums, blood in the stools, many large and small hemorrhages in the skin, and bruise marks distributed over the entire body.

* From the Laboratories of Columbia Hospital.

November 16, hemoglobin was 40 per cent; red blood cells, 2,220,000.

November 18, citrate blood transfusion of 300 c.c. was performed, the patient's father being the donor. The temperature rose to 103 several hours after transfusion and shortly returned to normal, no other reaction occurring. The bleeding from the nose and gums ceased, and the old hemorrhages rapidly cleared up. The stools became free of occult blood. No new hemorrhages or other untoward symptoms appeared. The urine examination immediately after the transfusion detected no albumin, sugar, hemoglobin or casts.

November 22, hemoglobin was 46 per cent; red blood cells, 2,300,000; platelets, 10,000.

November 26, hemoglobin was 52 per cent.; platelets, 12,500.

November 29, hemoglobin was 53 per cent.; platelets, 10,000.

December 3, hemoglobin was 55 per cent.; platelets, 15,000.

A few very small, scattered hemorrhages began to appear in the skin, and the patient had a very slight nosebleed.

December 6, hemoglobin was 63 per cent.; red blood cells, 3,300,000; platelets, 11,600. A citrate blood transfusion of about 150 c.c. was performed, the father being the donor. When 150 c.c. of citrated blood had entered the vein, the patient complained in rapid sequence of tingling in the face, legs and feet, and then burning in the feet. His face first became extremely pale, and in two or three minutes marked flushing occurred, especially around the eyes, and of the cheeks, the nose and eyelids remaining very pale. The skin over almost the entire body became peppered with minute, pinpoint, bright red hemorrhagic spots, probably from capillary emboli of agglutinated transfused blood cells. With the pallor the pulse became almost imperceptible. The transfusion was stopped with the onset of the first symptoms, and in about three minutes the pulse returned to good volume but was very rapid, at the rate of about 140. The patient was returned to his room in about half an hour, and was in fairly good condition.

Shortly afterward there was a severe chill, lasting forty-five minutes, and emesis of undigested food. The temperature was 102.6. The patient then complained of marked difficulty in breathing, and the breathing was found to be irregular, deep and rather jerky. He also had a severe pain in the epigastrium, and the bedclothes had to be lifted from his abdomen, as the weight of them intensified the pain. About two hours after the transfusion the patient voided about 6 ounces of very dark, hemoglobinuric urine. Twelve hours after the transfusion the patient again voided hemoglobinuric urine, which, however, was lighter in color than the previous specimen. Both of these specimens contained great numbers of coarsely granular, hemoglobin-tinged casts, but no red blood cells. There was no sugar present. Sixteen hours after the transfusion, the urine which was voided was light yellow, but a considerable number of hemoglobin-tinged casts were still present. Three days after the transfusion, the urine was perfectly normal.

December 7, hemoglobin was 55 per cent.; red blood cells, 3,350,000. The hemoglobin was 8 points lower than on the day of the transfusion, but the red count was 250,000 cells higher.

December 9, hemoglobin was 62 per cent.; red blood cells, 3,300,000; platelets, 10,000.

December 15, hemoglobin was 69 per cent.; platelets, 7,500.

The patient was discharged free from hemorrhagic spots in the skin and from bleeding of the nose, gums, etc. His general condition was much improved, and his color was considerably better than when admitted.

Feb. 5, 1921, the blood platelet count was 11,000 (by a new method,[1] 25,800).

COMMENT

There is much convincing proof available that it is possible to make preliminary tests for iso-agglutinins or isohemolysins accurately, if they are present in sufficient amount to cause any *serious* reaction. Many simple macroscopic and microscopic methods have been devised for these tests.

In the case reported above, a boy was transfused with his father's blood. A direct test of these bloods, made both by macroscopic and by microscopic methads, detected no agglutinins. The transfusion was performed by the citrate method and was followed by only a mild febrile reaction. Eighteen days later a similar transfusion was performed with the same donor, and after about 150 c.c. had been given, a most severe and unexpected reaction occurred. The transfusion was, of course, immediately stopped, and a few hours later the patient voided very dark, hemoglobinuric urine. This showed that hemolysis had occurred, and explained the reaction. The cause of this intravascular hemolysis was also subsequently discovered.

Two tests were overlooked in preparing for these transfusions. Had these been performed, another donor would have been selected, and the agglutinative and hemolytic phenomena would not have taken place. Yet on superficial examination it would seem that all the necessary precautions had been taken. A direct test of the bloods gave absolutely no agglutinins or hemolysins. This was further demonstrated by absence of agglutination or hemolysis after the first transfusion. The success of this led to the omission of the tests before the second transfusion. It is known that in many instances repeated transfusions have been made with the same donor and recipient with no bad results. This case, together with some experimental transfusions, that were made in animals,[2] demonstrates the necessity of performing tests before each transfusion, even though the same donor, who was previously satisfactory, is used.

The two errors were: (1) performing only direct tests on the two bloods and not also determining the blood groups; (2) not repeating the direct tests before the second transfusion.

Several weeks later the blood groups (Jansky[3] nomenclature) showed the patient to belong to Group I, and the donor (the patient's father) to Group III.[4] This should have been known before the first transfusion, as even though the direct tests were satisfactory, Group III blood would not have been transfused into a Group I patient.[5] Group I blood always contains agglutinins for the blood of all other groups. Occasionally the agglutinins in both Groups I and III are very weak and fail to give a clear-cut test. The cells of all four groups, however, always react typically with strong Group II and III serum. Therefore, with proper Group II and III serum, one is always able to determine the blood group of an individual, even though his serum is weak in its specific group agglutinins.

It is only comparatively recently that the method of blood grouping has been used in testing out donors for transfusions. Previously, the method of direct tests was the only one available. In the direct test the serum of the patient is mixed separately with the washed red blood cells of each prospective donor, and the donor's serum with the patient's cells. The microscopic method is quite satisfactory and is extensively used, but it is believed that with this method weak agglutinins might be missed or confused with the unimportant phenomenon of rouleaux formation. The macroscopic, small

1. According to a new method, obtained from Dr. Nathan Rosenthal, to one drop of 25 per cent. sodium citrate in a small test tube, 1 c.c. of blood is added. This is allowed to stand for thirty minutes, and the blood platelets are counted in the supernatant plasma by diluting 1:10 or 1:20 in an ordinary counting chamber. The method previously used was that devised by Ottenberg and Rosenthal (J. A. M. A. **69**: 999 [Sept. 22] 1917). Dr. J. Zuercher made the blood platelet counts.

2. Ottenberg, Reuben, and Thalhimer, William: J. M. Res. **33**: 213-229 (Nov.) 1915.

3. Jansky: Sborn. Klin. **8**: 85, 1907.

4. The mother belongs to Group II, but this has no significance so far as the case is concerned.

5. Whereas it is perfectly safe to transfuse Group I blood into a patient belonging to any of the other three groups.

pipet method of Epstein and Ottenberg [6] will detect very small amounts of agglutinins and hemolysins, and no confusion can arise from rouleaux.

In the blood group method the group of the patient and the donor is determined, and only a donor belonging to the same group as the patient, or to a compatible group, is used. This test is very simple, has become widely used, and until recently has been generally considered to be sufficient to guard against accidents. Karsner [7] and Unger,[8] individually, have lately emphasized the opinion of many, that after determination of the blood groups, the direct test should then be performed with the blood of the patient and the selected donor. Only if this direct test is also satisfactory should the transfusion be performed.

The experiments of Ottenberg, Kaliski and Friedman,[9] and of Ottenberg and Thalhimer,[2] have shown that multiple transfusions in animals, the same donor being used, cause agglutinins and hemolysins to develop in the recipient animal for the cells of the donor animal, which were not originally present in the recipient. After several transfusions, each successive one will be followed by hemoglobinemia and hemoglobinuria. If agglutinins alone are originally present, repeated transfusions from the same donor will first cause these agglutinins to become stronger and then soon cause hemolysins to develop. It is to be regretted that, these facts being known, the second transfusion was attempted in this case without repeating the direct tests.

These considerations lead to the following deduction as to what occurred in the case reported: The patient belonged to Group I, and his serum was so weak in agglutinins for his father's Group III cells that the direct test, even with the pipet method, failed to reveal them. They were also so weak that they did not cause agglutination or hemolysis of the father's blood at the first transfusion.

It is even possible that the Group I agglutinins had not yet developed in the patient's serum. There are no data concerning this, as the bloods were not grouped originally. Decastello and Sturli [10] have demonstrated that the agglutinin proper to the group to which the individual belongs is sometimes absent in children, the susceptibility of red cells (agglutinogen) developing earlier than the corresponding agglutinin. The father's blood did not contain agglutinins for the patient's cells, as Group I (patient) cells are not agglutinated by the serum of any of the other groups. The second transfusion was performed eighteen days after the first. In the meantime, owing to the injection of Group III cells into a Group I individual, strong enough agglutinins and hemolysins developed to cause the serious reaction reported. It was possible to demonstrate this and also to show that no other element in the transfusion was responsible for this reaction.

Some of the blood prepared for the second transfusion was not used and was saved. This blood contained 0.2 per cent. sodium citrate. A flask of it kept overnight in the icebox remained fluid; the cells sedimented normally, leaving a supernatant fluid untinged with hemoglobin. To make sure that the 2 per cent. citrate solution used for citrating the blood did not contain too much citrate, a measured portion of this was evaporated to dryness. The amount of sediment was slightly less than 2 per cent.

The day after the second transfusion, a sample of the patient's blood was obtained which was normal in appearance and the serum was not colored by hemoglobin. This was found to agglutinate quite strongly the father's washed cells, which had been saved. The agglutinins were not very strong, however, being decidedly weaker than those usually present in Group I serum. The clumps were small but firm, and could not be broken up. Hemolysins were also present, as the serum in the pipet became tinged with hemoglobin. This test was repeated sixty-one days later with the same result.

One more deduction of a more general nature should be recorded here as a possibility. This has to do with possible partial agglutinins, which is still an unsettled question. It is recognized that occasionally there is difficulty in finding a suitable donor for some peculiar, severe cases of chronic anemia. Even when individuals of the same blood group are tested, it is found that the tests are not clear cut. There is vague or slight agglutination in the direct test, especially when the Epstein and Ottenberg [11] method is used. This agglutination is considered by some to be caused by partial agglutinins. It is especially in these cases that, following the blood grouping, the direct test should be made. It is possible that these slight or partial agglutinins may account for some reactions which occur, even when whole blood is transfused, and when only the blood groups have been determined.

One may draw these conclusions from the foregoing data. Neither the blood group method nor the direct test alone is sufficient to safeguard against the danger of agglutination or hemolysis occurring after a transfusion. It is believed essential that both of these tests be performed. This is especially true in transfusing children, whose agglutinins are more likely to be weak than is the case with adults. The two types of tests, if they serve no other purpose, serve as a check on each other.

If the same donor is used for more than one transfusion on the same individual, the direct tests must be made each time before each transfusion. This is necessary because agglutinins and hemolysins originally absent may develop against a donor's blood when the donor is used more than once in the transfusion of the same patient.

6. Two or three parts of serum are mixed in small, straight Wright pipets with one part of a 5 per cent. washed cell suspension. Two bubbles of air are introduced as mechanical mixers. The tubes are sealed, incubated for from fifteen to thirty minutes, and then read by rotating and slanting from side to side so as to move the bubbles of air rapidly through the mixture. If no agglutinins are present, a uniform mixture of cells occurs. The usual amount of agglutinins causes one or several dense clumps to form which cannot be broken up. Even small amounts of agglutination cause a fine, granular appearance which is easily detectable.

7. Karsner, H. T.: Laboratory Problems of Blood Transfusion, J. A. M. A. **76**: 88 (Jan. 8) 1921.

8. Unger, L. J.: Precautions Necessary in the Selection of a Donor for Blood Transfusion, J. A. M. A. **76**: 9 (Jan. 1) 1921.

9. Ottenberg, Reuben; Kaliski, D. J., and Friedman, S.: Experimental Agglutinative and Hemolytic Transfusions, J. M. Res. **28**: 141 (May) 1913.

10. Decastello and Sturli: München. med. Wchnschr. **49**: 1090, 1902.

11. Epstein, A. A., and Ottenberg, Reuben: The Diagnostic Value of Hemolysis in Cases of Cancer, Arch. Int. Med. **3**: 467 (June) 1909.

Ready-Made Medicines.—The most serious harm in ready-made medicines is the perpetual suggestion that in order to keep well one must constantly be dosing himself. Just the opposite is true. It would seem that more rigid supervision of ready-made medicine should be exercised by responsible authorities. We go to considerable trouble to see that milk is fairly free from germs. All cities go to great expense to get pure water, and yet the loss of time from using ineffectual symptomatic remedies and the danger from habit-forming drugs would seem just as important as the care of water and milk.—G. Dock, *J. Missouri M. A.* **18**:84, 1921.

Clinical Notes, Suggestions, and New Instruments

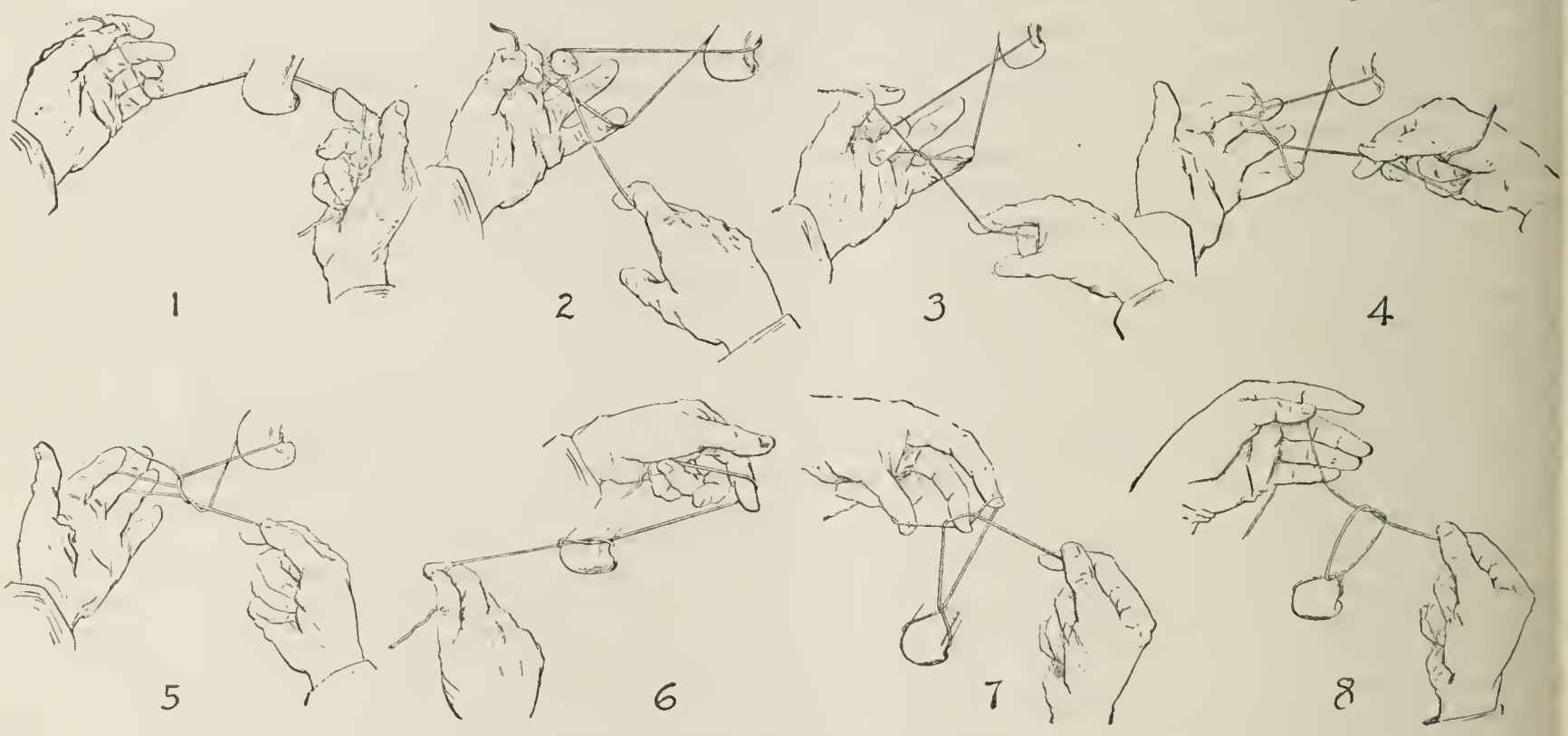
METHOD OF TYING A FLAT KNOT

E. L. ELIASON, M.D., PHILADELPHIA

My experience with resident physicians as surgical assistants in hospitals and also with students who act as assistants in our course given them at the University Hospital, in practical minor surgery, leads me to publish this method of tying a flat knot.

No originality is claimed for the method, nor is it brought forward as the best method. It is, however, an easy and simple way of rapidly placing a knot. We all know how much trouble kinked and curling catgut causes the beginner when he attempts to tie a knot.

The accompanying illustrations show the method better than any text description. It can be seen that throughout the entire procedure the ligature extremities are always within the control of a new grasp before the old grasp is released. This is a distinct advantage which is instantly recognized when one has acquired the method.



Successive steps in the tying of a flat knot.

I have been so often requested to demonstrate the method in instruction, both to students and to residents, that it may be considered advisable to publish it even though it may possibly not be the first appearance in print.

330 South Sixteenth Street.

AN UNUSUAL TRANSVERSE POSITION

HENRY H. SKINNER, M.D., YAKIMA, WASH.

Mrs. D., aged 39, a secundipara, whose family history was negative, and whose personal history was negative, or at least had no bearing on the case in question, presented herself for examination and observation at the beginning of about the fourth month of pregnancy. Up to that time she had been having little or no discomfort from morning nausea and no vomiting, but complained of considerable pain, for which there was no apparent cause, which troubled her continually and increasingly throughout gestation.

Faint traces of albumin were found in the early specimens of urine, but no casts at any time. Her blood pressure, at first 120 systolic and 90 diastolic, rose in the eighth month to from 140 to 144 systolic and 100 diastolic, being influenced not at all by restrictions in protein diet. The day set for confinement was February 24. About a month before the expected termination of gestation, she informed me that for two or three days she had been passing a little blood, which really amounted to merely blood-stained mucus, and at no time showed any larger amount, but which, in view of what was found later, was really significant. Early in the eighth month, abdominal examination showed that the child was in a transverse position, floating in a large amount of hydramnios. The heart tones were heard faintly but distinctly about 2 inches to the left of, and an inch below the umbilicus. No attempt was made to rectify the position.

Labor set in on February 11, thirteen days before it was expected, beginning at 8 a. m. Uterine contractions soon occurred every three minutes, not very hard. There was so much hydramnios that it was difficult to find the position of the child, but it was undoubtedly transverse. Vaginal examination revealed a good bag of waters protruding through a cervix dilating well; but no presenting part was to be felt—a rather queer sensation. As rupture of the membranes was feared, the examination was not made as under normal circumstances; therefore the marginal placenta found later was not discovered. Owing to the large amount of water present, it was difficult to find the location of the head. The fetal heart tones could be heard most faintly in the same place indicated above, but the location of the head in the right iliac fossa was not determined until the patient had been turned first on one side and then on the other, in which positions the head and the buttocks were brought out more distinctly. Even then the diagnosis that the chest was presenting at the pelvic inlet did not come to mind, but rather that it was a transverse presentation back down, or, technically, scapulodextra anterior presentation. Although the pains were coming every two minutes, an effort was made to float the child into a more favorable place, and without much difficulty the head was brought down into the pelvis, the buttocks swung under the ensiform and the two parts held in position by rolls of towels held tightly in place by a binder, the patient being instructed to lie on her left side. Scopolamin and morphin were given to relieve suffering until dilation could be completed. Within a short time the membranes ruptured and the pains became more severe. A few hours later the second examination was made, finding the cervix completely dilated, the right hand presenting and the face of the child off to the right. As it was recognized that the child could not be born presenting in that manner, since the flexion of the head would be occurring more and more with each pain, which would ultimately result in a chin presentation, arrangements were made at once for podalic version.

This was accomplished with the assistance of Miss Florence Rutt, the office anesthetist, and Dr. A. J. Helton. The patient was placed across the bed with two nurses holding the limbs in position. The vaginal outlet was dilated slowly as much

as possible with the entering hand, time being taken to accomplish this. The placenta was found to the left down in the pelvic inlet and of marginal type, near enough to the cervical edge to have caused the slight bleeding two or three weeks previously, and yet not sufficiently near to have caused any other hemorrhage. The right foot was easy to procure, and although the posterior one in this case, it was brought down; but a peculiar thing occurred at this point: Whenever traction was made on that foot, the head would slip to the left and the ankle slide behind the occiput, which could not be dislodged. After attempting several times and not getting anywhere, even with Dr. Helton's efforts, to turn the baby from the outside at the same time traction was being made, an effort was then made to reach the other foot. This was very difficult, as the left foot proved to be behind the baby and the knee at the extreme upper pole of the fundus. When finally procured, with both feet then in the hand, it was easy to proceed with the version, rotating the sacrum to the anterior. Of course both hands were over the head, but were quite easily controlled by hooking one finger into the elbow and rotating the corresponding shoulder away from the finger. The cord was discovered to be once around the neck. The head was expressed comparatively easily. The child, a boy, weighed 6½ pounds. He developed a right Bell's palsy which continued about twenty-four hours: no other complications or sequelae were observed in either mother or child.

CONCLUSIONS

Because of the low implantation of the placenta:

1. It caused uterine uneasiness during gestation, accounting for the mother's discomfort.
2. It also accounted for the surreptitious bleeding the last few weeks of gestation.
3. Its presence in the lower uterine segment, and, so much of it in one side of the pelvic inlet, did not allow the head to engage, therefore causing the transverse position: a scapuloleva anterior.

HYPOTHYROIDISM AND UNDERACTIVITY OF THE SUPRARENALS CORRECTED BY GLANDULAR THERAPY

LEON VINCENT KEAR, M.D., OYSTER BAY, N. Y.

History.—D. T., a boy, aged 7½ years, was brought for examination Dec. 15, 1920, because, in the parents' estimation, he was not making satisfactory progress, since his growth had remained stationary as to both height and weight.

He evidenced no desire to partake of the pastimes of the normal growing boy. He was lethargic and preferred lounging about and perusing picture books to playing outdoors with other boys of his own age. He was easily fatigued. His lack of initiative was evident. He was extremely timid, so much so that he was always accompanied to and from school by one of the adults of the household. He was slow to assert himself and entirely lacking in aggressiveness. When interrogated, he was slow to answer, and a spirit of negativism seemed to predominate his mental sphere. He had whooping cough in 1917, measles in 1918 and scarlet fever in 1919. The family history was negative.

Examination.—The patient's features were distinctly senile. He was short and otherwise undeveloped for his age. He was 3 feet, 8 inches tall and weighed 35 pounds. The skin was cool and clammy; the teeth were in fair condition, and the throat was negative. The thorax showed no abnormalities of contour. The ribs were prominent, the intercostal spaces being rather poor in flesh. The heart was normal in all aspects, and the lungs gave no adventitious sounds. The abdomen and the extremities were negative, and the reflexes were normal. Other findings were: temperature, 97.4 F.; pulse, 85; blood pressure, 85 systolic and 60 diastolic.

Laboratory Findings.—The urine and the blood Wassermann reaction were negative. The basal metabolic rate was undetermined.

Therapy.—The boy was given 2 grains of desiccated thyroid glands, 2 grains of desiccated suprarenal glands, and Blaud's mass in 5 grain capsules, three times a day. This was continued over one week without any appreciable change in the patient's condition. The dosage was increased as follows: the thyroid, to 3 grains; the suprarenal, to 3 grains; Blaud's mass remaining the same. At the termination of a fortnight, there was a distinct change in the patient's facies, the ruddy glow and expression of boyhood now being present. There was also a distinct change in his general mental attitude. He had gained 3 pounds in weight, and his pulse was now 88. At present, the boy is more active physically than ever before, taking part in all the games played by his companions at school. He goes to school unaccompanied. He has lost his lethargy, and his initiative has developed to a point of aggressiveness. His height is now 3 feet, 10 inches, his weight, 43 pounds.

The dosage used in this case, although not in keeping with the accepted standards used in endocrine therapy, caused no preceptible reaction in the patient at any time during the treatment. He proved himself extremely deficient in both thyroid and epinephrin secretions.

A MODIFICATION OF VASOSTOMY PERMITTING FREQUENT IRRIGATIONS OF THE VESICLES

E. F. HESS, M.D., CHICAGO

The fact that untoward effects frequently accompany vasostomy should make a suggestion to remedy this phase of the operation desirable. In recent operations on the service of Dr. L. E. Schmidt I have resorted to a simple means to obviate the many large infiltrations of the surrounding structure of the vasostomy wound, as well as the so-called "backfire epididymitis," not at all uncommon in cases in which the ordinary technic of vasostomy was carried out.

The operation itself, following the technic outlined by the originator, Dr. Belfield, is simple and may be carried out without assistance, if necessary. The cord is carefully isolated and firmly held between the index finger and thumb of the left hand. A ¼ to ½ inch incision is made down to the vas deferens. The latter is picked up and further isolated by passing a large kidney needle under it. A small puncture is made through it, exposing the lumen. A silkworm-gut strand is then passed in the usual way to ascertain patency of the lumen, and after withdrawing the silkworm gut, a 4 or 5 inch piece of ureteral catheter, No. 4, is introduced, and through it from 15 to 20 c.c. of 10 per cent. collargol injected. The same silkworm-gut suture which is used to close the skin wound can also be utilized to tie in place and more firmly fix the piece of catheter, although this is not essential, as a rule, as the catheter fits snugly into the average lumen of the vas and will remain in place indefinitely. The usual surgical gauze dressing is applied and the patient returned to bed after both sides have been thus treated.

The advantage of the procedure has proved itself, and the points gained are:

1. The operation remains as simple as before, and does not require a longer time or special instruments, excepting a short piece of No. 4 ureteral catheter.
2. Any collargol propelled or leaking backward does not drain into the wound but outside, and is collected into a gauze dressing, the wound being tightly closed excepting for the point of exit of the catheter. This does away with infiltration of the wound and epididymitis following regurgitation of collargol or other medicaments.
3. The piece of catheter may remain in place indefinitely, and reinjection may be performed on successive days through the catheter without the slightest difficulty, pain or inconvenience.
4. In chronic seminal vesiculitis, in which one is dealing with a viscus which is thickened, hardened and the interior of which is more or less covered or filled by plastic exudate, pus, débris or inspissated material, it is of undoubted value to irrigate frequently such a viscus or cavity with any solvent solution, such as physiologic sodium chlorid solution or weak sodium bicarbonate. This can be done two or three times a day and repeated over as long a period as desired and combined with massage of the distended vesicle. The benefit obtained and the character of material expressed, dissolved and washed out can be readily observed by the usual examination of voided urine after the procedure.

5 South Wabash Avenue.

Special Article

SEVEN YEARS OF NATIONAL HEALTH INSURANCE IN ENGLAND

A RETROSPECT

ALFRED COX, M.B., B.S. (DURHAM)
Medical Secretary, British Medical Association
LONDON, ENGLAND

(Continued from page 1312)

RANGE OF SERVICE

The agreement of the doctor is to give such service "as can properly be undertaken by general practitioners of ordinary competence and skill." This restriction has given rise to much criticism, most of it based on ignorance of the history of the service. When Mr. Lloyd George introduced his bill, the British Medical Association pointed out to him that the service he was offering was incomplete: that without the services of specialists and consultants many of the insured persons would be getting no more than they could get for themselves without the new service; that the doctor would often be unable to do his duty fully by the patient in the absence of a second opinion and the services of specialists; that without institutional facilities the service was badly handicapped, as the insured persons would still in the future as in the past have to depend mainly on charity, and that no provision whatever was made for the dependents, who were just as unable as the insured persons to provide domiciliary attendance for themselves. Mr. Lloyd George admitted all this and said he would be delighted to make the service a complete one, but that the country could not or would not afford it; that he wanted to make a beginning with the thing that he believed was the basis of any such service, namely, domiciliary attendance; that the rest could be added in the future, and that the experience gained by the present service would be of great value in deciding when and how best to expand it. The British National Health Insurance system is open to many criticisms, some of which, from the doctor's point of view, I shall mention; but it is not fair to blame it for not being what it never pretended to be. It gave some of the insured persons a service they had been providing for themselves privately; it gave a large number a service they had never been able to get before except partially and occasionally through charity; it gave a much larger number a service similar to, though better than, what they had been getting on a contract basis. But it did not pretend to give any of these classes a complete medical service.

From the beginning of the Act, the medical profession has never ceased to ask for the addition of the things that are lacking and in 1914, just before the war, the government voted money to set up a service of official Medical Referees (to settle disputed cases of ability to work), and to provide (*a*) second medical or surgical opinions; (*b*) a nursing service, and (*c*) laboratory facilities. The war stopped these extensions, but we have now (end of 1920) the official Referees, who will be able to command a second opinion when they think fit. Other extensions are under consideration at the Ministry of Health, but their provision seems likely to be retarded by the inability of the country to find money for anything that can be postponed—an inability shared, I believe, by every other lately belligerent country except the United States.

CONTROL OF THE SERVICE

General.—The Ministry of Health makes the Regulations which (subject to the provisions of the various National Insurance Acts) govern the service and are in operation in the area of every Insurance Committee. These Regulations are of the greatest importance, both to the insured person and to the insurance practitioner. They lay down, *inter alia,* the way in which the insured person may choose his doctor (any doctor on the list); the times at which he can change (twice a year without the consent of the doctor, any time with it); the hours at which the doctor can be seen (this is subject to local agreement and varies considerably from area to area and even from doctor to doctor); the method by which the patient gets his medicines (from the chemist if one is reasonably available, from the doctor if there is no chemist, as in many rural areas); the way in which and the times at which the doctor is paid (usually quarterly); the rules by which the patient is bound in his relations with the doctor, the way in which he can lay a complaint against his doctor, or the doctor against him; the way in which an Insurance Committee can proceed to get a doctor removed from the list if they think such a course necessary, etc.

Central.—The mere existence of regulations has been for the medical profession a new and most trying experience. I suppose the thing which most appeals to a man entering our profession is the individualism of it—the free relationship between himself and his patient; the fact that if either is not satisfied, he can go his way without any ceremony. But a contract, and especially a contract in which a third and even a fourth party (in this case the employer and the government) are finding part of the money, in addition to the patient, necessitates rules and regulations. "The price of freedom (even comparative freedom) is eternal vigilance," and the formulation of these regulations and the constant changes that have taken place in them as the result of experience have needed the exercise of the strongest vigilance and determination on the part of our Association.

ITS EFFECT ON THE INFLUENCE OF THE BRITISH MEDICAL ASSOCIATION

The introduction of the Insurance system has more than doubled the work and responsibilities of the British Medical Association. It is only fair to say that since we forced ourselves on the attention of the government at the introduction of the first bill, they have never, with one small exception (not worth mentioning except to show that without constant vigilance there would have been more instances), denied the right of our organization to be consulted in the framing or alteration of regulations. It is one of the normal duties of the Insurance Acts Committee of our Association to meet the representatives of the Ministry round a table for this purpose. In the extensive revision of regulations which followed the Armistice, we met thus in conference no less than twenty-three times. When we had roughed out the main lines on which the changes were to be founded, we circularized every insurance practitioner in the country, telling him the result of our labors. Then we had a Conference of representatives which discussed the proposals thoroughly. Then we went back to the Ministry, had more discussions, and finally the Ministry embodied the changes in actual draft regulations which we put up to another Conference. Now I do not say that the ultimate result was that we got *all* we asked for, or secured the elimination of *all* we objected to, or

the agreement of *all* our constituents. It did not. But I am prepared to say that we succeeded in getting inserted in the new Regulations a good deal of what we wanted, and eliminated many things to which we objected, and that the Regulations as they finally emerged were a very creditable production of collective bargaining, that is, of that process of give and take which is the normal way of doing business between bodies meeting as equals.

And when I say "meeting as equals," I mean it. It is true that a government department holds a very strong position. It has all the force of the government behind it and it holds the purse. But the medical profession also holds a very strong position. Without it, no service can be provided and the government is *bound* to provide a service. Even if the profession is not strong or united enough to refuse service, the heads of a government department know that a dissatisfied service is a bad service, and that a bad service has a knack of proving very awkward for the politicians and is just as awkward for the people who serve the politicians. Moreover, civil servants are reasonable persons who have a pride in the success of their department. A dissatisfied service means constant friction and more work for them. Therefore, they are prepared to go a long way to meet the responsible negotiators for the profession, who are, presumably, also reasonable persons, as equals. I make these remarks not because the American profession is necessarily directly interested in the subject, but in order to encourage those who may be pessimistic about the capacity of the profession to hold its own with state departments. The constant struggle to hold our own with politicians and government departments has in ten years made our Association into a much more alert, active and powerful body than we could have become in several generations of more peaceful existence.

Local.—The Regulations are administered locally by the Insurance Committee, which is composed, taking one of the larger bodies say of a County, of sixty persons. Twelve of these are elected by the County Council, of whom two must be doctors; thirty-six are representatives of the insured persons; ten are nominated by the Ministry of Health, of whom at least one must be a doctor, and two are nominated by the Panel Committee, both being doctors. Thus, out of sixty members there must be at least five doctors and there may be one or two more.

The Insurance Committees vary considerably in weight and capacity. The weak spot is the insured persons' representatives, who are generally officials of the Approved Societies, and whose method of election is frequently by no means ideal from the representative point of view, owing to great differences in the constitution of the Approved Societies into which I need not enter. The Insurance Committees are not bodies whose composition could be recommended to other countries proposing to set up similar bodies. Nobody in this country believes them to be a permanent institution; but they have done much good work under great difficulties, and we have no reason to be ashamed of them.

The Insurance Committee distributes the money (sent to them by the Ministry of Health from the Central Fund) to the doctors in accordance with the numbers of persons on their lists. It is responsible for the adequacy of the local service both of doctors and of chemists. It is responsible for the administration of sanatorium benefit for tuberculous persons, though often sharing this with the County Council or County Borough Council, to whose hands it will shortly go altogether. It has nothing to do with the administration of sickness or maternity benefits, money payments which are the province of the Approved Societies.

Each Insurance Committee must have a Medical Services Subcommittee composed of an equal number of representatives of doctors and of insured persons, with a Chairman who must be a member of the Insurance Committee but must not be either a doctor or an insured person's representative. To this subcommittee are automatically referred all complaints by patients against doctors and by doctors against patients. The report of the Subcommittee must go to the full Committee, but it is very rarely that the report is not accepted, frequently without discussion. It is surprising how little these Subcommittees have had to do. I believe it is a fact that even after seven years there are one or two of them which have never had a case before them, and in most areas the great majority of the complaints have been trivial. One reason for this is that the Chairman of the Subcommittee and the Clerk of the Insurance Committee, if reasonable and tactful persons, as they generally are, can usually settle cases "out of court." It is a fact, not foreseen by many of us in the earlier days, when we viewed the setting up of these bodies with great suspicion, that the medical members of the Subcommittee are notoriously much harder on medical delinquents than the lay members are. The penalties on the doctor are prescribed by the Insurance Committee on the recommendation of the Medical Services Sub-committee, and they may vary from censure to the recommendation to the Minister of Health that a part of his capitation grant be withheld as a punishment, or that he be removed from the list. The doctor has the right of appeal to the Minister. In any case of suggested removal from the list the case must be heard by an independent lawyer and two non-official doctors appointed as a court by the Minister. They report their findings to the Minister, whose decision is final. There is a fairly strong section of the profession which is very anxious that there should be a right of appeal from the Minister to a Court of Law; but up to the present the Government has always resisted this claim. One reason which has prevented many doctors from pressing this claim very strongly is the fact that such a right of appeal would of course have to be extended also to insured persons who were not satisfied, and the prospect of litigation of this kind is not very attractive. The number of doctors actually struck off the list is very small, and there has been no case in which the penalty has not been felt by all who knew the circumstances to be deserved.

The original 1911 Act recognized a Local Medical Committee in every Insurance area where the profession cared to elect one. The only condition laid down about its composition was that the Insurance Commissioners should be satisfied that it was representative of the qualified medical practitioners of the area, after passing which test it must be consulted by the Insurance Committee on all general questions affecting the administration of medical benefit, and the arrangements made with the medical practitioners.

In some areas the doctors did not elect local medical committees; and as some such committee was essential, the act of 1913 provided that this local consultation must take place through a Committee (called the Panel Committee) appointed by practitioners who are actually doing insurance work and elected in accordance with regulations made by the Insurance Commissioners.

Both the Local Medical Committee provided under the 1911 Act and the Panel Committee set up under the 1913 Act are in existence still; but in every area the personnel is the same, and for all the practical purposes of these remarks it may be taken that the Panel Committee is the body which directly represents the interests of the insurance practitioners in every area.

One of the striking features of our system is the rapid growth of the responsibilities demanded by and given to these bodies. These committees were one of the earliest, as they are one of the most outstanding examples, of the application of the modern idea of "giving the worker a share in the government of the industry in which he is employed."

There is a considerable amount of elasticity as to the methods by which the Panel Committee is elected. The only rôle of the Ministry of Health (vice the Insurance Commissioners) is to satisfy itself that, when elected, the Panel Committee may be taken as representative of the insurance practitioners in the area. It may be elected by postal vote or by meetings, and up to the present all Committees have been elected annually. I am sorry to say that doctors, like every other class in this country, are slack about electing their representatives, and there are few areas in which any enthusiasm is shown in the elections. There are, I am thankful to say, signs of more activity both in general and in medical politics. The war has not exhausted all our fighting spirit.

DUTIES OF THE LOCAL MEDICAL AND PANEL COMMITTEE

It must be consulted by the Insurance Committee, *inter alia*:

(*a*) In the preparation of the local terms of service: The Insurance Committee in submitting the proposed local agreement to the Ministry for its approval must transmit any observations made by the Panel Committee; (but the *general* terms of service are settled centrally by negotiation between the Insurance Acts Committee of the British Medical Association and the Ministry of Health. The local negotiations are on local and comparitively small variations).

(*b*) On the methods of distribution of the money allocated to the area from the Central Pool, and also the money allotted from the Central Mileage Fund.

(*c*) On the rules governing the procedure of the Medical Services Subcommittee (for the purpose of hearing complaints).

(*d*) The Local Medical Committee (representing the opinion of the profession as a whole, whereas, the Panel Committee represents more particularly the doctors actually in the service—in practice the difference is negligible) must have referred to it any question which arises as to whether any given service comes within the scope of the agreement; that is, whether or no it can be said to be a service which, "consistently with the best interests of the patient, could properly be undertaken by a general practitioner of ordinary professional competence and skill." The opinion of the Local Medical Committee is usually accepted by the Insurance Committee; but when it is not, the question is referred to a court of Referees appointed by the Minister (a lawyer and two doctors appointed *ad hoc* for that case), whose decision is final. The Ministry may refer the point to Referees, even though the Local Medical Committee and the Insurance Committee are in agreement; but this is very rarely done.

(*e*) The Local Medical Committee must have referred to it any complaint made to the Insurance Committee by one insurance practitioner against another involving any question of the efficiency of the medical service, and the Local Medical Committee may make representations (and sometimes has done so) to the Minister that the continuance on the medical list of a practitioner against whom complaint is made will be prejudicial to the efficiency of the service.

(*f*) The Panel Committee must be consulted by the Insurance Committee in the preparation of the local rules regulating the administration of medical benefit, including those governing the behavior of patients under treatment.

There are many other points in connection with the service about which the Panel Committee must be consulted, and it may be said that these Committees, when energetic and vigilant, as they often are, can and do exercise a great influence over the Insurance Committees in all the details of medical administration.

It is the duty of the Panel Committee to investigate all complaints as to alleged excessive prescribing. This is a matter which has given rise to a good deal of discussion and misunderstanding, so it must be explained at some length. When the remuneration for the service was fixed at 9s. a head, 7s. of this was definitely allocated to the doctor for medical attendance, 1s. 6d. a head to form a pool out of which the chemists were to be paid for providing and dispensing the medicines and appliances, and 6d. was kept in suspense. The 6d. was known as the "floating sixpence," and was a most ingenious device for the protection of the Drug Fund. The government believed that 1s. 6d. or thereabouts was sufficient for the drugs and appliances, and it was not prepared to pay more than 2s. If the expenses of drugs came to more than 2s. a head in any area, then the bills of the chemists were to be discounted down to the 2s. limit. But the government recognized that much discounting would lead to discontent among the chemists, as indeed it did, and they sought to enlist the services of the doctors in keeping down unnecessary prescribing and the consequent undue cost of drugs. They therefore promised the doctors that if they kept down the prescribing in their area to a sum between 1s. 6d. and 2s., the doctors among them would share that part of the "floating sixpence" which remained. The 1s. 6d. went to the Drug Fund anyhow, so that there was no inducement to the doctor to reduce his prescribing below that limit; but he was made a partner in the attempt to keep the cost under 2s. In very many areas the doctors got the 6d. or part of it, and only in comparatively few were the chemists' bills discounted. But the scheme, though ingenious, was objectionable. It gave rise to the suspicion that the patients were being deprived of drugs they ought to have, in order that the doctor might get the 6d. The chemists did not like it, nor did the doctors, because although it benefited them financially it exposed them to injurious suspicions. The system has been abolished—except in Scotland, where in a modified form it still remains for the present, though not, I believe, for long. The Treasury now takes full responsibility for the payment of the chemists' bills, and there is no "floating 6d."; but the Panel Committees continue to fulfil the function imposed on them under the old system. They still have the responsibility of protecting the Drug Fund against extravagant prescribing. They have provided for them by the Insurance Committees abstracts of the claims on the local Drug Fund, and it is their duty on observing what they think to be extravagant claims to investigate them. This necessitates the examination of selected prescription forms and the interviewing of the doctors who *prima facie* seem to be ordering drugs either in excessive quantity, or of a quality or kind which seems unnecessary. There is no gainsaying the fact that this duty is not a popular one with the Panel Committees—duties are seldom popular. But the inquiries are carried out by people who *know:* doctors elected by the insurance practitioners of the area, men who are doing

the same work themselves—men who know what a fair average is and who are actuated by a desire for the welfare of the service in which all concerned are employed. The accused is "tried by his peers." A doctor who can show just cause for an apparently extravagant prescription or series of prescriptions need fear nothing. The doctor who, from sheer carelessness or want of experience in prescribing, orders fancy preparations or unnecessarily large quantities will be given good advice in the first place, but if he persists will be docked (by the Insurance Committee on the advice of the Panel Committee) of the difference between what his prescriptions have cost and what the Panel Committee estimates the necessary drugs, etc., would have cost. The practitioner has a right of appeal to the Ministry. It is on the administrative machinery that I have just described that the opponents of the system have founded their complaints that the insurance practitioner is not allowed to prescribe what he thinks is best for his patients: that if he prescribes for them just as he would for a private patient he will find himself hauled before the Panel Committee and fined. I do not believe that any Panel Committee ever has or ever will penalize a doctor for prescribing any medicines, however expensive, that the doctors composing that Committee think to be necessary after full consideration and debate with the prescriber (if he cares to be present, as he always has the chance of being). I am bound to say that the reports I have seen of some of these inquiries by Panel Committees show a recklessness on the part of a small number of doctors which is rightly regarded and punished as a waste of public money. The steady and regular investigation by the Panel Committee of the prescribing in each Insurance area is having the effect of teaching that simplicity in prescribing is not incompatible with effective treatment. I do not believe the procedure has deprived or will deprive a single insured person of any drugs really necessary for his treatment. But the system evidently does not favor "elegant pharmacy" or luxury in prescribing.

Other duties have recently been placed on the medical profession, which are exercised through an Allocation Subcommittee, composed of equal numbers of persons appointed by the Insurance Committee and by the Panel Committee. The duties of this body are to see that all insured persons get the medical benefit to which they are entitled, if necessary by allocating them to one of the doctors on the list. There are many insured persons who, in spite of repeated reminders, will not choose a doctor. This Subcommittee may, after due notice, proceed to allocate them to some doctor or doctors (this power has not yet been exercised). Sometimes a doctor or doctors will decline to accept a certain person for reasons which seem good to them, and the Allocation Subcommittee may have to allocate him to another, or even to one of those who has refused. But this is very rare. Allocation is not often required except for strangers who have come to the district and find some difficulty in getting accepted. This kind of allocation, however, is generally done, not by a meeting of the Subcommittee but by the operation of a previously arranged scheme, or by arrangements made by the Clerk of the Insurance Committee with some conveniently situated doctor. The chief duty of the Subcommittee (which only came into existence in 1920) is to allocate those persons who have been on the list of a retired or deceased doctor, and who, after due notice, do not choose a doctor for themselves. When a doctor dies or gives up practice his patients are notified by the Insurance Committee and given three months in which to select a new doctor. At the end of the three months those who have not chosen are told that unless they choose they will at the end of another month have a doctor chosen for them. During this four months the successor of the retiring or deceased doctor can be getting introduced to the practice; and though there has been little experience yet, it is almost certain that those patients of the old practice who have not selected a doctor at the end of the four months will almost invariably be allotted to the successor of the Allocation Committee. It will be the line of least resistance and will naturally be favored by the medical members of the Committee who will themselves die or retire some day.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

EPINEPHRIN (See New and Nonofficial Remedies, 1921, p. 107).

Suprarenalin.—A brand of epinephrin N. N. R.

Marketed only in the form of suprarenalin solution.

Manufactured by Armour & Company, Chicago, U. S. patent No. 829,220 (Aug. 21, 1906; expires 1923). No U. S. trademark.

Suprarenalin Solution.— 1000 parts contain suprarenalin sulphite equivalent to 1 part of suprarenalin in physiological solution of sodium chloride without addition of other preservatives.

Benzyl Benzoate.—H. W. & D. (See New and Nonofficial Remedies, 1921, p. 61).

The following dosage form has been accepted:

Sterile Ampules of Benzyl Benzoate-H. W. & D., 0.5 c.c.—One c.c. contains Benzyl Benzoate-H. W. & D. 0.5 c.c. diluted with olive oil. Each ampule contains more than 1 c.c.

SILVER ARSPHENAMINE.—See THE JOURNAL, May 7, 1921, p. 1312.

Silver Diarsenol.—A brand of silver arsphenamine, N. N. R.

Manufactured by the Synthetic Drug Co., Toronto, Canada, and Synthetic Drugs, Ltd., Buffalo, N. Y. (Diarsenol Company, Inc., Buffalo, N. Y.) under U. S. patent Nos. 1,091,881 (March 31, 1914; expires 1931) and 1,127,603 (Feb. 9, 1915; expires 1932) under license from The Chemical Foundation, Incorporated. Licensed for interstate sale by the U. S. Treasury Department under the "act to regulate the sale of viruses, serums, toxins and analogous products."

Silver Diarsenol, 0.05 Gm. Ampoules.— Each hermetically sealed ampule contains silver diarsenol 0.05 Gm.

Silver Diarsenol, 0.1 Gm. Ampoules.— Each hermetically sealed ampule contains silver diarsenol 0.1 Gm.

Silver Diarsenol, 0.15 Gm. Ampoules.— Each hermetically sealed ampule contains silver diarsenol 0.15 Gm.

Silver Diarsenol, 0.2 Gm. Ampoules.— Each hermetically sealed ampule contains silver diarsenol 0.2 Gm.

Silver Diarsenol, 0.25 Gm. Ampoules.— Each hermetically sealed ampule contains silver diarsenol 0.25 Gm.

Death Rate Among Industrial Workers Declines.—The Metropolitan Life Insurance Company has recently published statistics for 1920, based on the records of 16,000,000 persons holding insurance policies in the United States and Canada, which are considered fairly representative of the general population. The industrial department of the Metropolitan Life Insurance Company shows a death rate of 9.7 per thousand, which is 9 per cent. less than the 1919 rate, and 23 per cent. less than the mortality record of 1911. Tuberculosis, pneumonia, influenza and accidents show a marked decrease. The improvement as regards tuberculosis is most marked. In 1920 this disease was responsible for 13.9 per cent. of the deaths, a death rate 14 per cent. less than in 1919, and 40 per cent. less than in 1911. The influenza and pneumonia death rate was 27 per cent. lower in 1920 than in 1919.

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SATURDAY, MAY 14, 1921

DOES LACTOSURIA OCCUR IN INFANCY?

It has long been known that the urines of infants suffering from a variety of nutritional disorders, including the type of disease which has latterly been described as toxicosis, may contain reducing substances in abnormally large amounts. In the earlier days it sufficed to describe the condition with respect to the eliminated carbohydrate as one of alimentary glycosuria. Subsequently, however, trained observers asserted that the excreted sugar frequently is lactose rather than the more usual glucose; and even galactose, a cleavage product of lactose, has been reported to occur in the urine of infants in cases of gastro-enteric disturbance.

The picture of such a condition has been presented by Langstein and Meyer [1] somewhat as follows: Sugar appears in the urine long before the limit of assimilability for the carbohydrate in question has been reached. This circumstance evidently is alimentary in origin, for it ceases with the exclusion of the specific sugar from the diet. When the latter contains lactose, the urine is likely to exhibit lactose or its derivative galactose, though glucose is not so readily lost by elimination. The German pediatricians have argued that such lactosuria is due to the absorption of undigested lactose, it being well known that this sugar, like other disaccharids, must be inverted into its component six-carbon sugar groups before it can be burned up or properly utilized in the organism. Why lactose should fail of this essential digestion is not clear; for there is no evidence of a lack of the requisite digestive enzyme, lactase, in the intestine of infants. The appearance of galactose in the urine, however, can only be interpreted as an indication of a diminished metabolic capacity of the organism, leading to the elimination of a simple sugar that would be burned up or deposited in the normal course of nutrition.

If this widely quoted interpretation of the significance of the mellituria of infants suffering from some sort of toxicosis were tenable, the problem of a suitable choice of carbohydrate would at once come to the front. Lactose would be severely condemned at the outset. Schloss,[2] however, has recently furnished a serious critique of the current claims, by his study of the nature of the reducing substances in the urine of infants with gastro-enteric disorders. From this it appears that the greater amount of the reducing substance so frequently noted is fermentable and cannot be lactose; furthermore, the carefully reviewed new chemical evidence speaks against the presence of galactose in these cases. If the substance were lactose or galactose, it should be present in the urine only when lactose is ingested. But Schloss has found that this is by no means the case. Infants suffering from intestinal intoxication may eliminate urine with marked reducing action even in the absence of all milk products in the diet.

The conclusion seems warranted at present that in the majority, at least, of these cases of toxicosis in children the carbohydrate in the urine represents what Benedict has lately designated as glycuresis—an increased elimination of glucose.[3] Schloss does not deny that alimentary lactosuria may occur, but implies that it is at most a clinical rarity in comparison with the frequently observed exaggerated excretion of glucose. This condition is attended with distinct hyperglycemia so that it can scarcely be merely of renal origin. Schloss inclines to the hypothesis of a disturbed sugar metabolism. Perhaps the phenomena are also concerned with another factor, anhydremia, which has lately been emphasized as a significant pathogenic feature in infancy.[4]

1. Langstein, L., and Meyer, L. F.: Säuglingsernährung und Säuglingsstoffwechsel, Wiesbaden, 1910.

THE STORAGE OF VITAMINS IN THE BODY

Two facts of preeminent importance have been established by investigations in nutrition. One is that those peculiar and physiologically potent properties of foods designated as vitamins are essential to the well-being of the human organism. The other equally significant, though perhaps less thoroughly appreciated, fact is that apparently these vitamins are not synthesized or manufactured in the human tissues, but the body depends on an extraneous supply which in ultimate analysis seems to be derived from plant sources. Recently some attention was devoted in The Journal [5] to the evidence for the interrelations between the vitamin potency of feeds and the antiscorbutic property of the milk secreted by animals which eat them. It seems at present to be well established that the mammary secretion reflects, so to speak, the richness of the diet of the lactating animal in antiscorbutic vitamin.

Something of a comparable sort seems now to be clearly demonstrated for the distribution of the fat-

2. Schloss, O. M.: The Nature of the Reducing Substance in the Urine of Infants with Nutritional Disorders, Am. J. Dis. Child. **21**: 211 (March) 1921.

3. Urine Sugar in Infancy, editorial, J. A. M. A. **76**: 867 (March 26) 1921.

4. Diarrhea and Anhydremia in Infancy, editorial, J. A. M. A. **76**: 794 (March 19) 1921.

5. Variations in the Antiscorbutic Potency of Milk, editorial, J. A. M. A. **76**: 1105 (April 16) 1921.

oluble vitamin A. It has been recognized, since the pioneer researches of McCollum and Davis [6] and of Osborne and Mendel [7] in this field in 1913, that the otherwise wholesome pig fat lard is ordinarily exceedingly poor in vitamin A in comparison with the fat of cow's milk (butter fat), egg fat, or even the abdominal fat of cattle which enters into so-called oleo oils. Now and then, however, there have been reports of instances in which the pig fat seemed to respond better to the tests for the vitamin A. The recent discussions regarding the possible identity of the latter with the antirachitic potency of certain foods like cod liver oil, which is singularly rich in this vitamin, have awakened much interest in the entire subject.

Recent investigations of a group of English workers [8] seem destined to bring greater clarity and explain the seemingly singular deficiency which lard has been found to exhibit so commonly. It appears from their animal tests that the pig is able to store up supplies of vitamin A in the body fat when fed on a diet containing ample supplies of that factor, as, for example, when grass-fed; but when the diet of the pig is deficient in vitamin A, no appreciable amount of that dietary factor can be detected in the body fat.

It happens, presumably, that the diet usually given to fattening pigs in this country is seldom rich in vitamin A, so that the average sample of pig fat contains little or none of that substance. Furthermore, another factor tending toward the destruction of vitamin A which actually may be present in pig fat is apparently effective in much of the commercial manufacture of lard. Various investigators, notably Hopkins,[9] and Drummond and Coward,[10] have indicated that although the vitamin A present in butter, for example, is not highly sensitive to heat in the absence of air, destruction takes place readily on heating in the presence of air. It is probable, therefore that the loss is due to changes of an oxidative nature. The process of commercial lard manufacture undoubtedly causes the destruction of much of the vitamin present in the original pig fat, probably owing to the exposure of the fat to oxygen at high temperature. For us the lessons of importance are not so much to be sought in the higher or lower content of vitamin A in any particular fat like lard or its analogues, but rather in the physiologic lesson that the character of the diet can undoubtedly influence the store of all types of known vitamins in the body. This conclusion may be of pronounced significance for the nursing mother in determining a beneficial or baneful effect on her milk through her diet.

6. McCollum, E. V., and Davis, M.: The Necessity of Certain Lipins in the Diet During Growth, J. Biol. Chem. **15**: 167, 1913.
7. Osborne, T. B., and Mendel, L. B.: The Relation of Growth to the Chemical Constituents of the Diet, J. Biol. Chem. **15**: 311, 1913.
8. Drummond, J. C.; Golding, J.; Zilva, S. S., and Coward, K. H.: The Nutritive Value of Lard, Biochem. J. **14**: 742 (Dec.) 1920.
9. Hopkins, F. G.: The Effects of Heat and Aeration upon the Fat-Soluble Vitamine, Biochem. J. **14**: 725 (Dec.) 1920.
10. Drummond, J. C., and Coward, K. H.: Researches on the Fat-Soluble Accessory Factor (Vitamin A), VI, Effect of Heat and Oxygen on the Nutritive Value of Butter, Biochem. J. **14**: 734 (Dec.) 1920.

OPHTHALMIA AND DIET

The articles on the relation of experimental ophthalmia in animals to diet which appeared recently in THE JOURNAL [1] direct attention to possible new interpretations of human eye disorders which have heretofore been baffling. Following the advent of modern bacteriology, many types of ophthalmia were ascribed primarily to infection, and the therapy applied was bactericidal. Local applications of antiseptic lotions have long held a prominent place in ophthalmologic practice.

The assumption of a relationship between nutritive disturbances and ophthalmia is by no means new, as the articles referred to point out. But Osborne and Mendel were the first to indicate how the crux of the problem may be concerned with the absence of the food factor now known as the fat-soluble vitamin A. It has already been shown in the case of several species that when vitamin A is missing for some time from the dietary an ophthalmia, which has been variously designated as xerophthalmia and keratomalacia, may be one of the manifestations of ill health that come into prominence in the animals living on the deficient rations. Mere inanition will not account for the train of symptoms; nor is the ophthalmia to be regarded as a chance infection pervading the habitat of laboratory animals from time to time. Several investigators corroborate the report of Osborne and Mendel that in observations on several thousands of rats they have never observed distinct symptoms of comparable eye disease in any animals except those which had experienced a deficiency of fat-soluble vitamin in their diet. Furthermore, it is the administration of some source of vitamin A, such as milk fat, cod liver oil or green leaves, rather than antiseptic lotions, that ordinarily effects a prompt cure if the disorder has not damaged the eye structures too greatly.

From her study of the pathology of this ophthalmia which involves bacterial invasion of the cornea, Wason [1] admits that the nature and mechanism of the changes whereby the corneas are rendered susceptible remains to be ascertained. The bacteria, though always present on the surfaces involved, are not the primary etiologic factor; they are secondary invaders. According to Wason, the type and virulence of the organisms of secondary infection determine, in part at least, the course of the disease. The anatomic manifestations of the disease are characterized by hyalinization or necrosis of the outer layer of corneal epithelium, exudation of serum and cells into epithelium and stroma, and a proliferation of blood vessels and fibroblasts. In advanced cases invasion of the anterior, and occasionally of the posterior chamber, results. The degree to which restoration is possible depends on the extent of the secondary injury.

1. Osborne, T. B., and Mendel, L. B.: Ophthalmia and Diet, J. A. M. A. **76**: 905 (April 2) 1921. Wason, Isabel M.: Ophthalmia Associated with a Dietary Deficiency in Fat Soluble Vitamin (A), J. A. M. A. **76**: 908 (April 2) 1921.

To what extent, if at all, these possibilities apply to human practice can scarcely be foretold. There are reports in the literature which deserve study from the new point of view.[2] It has been recorded that Wells of Chicago found in Roumanian children who were subsisting on a diet largely made up of corn meal and thin bran-vegetable soup, neither of which was a source of vitamin A, an eye disease that promptly disappeared when cod liver oil was administered.[3] Perhaps the prominence that has been given to the experimental aspects of the subject in The Journal and elsewhere will serve to bring new and decisive facts to light respecting the possible relations of ophthalmia to diet in man.

Current Comment

ASPIRIN OR ACETYLSALICYLIC ACID—AN IMPORTANT COURT DECISION

For many years the Council on Pharmacy and Chemistry, and The Journal, have been urging physicians to avoid using proprietary trade-marked names when prescribing drugs or chemicals obtainable under nonproprietary names. Two chemicals have been especially referred to in this connection: hexamethylenamin and acetylsalicylic acid. Many years ago, hexamethylenamin was found to be an effective therapeutic agent, especially as a urinary antiseptic. Since it was a well known chemical, it could not be patented. A commercial firm, however, seized the opportunity, coined the name "urotropin," and advertised it. As a result, "urotropin" became so impressed on the minds of physicians that many have been unable to eradicate the term from their minds, and still use it in prescribing this drug. Other firms coined other terms, such as "formin," "aminoform," "cystamine" and "hexamin," and advertised them widely; but "urotropin," being most extensively and persistently advertised, made the most lasting impression on the minds of physicians. And it is much harder to eradicate a first impression than to make a new one. As to acetylsalicylic acid: This drug was patented and the trade name "aspirin" coined for it by the predecessor of the Bayer Company. The seventeen years of exclusive monopoly and privileged advertising made an impression on the minds of physicians, and also on those of laymen who had become used to seeing the word "aspirin" in physicians' prescriptions. As a result, when the patent expired, although numerous preparations of this drug were made available under the true and descriptive name, acetylsalicylic acid, physicians continued to prescribe the drug under its coined name. The rights in this product were eventually acquired by the Sterling Products Company. This firm—under the name of "The Bayer Co."—has conducted a strong advertising campaign in the newspapers that leaves the impression on the lay mind that there is no satisfactory aspirin except aspirin "Bayer." Among the several manufacturers who came into the market with this drug on the expiration of the Bayer patent was the United Drug Company. The owners of the Bayer product brought suit against the United Drug Company to prohibit the selling of the latter's product under the name "aspirin." The United States District Court of Southern New York recently rendered a decision in this matter. This decision, which seems to be a compromise, is of importance to physicians. The ruling of the court notes that acetylsalicylic acid is known as such to manufacturing chemists, pharmaceutical houses, pharmacists and physicians, so that to them the word "aspirin" signifies only the product of Bayer origin, whereas the term "acetylsalicylic acid" is unknown to the average layman, though the term "aspirin" is. The pharmacist, therefore, according to the court's ruling, is justified in supplying a layman who asks for aspirin with acetylsalicylic acid tablets of any reputable maker. But the court rules—and this is the important point—that when a physician writes "aspirin" in a prescription, only the Bayer product can be supplied. Unless a physician wishes to cater to the concern owning the Bayer rights and to aid in perpetuating what was a monopoly for seventeen years, he should be careful to prescribe the drug under the term "acetylsalicylic acid." The court now places the responsibility directly on the medical profession. Avoid "aspirin"—write "acetylsalicylic acid."

THE AVOIDANCE OF ANAPHYLACTIC SHOCK FROM SUBCUTANEOUS INJECTION OF PROTEINS

The extreme rarity of serious anaphylactic shock in man, despite the frequent use of foreign protein injections even by the intravenous route, would seem to indicate either that the condition of hypersensitivity to such proteins as are thus used is uncommon, or else that man when sensitized is not usually capable of reacting in the same alarming way as the sensitized guinea-pig. Not a few immunologists are of the opinion that the latter is the proper explanation of the tolerance of the human subject, for it has been abundantly shown that different species of animals differ greatly in respect to the severity of their reaction to spaced injections of foreign proteins. Nevertheless, a few tragic cases have occurred in which patients have shown severe symptoms immediately after injections of serum, with manifestations altogether similar to those seen in sensitized guinea-pigs, so that sometimes, at least, the conditions in man must be the same as in these particularly susceptible animals. Elsewhere in this issue, Lewis [1] calls attention to the fact that in most of these cases the serious reactions have occurred following subcutaneous injections, and with symptoms appearing in a few minutes, despite the fact that, in the highly reactive guinea-pig, subcutaneous injections seldom produce death unless relatively enormous amounts of foreign serum are injected, and the symptoms usually come on slowly. He investigated the problem thus presented and found that only by adopting extreme

2. Bloch, C. E.: Ugesk. f. Læger **79**: 309 (March 1) 1917. Chick, H.: Brit. M. J., July 31, 1920.
3. Harrow, B.: Vitamines, New York, 1921, p. 129.

1. Lewis, J. H.: The Route and Rate of Absorption of Subcutaneously Injected Serum in Relation to the Occurrence of Sudden Death After Injection of Antitoxic Horse Serum, this issue, p. 1342.

measures, such as vigorous massage or injection of great quantities under high pressures, could the foreign serum be forced directly from the site of injection through the lymphatics into the thoracic duct in sufficient amounts to produce prompt and serious anaphylactic reactions. These observations lead to the conclusion that serious anaphylactic shock in man after subcutaneous injection of foreign protein must usually depend on the accident of unintentional injection of a subcutaneous blood vessel in a subject hypersensitive to the foreign protein used. Possibly in some instances the blood is reached by way of the lymphatics rapidly enough to account for prompt anaphylactic shock when the injection is made under pressure, or the wheal is vigorously massaged. That subcutaneous injections occasionally do enter the blood vessels directly is shown by those cases in which fat embolism has resulted from subcutaneous injection of oils. These experimental studies indicate the great need for care when foreign proteins are injected that the point of the needle is not within a vein, especially in those cases in which there is reason to suspect that the patient is hypersensitive to the protein injected.

Association News

THE BOSTON SESSION

Identification Certificates

Members must provide themselves with Identification Certificates if they wish to purchase special rate roundtrip tickets to Boston. One Certificate will permit a member to purchase these railroad tickets for himself and for "dependent members of his family." Requests for these Identification Certificates should be made to the Secretary of the American Medical Association, 535 North Dearborn Street, Chicago, and should be accompanied by a self-addressed stamped envelop.

Be Sure to Take Your Pocket Card to Boston

In order to facilitate registering at the Boston session Fellows should take with them to Boston their pocket cards certifying to their being Fellows in good standing for 1921.

If you are going to Boston and have mislaid your pocket card, send for a duplicate.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

COLORADO

Invitation to A. M. A. to Meet in Denver.—At the regular meeting, the Denver County Medical Society voted in favor of extending an invitation to the American Medical Association to hold the 1922 meeting of the Association in Denver. The last session held in Denver was that of 1898.

State Medical School and Hospital Assured.—The Colorado legislature has appropriated $600,000 partially to meet an offer of the Rockefeller Foundation toward the building of a modern state medical school and hospital at Denver. The sponsors of the bill have assumed the responsibility of obtaining the further required amount. Credit is due the officers of the state university for their earnest work in securing the cooperation of the foundation and for so putting the proposition before the public and the legislature that its urgency was appreciated.

CONNECTICUT

Graduate Degree at Yale.—The graduate school of Yale University has been authorized to confer the degree of doctor of philosophy for work in clinical medicine, and in pharmacology and toxicology.

FLORIDA

Public Health Association Organized.—The recently formed Florida Public Health Association was the outgrowth of the state tuberculosis association. All papers and funds of the old organization were turned over to the new association, which was formally incorporated by the board of directors.

ILLINOIS

Meeting of Military Surgeons.—The Association of Military Surgeons of Illinois will meet at Springfield, May 16. The governor and adjutant-general are expected to address the assembly.

DeWitt County Medical Society Disapproves Prescriptions for Alcoholic Beverages.—At a recent meeting held in Clinton, the DeWitt County Medical Society went on record by adopting a resolution which declared that component society disapproved the writing of prescriptions for beer and wine under the new interpretation of the Volstead act.

Chicago

Chicago Laryngological and Otological Society Elects.—At the annual meeting of the Chicago Laryngological and Otological Society, May 2, the following officers were elected: president, Dr. Robert Sonnenschein; vice president, Dr. Edwin McGinnis; secretary-treasurer, Dr. John A. Cavanaugh; members of the council, Drs. Otto T. Freer and Albert H. Andrews.

MARYLAND

Personal.—Dr. Arthur H. Hawkins, Cumberland, was elected president of the Medical and Chirurgical Faculty of Maryland for the next year, at a meeting held, April 28, in Osler Hall, Baltimore.

MINNESOTA

No State Aid for Health Supervision in Schools.—After having passed the house, the provision for state aid for health supervision in the public schools was eliminated from the state aid amendment in the senate.

Clinic Week.—Under the auspices of the Hennepin County Medical Society, the fourth annual clinic week was held in Minneapolis, April 25-28, with sessions at eleven city hospitals in the mornings. At the afternoon sessions, addresses were made by Dr. Kellogg Speed, Rush Medical College, Chicago, on "Appendicitis in Children 14 Years or Under," and Dr. James B. Herrick, also of Rush Medical College, on "Pain in Heart Disease." Dr. Walter Timme, New York Neurological Institute, also delivered an address. The Hennepin County Medical Society gave a banquet for visiting physicians, on Wednesday evening, at which Dr. Herrick was the chief speaker. His subject was "Clinical Features in Metastatic Tumors."

MISSOURI

Members of State Board of Health.—Governor Hyde has appointed Dr. Rudolph S. Vitt of St. Louis and Dr. Franklin E. Murphy of Kansas City as members of the state board of health.

Referendum on Senate Bill 433.—Referendum petitions have been distributed to physicians and laymen throughout the state for the purpose of suspending the operation of the law passed by the last session of the legislature known as Senate Bill 433 which will have the effect of lowering the medical college standards. The Missouri Public Health League, an organization formed at the mass meeting held in St. Louis, April 26, has charge of the undertaking. The petitions must be completed and filed with the Secretary of State.

NEW JERSEY

Campaign of Jersey Medical Guilds.—For the purpose of organizing guilds in counties where there are none and to perfect organizations of those already in existence to bring together physicians, druggists, dentists and nurses, special meetings of county medical societies were held during the last two weeks of April. The organization is concerned principally with legislative matters which affect the four professions.

The organization work will be done by Dr. Joseph H. Gunn, executive secretary of the welfare committee of the state medical society.

Physiatric Institute.—The formal opening of the Physiatric Institute for the investigation and treatment of metabolic disorders was held in Morristown on April 26. About three hundred persons, chiefly physicians, were in attendance. Addresses were delivered by Dr. Elliott P. Joslin, Dr. Henry S. Pritchett, president of the Carnegie Foundation, Dr. David C. English, editor of the New Jersey State Medical Journal (read in his absence by Dr. M. A. Curry), and Dr. Frederick M. Allen, director of the Physiatric Institute. This institute has been in operation since last July, but the formal opening was deferred owing to incompleteness in some respects.

NEW MEXICO

New Medical Officers.—The officers elected at the meeting of the New Mexico Medical Society held, April 31, under the presidency of Dr. Charles A. Frank, Albuquerque, were: Dr. Chester Russell, Artesia, president; Dr. Harry A. Miller, Clovis, president-elect; Drs. George S. McLandress, Albuquerque, Thomas E. Pressley, Roswell, and Horace G. Willson, Gallup, vice presidents; Dr. Frank E. Tull, Albuquerque, secretary, and Dr. John W. Elder, Albuquerque, treasurer; delegate to the American Medical Association, Dr. Harry A. Miller, Clovis; alternate, Dr. William B. Cantrell, Gallup, and associate editor, *Southwestern Medicine,* Dr. William T. Joyner, Roswell. The 1922 meeting will be held in Gallup.

NEW YORK

New York City

Opposed to Health Centers.—The house of delegates of the Medical Society of the State of New York, at its meeting on May 2, adopted resolutions declaring the society "emphatically opposed to 'State Medicine,' and to any schemes for 'Health Centers,' 'Group Medicine' and 'Diagnostic Clinics' either wholly or partly controlled, operated or subsidized by the state or national government; and that the delegates from the society to the American Medical Association be instructed to present this resolution at the House of Delegates of the American Medical Association at its coming session in June and to use every possible means to secure its adoption." This resolution was introduced by Dr. Eden V. Delphey of New York.

State Society Meeting.—The state medical society held its one hundred and fifteenth annual meeting in Brooklyn, May 2-5, under the presidency of Dr. J. Richard Kevin. Health week, beginning with health sermons in the churches on Sunday, with a public health program throughout the week and a special health exhibition arranged by Brooklyn physicians, was a new feature. The annual oration was delivered by Dr. Llewellys F. Barker, Johns Hopkins University, Baltimore, and Governor Channing Cox of Massachusetts spoke at the banquet. Other speakers were Dr. George E. Vincent, director, Rockefeller Foundation, whose subject was "Medical Education," and Dr. George Walker, Baltimore, who spoke on "The Abolition of Venereal Disease." The following officers were elected for the ensuing year: president, Dr. James F. Rooney, Albany; vice presidents, Drs. William Meddaugh Dunning, New York, William H. Purdy, Mount Vernon, and William D. Johnston, Batavia; secretary, Dr. E. Livingston Hunt, New York; assistant secretary, Dr. Wilbur Ward, New York; treasurer, Dr. Seth M. Milliken, New York; assistant treasurer, Dr. Charles Gordon Heyd, New York.

NORTH CAROLINA

State Medical Meeting.—The sixty-eighth annual meeting of the Medical Society of North Carolina was held, April 26-28, at Pinehurst, under the presidency of Dr. Thomas E. Anderson, Statesville. Visiting physicians who took part in the program were Dr. Stanley P. Reimann, Lankenau Hospital, Philadelphia; Dr. Stuart McGuire, St. Luke's Hospital, Richmond, Va., and Dr. Frederick R. Green, American Medical Association, Chicago. In compliance with a state law, the state board of health held a joint session with the medical society, April 27, at which the policies of the health board were approved by the physicians who pledged themselves to make these policies even more successful in the coming year. The North Carolina Hospital Association also held its annual session in conjunction with the medical meeting. Dr. Hubert A. Royster, Raleigh, was elected president, and Dr. Lewis B. McBrayer, Sanatorium, secretary of the state medical society. Dr. Lawrence J. Smith, Wilson, was elected president, Dr. Alexander C. Bulla, Winston-Salem, vice president, and Dr. Frank M. Register, Raleigh, secretary of the state health officers association, and Dr. Watson S. Rankin, Raleigh, was reelected secretary of the state board of health and state health officers. A resolution offered by Dr. Isaac W. Faison, Charlotte, urging the manufacture and distribution of toxin-antitoxin for prevention of diphtheria was adopted, and Dr. Clarence A. Shore, Raleigh, director of the laboratory of hygiene, announced that preparations were under way and that it would soon be available. The meeting next year will be held at Winston-Salem.

OHIO

"Diamond Anniversary" of Medical Association.—The state medical association held its seventy-fifth annual meeting at Columbus, May 3-5, under the presidency of Dr. Charles Lukens, Toledo. Two clinics were held to permit the study of cases at first hand. Lieut.-Col. Henry Smith, Amritsar Punjab, India, conducted the eye clinics, and the skin clinic was conducted by Dr. Charles J. Shepard, Ohio State University College of Medicine, Columbus, with the assistance of other dermatologists in attendance. Dr. J. Rilus Eastman, University of Indiana, Indianapolis, and Dr. Reuben Peterson, University of Michigan, Ann Arbor, presented papers. Dr. Wells Teachnor, Columbus, was elected president; Dr. Herbert M. Platter, Columbus, treasurer, and Donald K. Martin, executive secretary for the ensuing year. The 1922 convention will held at Dayton.

OKLAHOMA

Antihealth Legislation.—The Oklahoma Legislature has adjourned after enacting bills creating a separate board for chiropractors; creating a separate board for osteopaths and allowing them to administer any drugs, the use of which is taught in their schools, and requiring the instillation of 1 per cent. silver solution in the eyes of new-born infants. The legislature refused to pass laws for the examination of cooks, waiters and food handlers to determine freedom from venereal infections; for the establishment of bathrooms in schools with more than two hundred pupils and for the appropriation of money for public health work. Practically all health appropriations were greatly reduced.

PENNSYLVANIA

Gift to Medical College.—By the will of Daniel Baugh a legacy of $150,000 has been left to Jefferson Medical College to be used for the salary of the professor of anatomy and director of the Daniel Baugh Institute of Anatomy and Biology.

Beer Not Medicine.—According to a resolution adopted unanimously by the Harrisburg Academy of Medicine, beer is not medicine now, and never was. A copy of the resolution will be forwarded the judiciary general committee of Congress.

Philadelphia

Personal.—The appointments of Dr. Samuel S. Woody as professor and Dr. Theodore Le Boutillier as assistant professor of epidemic contagious diseases in the Graduate School of Medicine of the University of Pennsylvania, have been made for the ensuing year.

SOUTH CAROLINA

State Meeting of Four Medical Associations.—The seventy-third annual meeting of the state medical association was held at Columbia, April 19-20, under the presidency of Dr. Washington P. Timmermann, Batesburg. The state public health association, the state nurses association, and the state hospital association, held meetings in Columbia the same week and the four organizations held a joint meeting on the last day of the medical session. Among those delivering addresses were Dr. Watson S. Rankin, Raleigh, N. C., secretary, North Carolina State Board of Health; Dr. James K. Hall, Richmond, Va., secretary, Tri-State Medical Association, and Dr. George Walker, Baltimore. Dr. Walker's subject was "Abolition of Venereal Disease," and the medical association went on record as enforcing the suggestion that public prophylactic stations be established in the state for the control of venereal diseases. Dr. Charles J. Hatfield, Philadelphia, secretary of the National Tuberculosis Association, addressed the tuberculosis section on Tuesday. The following officers of the medical association were elected for the ensuing year: Dr. Harry L. Shaw, Sumter, president; Drs. Drayton M. Crosson,

esville, Henry W. Rice, Columbia, and L. G. Sadler, Union, e presidents. Dr. Edgar A. Hines, Seneca, was reelected cretary-treasurer. The 1922 convention will be held at Rock ll. The society recommended the reappointment of the tire state board of health.

TENNESSEE

Personal.—Dr. Eugene M. Holder has been elected chief of e division of surgery at the College of Medicine, University Tennessee, Memphis, to succeed Dr. McIver Woody, signed. Dr. Woody has accepted a similar position with aylor University, Dallas, Texas.

State Medical Meeting.—The eighty-eighth annual meeting the state medical association was held at Nashville, April -14, under the presidency of Dr. Leon L. Sheddan, Knoxlle. The eye, ear, nose and throat section held a separate eeting following a dinner at the Tulane Hotel, at which Dr. hn Green, St. Louis, was the principal speaker. The follow- g were elected officers of the society for the ensuing year: esident, Dr. William Britt Burns, Memphis; vice presidents, rs. Alexander B. Dancy, Jackson, Leonard W. Edwards, ashville, and George T. Zerbe, Jingo, West, Middle and ast Tennessee, respectively; secretary, Dr. Olin West, Nashlle; treasurer, Dr. Joseph F. Gallagher, Nashville; delegate the American Medical Association, Dr. Landon A. Yarough, Covington, and alternate, Dr. Wesley J. Breeding, parta.

VIRGINIA

Recommendations of the Commission on Medical Education n Virginia.—At its final session, held in Richmond, May 2, he Commission on Medical Education in Virginia adopted majority report favoring the location of the single-state upported medical school in Richmond, this school to be he Medical Department of the University of Virginia. On he policy of consolidation and of making the combined chool the medical department of the University of Virginia he commission was unanimous. On the question of location ve of the nine members of the commission voted in favor f Richmond. One member of the commission voted against he majority report without expressing a preference as to ocation, on the ground that a survey by an outside agency s necessary to settle the matter. By the terms of the legisative act creating the commission, these recommendations ow go to the Boards of Visitors of the University of Virginia and the Medical College of Virginia, and these boards n joint session are to attempt to agree on a plan of consolidation, based in whole or in part on the recommendaions of the commission. If they agree, their plan is to be submitted to the legislature of 1922 for adoption or rejection. If they do not agree, the governor is to transmit the report of the commission to the legislature with whatever recommendations he may see fit to make.

GENERAL

Air Service Meeting.—The Air Service Medical Association of the United States will hold its annual meeting in Boston, on Wednesday, June 8, in the Administration Building of the Harvard medical group.

American Surgeons Honored.—The Council of the Royal College of Surgeons of Ireland, on April 26, resolved to confer honorary fellowship on the following American surgeons: Drs. William J. Mayo and Charles H. Mayo, Rochester, Minn.; George Emerson Brewer, New York; George W. Crile, Cleveland; Richard H. Harte and William W. Keen, Philadelphia, and Albert J. Oschner, Chicago. The ceremony of conferring the honors will take place in the autumn.

Italian Physicians Association of America.—To stimulate the organization of scientific groups of Italians in various parts of the country and in an attempt to organize them into a national society, the Italian Physicians Association of America will hold its first annual meeting and dinner under the presidency of Dr. Michael Osnato, New York, on June 4, at New York City. The Italian Medical Society of Massachusetts and Italian physicians in other cities of America who have received their education either here or abroad are invited.

Personal.—Dr. Simon Flexner, the director of the Rockefeller Institute for Medical Research, has been elected an honorary fellow of the Royal Society of Tropical Medicine and Hygiene of London at a meeting of the council of that society, held April 8, 1921.——Colonel Henry Smith, I. M. S. Punjab, India, will address the Cincinnati Academy, May 9, the Texas State Society at Dallas, May 12, and hold a clinic, May 13, on Intracapsular Extraction. He will address the Illinois State Medical Society, May 16, and the Pittsburgh Medical Society on May 23. He will be at the annual session of the American Medical Association, Boston, and American Ophthalmological Society at Swampscott, June 15.

Hearing on Sheppard-Towner Bill.—The Sheppard-Towner infancy and maternity bill was attacked and defended, May 5, at a hearing before the Senate Education Committee. Dr. Alfred H. Quessy of Fitchburg, Mass., in voicing opposition to this measure said, "There is no evident desire on the part of the American public for such legislation. The women who are clamoring for it are those that have time to waste and money to burn. This legislation comes from the erroneous idea that the health of the American nation has gone below the general standard. This is not the case." The bill was also attacked by Dr. Charles O. Donovan of Baltimore as a contravention of the general welfare clause of the Constiution and as an additional burden on taxpayers. Mrs. Maud Wood Park, president of the National League of Women Voters, and Miss Julia Lathrop, head of the Children's Bureau of Labor Department, endorsed the measure.

Bill for Welfare Department.—The measure sponsored by President Harding and his physician at the White House, Gen. Charles E. Sawyer, providing for the reorganization of the health, educational and social welfare activities of the government has been presented to Congress. In the Senate it was introduced by Senator William S. Kenyon of Iowa and in the House of Representatives by Representative S. D. Fess of Ohio. A new department with a cabinet officer is established with the title of the Department of Public Welfare. The proposed new department is divided into four divisions with an assistant secretary at the head of each. They are: division of education, division of public health, division of social service, division of veteran service. The President is authorized to transfer any bureaus, boards or commissions operating in other departments to the new department. Provision is made for the abolition of the office of Surgeon-General of the U. S. Public Health Service, this service to be assigned to the new division of public health. The Bureau of War Risk Insurance would also be abolished and assigned to the new division of veteran service. The Bureau of Pensions would be transferred to the proposed veteran service.

LATIN AMERICA

Public Health Department Accepts Classification of Council on Medical Education of American Medical Association.—In passing on the validity of medical diplomas submitted from American colleges, the National Board of Public Health of Mexico has decided to base its opinions on the classification of medical schools by the Council on Medical Education of the American Medical Association.

Government Services

To Federal Prohibition Directors

The Federal Prohibition Commissioner, Bureau of Internal Revenue, Washington, D. C., on May 2, issued the following circular of information to federal prohibition directors:

On and after May 16, 1921, hospitals holding permits to use liquor in the treatment of patients, will be permitted to withdraw liquor from bonded warehouses and distillery free warehouses. Forms 1410-A should not be issued to directors prior to May 16, 1921, for the withdrawal of liquor from bond by hospitals. Distillers will not make shipment of liquor to hospitals on any permit Form 1410-A, dated prior to May 16, 1921.

Private Practice by Army Medical Officers

Regulations have been prepared by the War Department on the subject of the private practice of officers of the Medical Corps of the Army. It is provided that, if residents in the vicinity of a military post or the home of a medical officer desire his professional services, an Army medical officer may render his services when it does not interfere with the proper performance of his official duties. The rules of the War Department, however, do not permit a medical officer to open an office for the purpose of engaging in civil practice. Private or civilian practice by medical officers in civil life will be restricted to consultation practice and to emergency, medical or surgical work.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 11, 1921.

Dust in Expired Air

In a letter to the *Lancet*, Dr. J. S. Owens, an authority on atmospheric pollution, has reported some experiments of great importance, as they traverse the current teaching that the air passages are an efficient trap for the removal of matter suspended in the inspired air. Tyndall stated that expired air is optically pure, and it is generally assumed that air entering the lungs through the nose is purified from all suspended matter before it reaches the deeper part of the lungs. Having some doubts as to this assumption, Dr. Owens made experiments. He tested a sample of air during a slight smoke haze in November in London, and found that it contained 1.92 mg. of suspended matter per cubic meter. He then filled a small rubber balloon with ordinary tidal expired air, taking care that the balloon was washed out by filling with expired air and emptying several times. It was found to contain 1.28 mg. per cubic meter. Thus, in ordinary breathing the expired air contained about 70 per cent. of the suspended impurity which entered during inspiration. Doubtless some of the suspended matter in the expired air was deposited on the walls of the balloon, but this would not affect the result much. A similar experiment was then made with "reserve air." The balloon was thoroughly washed out with reserve air and then filled after the end of a long inspiration. The reserve air was found to contain about 60 per cent. of the dust of the inspired air. These observations were checked by using an apparatus by which a jet of air $\frac{1}{1000}$ inch in diameter can be blown on a microscopic slide at a distance of $\frac{1}{16}$ inch. The result is that a certain proportion of the suspended particles strike and adhere to the slide. A few cubic centimeters of ordinary London air thus produce a black spot visible to the naked eye. Expired "tidal" and "reserve" air yielded a black spot. Ordinary London air yielded particles which were all black and varied in diameter from $\frac{1}{100000}$ to $\frac{1}{20000}$ inch. Expired air yielded similar particles.

Three Deaths from Working at the Radium Institute

Three deaths have occurred from working at the London Radium Institute, but for some reason the authorities have made no statement on the matter. The press first obtained the news in consequence of a communication by Dr. Bordier to the Académie de Médecine of Paris. The three persons who have died were a sister from Ireland and two laboratory workers. No details could be obtained from the secretary of the institute, who stated to a press representative that "the regulations make all matters concerned with the institute and its works unavailable for publication until authorization has been given by the committee." The deaths appear all to have been due to aplastic anemia, which, as stated in a recent letter to The Journal is a newly recognized danger to workers both with radium and with the roentgen ray, and to which disease a leading roentgen ray authority, Dr. Ironside Bruce, recently succumbed. At the Radium Institute every possible precaution is taken to safeguard the staff. The following rules are enforced: No nurse or attendant habitually applying apparatus should work continuously for more than three months. This period of work should be followed by a change of occupation or rest for an equal time. All workers should have at least two clear holidays a week in the open air. Blood examinations are made frequently of every person employed at the institute, even of those who are never near radium, such as porters, servants and messengers. On the slightest sign of anemia, work is suspended. No person is permitted to touch radium with the naked fingers. It is handled with special instruments, and there is always a lead screen between the operator and the radium. Triple wrappings of lead and rubber are around the radium when it is applied to a patient. But from touching the apparatus nurses and attendants in time suffer from dermatitis and their nails pare away. There is never the slightest reluctance to continue the work. The members of the staff carry on with quiet courage. At present the nursing staff consists of six women, three male attendants and three laboratory operators. Two girls are engaged in the preparation of radium dressings.

Resignation of Dr. Addison, the Minister of Health

Dr. Addison, the first man to preside at the newly created ministry of health, has resigned. The ministry was created in June, 1919, and its first duties were the unification of half a dozen government departments which dealt with various matters of public health. The housing problem, which had become acute because of the stoppage of building operations during the war, had also to be attacked. Dr. Addison, before he entered politics, was an anatomist and had been lecturer at St. Bartholomew's Hospital. An earnest reformer, he showed both energy and skill in his new field. He carried out the difficult work of reorganizing the medical service with success; but, owing to the obstruction of the trade unions, he could make little progress with housing. Intrenched in their calling, the bricklayers not only refused to lay more than a minimum of bricks, but prevented the admission of ex-service men, although the work to be done far exceeded that which was being performed. His schemes of reform aroused the animosity of politicians, who charged him with extravagance. A press campaign was organized against him. He was described as a bureaucrat whose desire was to socialize the medical profession and destroy the independent physician. This was most unfair misrepresentation, but it contained that minimum of truth which is so effective in the hands of unscrupulous politicians. The whole history of public health administration is one of progressive socialization of medical service. It was impossible for Dr. Addison, as it will be for any other minister of health to carry out any reforms without increasing socialization. No reason is given for his resignation, but it seems to have been due to disgust with the manner in which he has been criticized.

PARIS

(From Our Regular Correspondent)

April 15, 1921.

The Inspection of Bakeries

Dr. Réné Wibaux recently published in the *Revue d'hygiène* an interesting article on the need of organizing the inspection of bakeries. During the war, Wibaux had an opportunity of inspecting all the bakeries of Lille. At the time of the German occupation of this city, the population was supplied with bread by the Comité d'alimentation, working under the auspices of the Commission for Relief in Belgium, organized by the government of the United States. The bread furnished by this committee was baked, for the most part, in the bakeries of the city. During the summer of 1916, the organizers of the food distribution decided to give some form of recompense to the bakers who had shown themselves most deserving. Inspectors were selected to make an estimate of the value of the various phases of the work. Among other things, hygienic factors and general cleanliness were, of course, assigned definite values, and it was to Wibaux that this particular phase of the inquiry was delegated. In his report he stated that most of the bakeries were far from

clean. He said that no one would be willing to eat the bread if he knew of the insanitary conditions prevailing about certain kneading troughs. In the eighteenth century the kneading was done with the feet. In our day the methods are not more commendable than then; for, though the feet have been replaced by the hands in the performance of the work, all the eliminations of the nose and mouth are commonly projected into the dough. The conclusion that is forced on us by a study of Wibaux's report is that bread should be subjected to a careful inspection the same as are all products intended for raw consumption. There is at this point a gap in our legislative enactments, which should be filled without delay. Until such legislation can be forthcoming, it behooves us to encourage such bakeries as offer us the best guarantees of cleanliness. In order to be conducted as it should be, the baking industry requires considerable capital, and, under present conditions, only by means of extensive cooperation can bakeries be established that will measure up to the requirements of the hygienists. Wibaux recommends also the creation of schools wherein baking under hygienic conditions may be taught. Such schools could be built up on the basis of schools of industrial practice such as already exist.

Books for the Blind

The Association Valentin Haüy, founded for the benefit of the blind, has recently deposited in six municipal libraries of Paris, for circulation among the blind, a number of special works printed in the braille system. These books will be lent on the same conditions as are the ordinary books of the municipal libraries. These special works will be renewed by the association, from time to time, as needed.

BERLIN

(From Our Regular Correspondent)

April 2, 1921.

The Financial Need of the Berlin Student Body

Before any students could become participants in the Quaker Relief Fund, during the winter semester 1920-1921, they were obliged to fill out a questionnaire. If the questions were clearly answered by the applicant, it was not difficult to decide whether or not his financial condition entitled him to relief. The questionnaire contained questions in regard to the financial circumstances of parents; the number and economic condition of brothers and sisters; the amount of assistance received from home; income from outside employment and the nature of such employment; the place where the applicant secured his meals and the price he paid for them; his place of residence and the cost of his room, and other similar questions. Approximately 1,000 questionnaires were filled out and turned in, all of which were carefully examined by the Quaker Commision, to which three students were attached. Only the 350 students who should prove to be the most needy could be given relief. From their statements the generalizations that are to follow have been deduced. In order to secure a uniform gage by which to compare the financial condition of the parents of the student applicants, the income of the father, or of the mother, was divided by the number of persons supported by such income. In the case of 102 students the annual income of the head of the family yielded less than 1,500 marks ($23) per family member; the families of seventy-one students had from 1,500 to 2,500 marks per member, and the families of only nine of such students had from 4,000 to 5,000 marks ($61 to $77) per member, as their annual income.

The assistance that these students received from home varied with the family income. Only 103 received a regular remittance from home. Of these, twenty-three received more than 200 marks ($3.08); twenty-one received 100 marks or less, and sixty-six received from 100 to 200 marks per month. According to the estimate of the social statistician Dr. Kuczynski, the minimal sum required by a man for bare existence in Berlin in December was above 600 marks. These unfortunate financial conditions force upward of 30 per cent. of the 350 students whose applications for relief could be considered to earn part of their means of support while pursuing their studies. The amounts that they are thus able to earn vary. Thirty-four students earned from 200 to 700 marks (from $3.08 to $10.78) per month; forty-seven students earned from 100 to 200 marks per month, while the rest were able to add only 100 marks to their monthly allowance. Sixteen students stated that from their earnings they had to support their own family—wife and child, or a mother, or a younger brother.

As to the various means by which the students have sought to eke out their slender income: A considerable number have done tutoring in the homes or have had temporary employment in the banks; others have been telephone operators, office assistants, correspondents, writers, or piano players in cabarets; some have even served as porters, sign tackers and mine laborers, during the vacations, endeavoring thus to secure the funds absolutely needed. Not only the students themselves, but in many cases their parents and brothers and sisters have taken up forms of work that formerly would scarcely have been regarded as in keeping with their social status. Where we find the son laboriously working his way through college by giving lessons and by taking on office work, the father is often an ordinary laborer or following some petty industry. If the father is dead and the family is deprived of its bread-winner, as was the case with regard to a third of the applicants, the mother often goes out to work to help along, even though, as was often stated, she was past 60 years of age. Some of the mothers serve as seamstresses in garment factories; others as correspondents or stenographers, while others take roomers. The sisters are also often employed outside, either as seamstresses, postal clerks or house maids. The younger brothers were often waiters or laborers. As to meals: Forty of the 350 students stated that they had no warm dinners, subsisting mainly on bread, 160 gave 2.50 marks (four cents) and less as the price they paid for their dinner in a restaurant, and what that means with present prices must be clear to everybody. Thirty of those who took their meals at home were in very straitened circumstances and did not seem to have enough to eat. For a furnished room forty-one of the 117 who do not live at home, pay 50 marks (77 cents) or less per month; sixty-two pay from 50 to 100 marks, and only fourteen paid more than 100 marks. It goes without saying that with the 350 students to whom relief was granted by the Quaker Relief Fund, the number of needy students is by no means exhausted. It may be safely said that a large number, in fact, most of the 1,000 whose applications were rejected, are likewise sorely in need of material assistance, though their condition is not quite so bad as that of the 350 whose applications were accepted. It is also to be considered that only those who applied to the Quaker Commission for relief made out statements of their financial condition. All those who are in a bad way financially, but are provided at least with a warm dinner, even though they may not be able to partake of it until after 3 o'clock, when they have finished their outside employment, did not fill out a questionnaire. Very few of those rejected had a monthly allowance of 400 or 500 marks; but only those with an allowance of less than 300 marks could be accepted, as the small number of places at the table still at the disposal of the commission necessitated a limitation of the accepted applicants to the most needy.

Marriages

JOHN NELSON NEILL OSBURN, Minneapolis, to Mrs. Barbara Stephens Zane of Sacramento, Calif., April 24.

HOWARD LEE CECIL, Baltimore, Md., to Miss Bessie Walker Omohundro of Reedsville, Va., April 30.

JABEZ HERRING WILLIAMS, Camden, N. J., to Miss Alice Blakney, at Philadelphia, Pa., April 23.

WILLIAM FREDERICK SKELLEY to Miss Ella B. Gilroy, both of Davenport, Iowa, May 4.

EPHRAIM FELDMAN to Miss Rea Cohen, both of Memphis, Tenn., May 8.

Deaths

Elliott Thomas Brady, Roanoke, Va.; Jefferson Medical College, 1886; aged 55; a member and in 1909 president of the Medical Society of Virginia; for many years a member of the staff of the Southwestern State Hospital, Marion, Va.; at one time roentgenologist to the Allegheny General Hospital, Pittsburgh; surgeon of the *S. S. Suriname* of the United Fruit Company; was found dead in his stateroom on the liner, February 14, from heart disease.

Robert Clark Yenney, Portland, Ore.; University of Pennsylvania, Philadelphia, 1892; aged 52; a member of the Oregon State Medical Association; lieutenant-colonel, M. C., U. S. Army, and discharged, May 22, 1919; a veteran of the Spanish-American War; professor of clinical medicine in the University of Oregon, Portland; secretary of the state board of health for five years; died, April 25, from heart disease.

Robert Merida Brown ⊕ Saranac Lake, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1905; aged 42; surgeon of the General Hospital, Saranac Lake; died, April 30, from septicemia following an infected wound of the hand sustained while performing an operation.

Kenneth M. Ferguson, Indianapolis, Ind.; College of Physicians and Surgeons, Baltimore, 1882; aged 57; a member of the Indiana State Medical Association; assistant superintendent of the Central Indiana Hospital for Insane, Indianapolis; died, April 24, from cerebral hemorrhage.

William Breakey Lewitt ⊕ San Francisco; Detroit Medical College, 1877; College of Physicians and Surgeons in the City of New York, 1878; aged 63; emeritus professor of pediatrics in the University of California, Berkeley and San Francisco; died, April 25, from myocarditis.

Ralph W. Montelius, Mt. Carmel, Pa.; Jefferson Medical College, 1876; aged 66; a member of the Medical Society of the State of Pennsylvania; a veteran of the Spanish-American War; president of the local board of health; died, April 19, from pneumonia.

Joseph Coleman Walker, Lambert, Miss.; Atlanta (Ga.) College of Physicians and Surgeons, 1913; aged 30; died in Memphis, Tenn., April 24, from gunshot wounds received in an altercation with a farmer of Lambert, a few days before.

Peter Langrave Suits, Tribes Hill, N. Y.; Albany (N. Y.) Medical College, 1879; aged 76; a member of the Medical Society of the State of New York; died, April 21, from injuries received in an automobile accident, January 19.

Samuel L. Dreibelbis, Reading, Pa.; Hahnemann Medical College of Philadelphia, 1871; aged 73; obstetrician to the Homeopathic Hospital, Reading; a practitioner of Reading for half a century; died, April 13, from neuritis.

Walter Israel Sunburnt, San Francisco; College of Physicians and Surgeons of San Francisco, 1899; aged 55; lieutenant, M. C., U. S. Army, and discharged, Dec. 26, 1917; died, April 10, from pneumonia following influenza.

Frederick Earl Walker ⊕ Long Beach, Calif.; State University of Iowa, Iowa City, 1898; aged 49; died, April 24, from septicemia following an infected wound of the hand sustained while performing an operation.

Archibald Lawrence Muirhead, Omaha; University of Michigan, Ann Arbor, 1893; aged 57; professor of pharmacology, and from 1913 to 1916 dean of John A. Creighton Medical College; died, April 24.

George H. Halberstadt ⊕ Pottsville, Pa.; University of Pennsylvania, Philadelphia, 1878; aged 65; surgeon for the Philadelphia and Reading Coal and Iron Company; died, April 28, from pneumonia.

Charles H. McIlwaine, Newark, N. J.; University of Pennsylvania, Philadelphia, 1877; aged 77; founder and for ten years director of the Trenton Eye and Ear Infirmary; died, April 21, from uremia.

Samuel L. Kurtz, Reading, Pa.; Jefferson Medical College, 1854; aged 88; a member and in 1891 president of the Medical Society of the State of Pennsylvania; a veteran of the Civil War; died, April 21.

Arthur W. Wellesley Olcott ⊕ Tucson, Ariz.; St. Louis Medical College, 1887; aged 55; at one time health officer of Tucson; died, April 19, from injuries received in an automobile accident.

William Augustus Newell, Philadelphia; University of Pennsylvania, Philadelphia, 1907; aged 40; lieutenant, M. C., U. S. Army, and discharged, March 7, 1919; died at Clifton, Pa., April 29.

Charles Aden Allen, Memphis, Tenn.; University of Tennessee, Memphis, 1915; aged 40; lieutenant, M. C., U. S. Army, and discharged, Dec. 26, 1918; died, April 26, from tuberculosis.

Elkanah K. May, Maytown, Ky.; Vanderbilt University, Nashville, Tenn., 1898; aged 47; a member of the Kentucky State Medical Association; died, April 2.

Okey Johnson Casto, Hutchinson, Kan.; University of Louisville, Ky., 1891; aged 54; a member of the Kansas Medical Society; died, April 14.

John Franklin Park, McKinney, Texas; Chattanooga (Tenn.) Medical College, 1901; aged 60; died, April 19, from cerebral hemorrhage.

Albert McClintock, New Moorefield, Ohio; Columbus (Ohio) Medical College, 1888; aged 67; died, April 21, from cerebral hemorrhage.

Richard S. Keeler ⊕ St. Petersburg, Pa.; College of Physicians and Surgeons, Baltimore, 1885; aged 59; died, April 17, from heart disease.

Luther Brown, Rockford, Iowa; Rush Medical College, 1866; aged 83; a veteran of the Civil War; died at Pensacola, Fla., January 19.

Charles Russell Foutche, Berkeley Springs, W. Va.; College of Physicians and Surgeons, Baltimore, 1885; aged 59; died, April 12.

Lewis D. Coy, Canfield, Ohio; Eclectic Medical Institute, Cincinnati, 1876; aged 72; a veteran of the Civil War; died, April 12.

Charles Moore Robinson, Nowata, Okla.; Universities of Nashville and Tennessee, 1901; aged 43; died, April 5, from tetanus.

Arthur Lewis Root, New York; University of the City of New York, 1883; aged 62; died, April 24, from heart disease.

John N. Southern, Monroe City, Mo.; University Medical College of Kansas City, Mo., 1895; aged 49; died, April 11.

George Glanville Rusk, Baltimore; University of Maryland, Baltimore, 1867; aged 74; died, April 14, from pneumonia.

Jacob Londoner, Brooklyn; University of Dorpat, Russia, 1891; aged 58; died, April 27, from cerebral hemorrhage.

Harvey Van Ness Hicks, Preston, Iowa; Chicago Medical College, 1872; aged 72; died, April 12, from carcinoma.

Charles Chandler Haines ⊕ New York; Long Island College Hospital, Brooklyn, 1906; aged 45; died, April 12.

Adolphus F. Kerr ⊕ Clifton Forge, Va.; Missouri Medical College, St. Louis, 1877; aged 72; died, April 15.

Herbert B. Lush, Winterpock, Va.; Medical College of Virginia, Richmond, 1896; aged 54; died, March 6.

Francis Diwage Wright, St. Louis; Rush Medical College, 1882; aged 65; died, April 18, from septicemia.

A. E. Sally, Augusta, Ga.; University of Georgia, Augusta, 1885; aged 63; also a druggist; died, April 14.

Alexander Boyd Hawkins, Raleigh, N. C.; Jefferson Medical College, 1847; aged 96; died, April 14.

Adelbert N. Russell, Cleveland; University of the City of New York, 1874; aged 70; died, April 15.

Sol Ringolsky, Oakland, Calif.; Gross Medical College, Denver, 1893; aged 60; died, March 27.

George B. Gilbert, Louisville, Ky.; University of Louisville, Ky., 1901; aged 45; died, April 14.

Horace C. Miller, Rensselaer, N. Y.; Albany (N. Y.) Medical College, 1873; died, April 11.

⊕ Indicates "Fellow" of the American Medical Association.

Correspondence

MICHIGAN TURNS DOWN CHIROPRACTORS

To the Editor:—The chiropractors have conducted campaigns in several states to secure the enactment of laws setting forth the privileges and right to practice for members of that cult of deluded manipulators and to create independent chiropractic examining boards. The attempt was made in Michigan. It was unsuccessful solely because the profession in Michigan effectively registered its objections.

The chiropractic combine sent a lobbyist to Lansing. He, in turn, had several assistants. Secrecy was the watchword. A bill was introduced in the house, and the first intimation we had was its passage by the house. The bill was a vicious one and required only ordinary education and three years of six months in any so-called chiropractic college as educational requirements. It also created a chiropractor's board with rather broad authority. The bill was sent to the senate.

President McLean of our state society, and several members from Detroit, Flint and Grand Rapids, went to Lansing. The chairman of the senate committee to which the bill was referred assured these representatives that a hearing would be given if the committee considered the bill. Time passed and the legislature was almost in the last week of its session. On Saturday afternoon, while the chairman of the committee was out of Lansing, a motion in the senate called the bill out of the committee and placed it on its third reading to come up on Monday, the last week of the legislature. Adjournment had been agreed on for Friday.

This information did not reach us until late on Saturday. A telegram was then sent to each one of the secretaries of our county societies, advising them of the situation and urging them to bring every influence and force to bear on their senators from their counties. In several of our larger cities, interviews were held with influential citizens, hospital boards and civic officials, and they too conveyed their disapproval to the senate. The net result was that some 2,100 telegrams poured into Lansing on Monday morning and were delivered to members of the senate. When the bill came up for a vote there were yeas 1, nays, 67—a vote that recorded the result of registering our objections in a most emphatic manner.

Wednesday a long distance telephone message was received, advising that the governor was endeavoring to secure a reconsideration of this vote. President McLean and Dr. J. B. Kennedy of Detroit immediately got into communication with the governor and arranged for an interview at 7 o'clock Thursday morning. The appointment was kept, and during a three hour session the governor was informed that no compromise would be entered into: that he might force a reconsideration, but that 4,000 physicians in Michigan were ready to make such an attempt a most costly one to any one who participated in such a move. It was also learned that the governor had made a preelection promise to create a chiropractic board, etc. The conference was exceedingly warm. The governor stated that, had the profession not snowed under the senate with these telegrams, the bill would have had smooth sailing. Finally the governor called in the newspaper men and announced that the bill was killed. The legislature adjourned on Friday.

I am sending you this information for the purpose of substantiating as well as demonstrating what I have frequently declared possible if our members would only exhibit and exercise their influence. During the last several months, we have been urging through our state journal and by personal conversation that they cultivate the acquaintance of their local representatives in the legislature. We also advised that they hold themselves in readiness for prompt action on the receipt of a telegram. When the emergency came, the response was indeed gratifying, and the end-result was most satisfactory.

It was a remarkable rallying of our forces on the shortest possible notice. Our county secretaries are entitled to every praise for the manner in which they secured action on the part of their members. The legislative committee of the Wayne County (Detroit) Society merits most honorable mention. In brief, every one contributed to this successful demonstration. It reveals again what can be accomplished if we but exert ourselves.

I am wondering how much the chiropractors spent.

F. C. WARNSHUIS, M.D., Grand Rapids, Mich.
Secretary, Michigan State Medical Society.

POSSIBLE INVASION OF THE ENDOMETRIUM BY SPIROCHETES

To the Editor:—Editorial comment on Colles' law (THE JOURNAL, April 23, p. 1171) prompts the mention of a pertinent observation. It is to be recalled that intra-urethral chancre in the male has often been detected, though perhaps oftener overlooked because mistaken for or masked by gonorrhea. It seems unlikely that this is the only mucous membrane vulnerable to the spirochete. Again, the testes are proved to be habitats of these parasites; and semen apparently normal has been shown to contain them, both by the microscope and through animal inoculation—in one instance thirteen years after the man's infection (Eberson and Engman). Hence the endometrium must be more frequently exposed to invasion by the spirochete than is any other cylindric epithelium.

A married man under my observation was infected by a barber with syphilis in the cheek. Though he exhibited no lesions of the genitals, and neither chancre nor secondaries were detected in his wife, yet she developed a positive Wassermann reaction, and spirochetes were found in discharges from the cervix. Though not impregnated by him she subsequently bore to a second, syphilis-free husband a tainted child. At this time her Wassermann reaction was negative, a not uncommon phenomenon in women known to be syphilitic.

It seems possible that a woman's endometrium can be infected with syphilis through semen independently of impregnation; that such infection may escape detection unless revealed by the Wassermann reaction or by tainted offspring; and that Colles, working seventy years before the advent of the Wassermann test, and therefore detecting the infection only in father and fetus, erroneously ascribed the fetal infection directly to the semen, and the mother's immunity to the fetus. My patient, who acquired symptomless syphilis years before tainting her child, possibly differs from many Colles' law mothers only in that her infection was discovered before her impregnation.

WILLIAM T. BELFIELD, M.D., Chicago.

"AURICULAR FLUTTER AND FIBRILLATION IN PREGNANCY"

To the Editor.—In an article on "Auricular Flutter and Fibrillation in Pregnancy," by Clarence P. Thomas (THE JOURNAL, April 30, p. 1227) appears the statement, "I have been unable to find, however, in a thorough search of all the literature, any mention of cardiac arrhythmias in pregnancy, or any cases of auricular flutter or fibrillation accompanying that state." Charles H. Miller (*Lancet,* Nov. 2, 1912) reported a case of auricular fibrillation occurring during pregnancy. His patient, who was on the service of Dr. James Mackenzie, had had rheumatic fever and chorea three times. Cardiac decompensation had occurred three times, and during one of these occasions the patient gave birth to a full-term child.

This was her fifth pregnancy. Her pulse during all this time was continuously and completely irregular, and two pulse tracings accompanying the article showed the irregularity. The patient received digitalis therapy and made a good recovery.

J. P. Greenberg, M.D., Chicago.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ANILIN-XYLENE-ACETONE CLEARING FLUID—NEUTRAL CANADA BALSAM—STAINING SPIROCHETES IN TISSUE AND SPUTUM

To the Editor:—1. Can you give me the method of using anilin-xylol-acetone clearing fluid to do away with the use of alcohol?

2. Please give method of staining spirochetes in lung and sputum in pulmonary tuberculosis.

3. How is neutral Canada balsam prepared to secure a truly neutral preparation, one that will keep?

J. Whaley.

Answer.—1. The anilin-xylene-acetone clearing fluid is prepared by mixing together equal parts of each of the three ingredients. The mixture is used like any other clearing fluid.

2. Several methods for staining spirochetes are in use. One of the simplest methods is Giemsa's. The air-dried film is fixed with chemically pure methyl alcohol and stained with Giemsa's stain for twenty hours, using one drop of the stain to 1 c.c. of water. The spirochetes are stained a violet red, *S. refringens* being blue. Giemsa's stain consists of azur II-eosin, 3 gm.; Azur II, 0.8 gm.; glycerin (C. P.), 125 gm.; methyl alcohol (C. P.), 375 gm. The India ink method is also used extensively. A drop of the fresh serum from the lesion, or the sputum, is placed at one end of a glass slide and immediately mixed with a small drop of Gunther-Wagner India ink (Chin-Chin liquid pearl ink). The mixture is spread and allowed to dry. The field is brown or black; the spirochete is colorless and highly refractile. The method of Levaditi and Manouélian is regarded as being especially useful for the detection of the spirochete in tissues. Small pieces of tissue are fixed in 10 per cent. liquor formaldehydi for twenty-four hours and hardened in absolute alcohol for twenty-four hours. After a thorough washing in distilled water, the tissue is placed in 50 c.c. of a mixture consisting of 1 per cent. aqueous solution of silver nitrate, 90 c.c., and pyridin, 10 c.c. After two or three hours' exposure to room temperature, it is exposed to a 50 C. temperature for three or five hours; then immersed for three or four hours, at room temperature, in a freshly prepared solution of 4 per cent. aqueous solution of pyrogallol, 90 c.c.; pure acetone, 10 c.c., and pyridin, 15 c.c. It is removed from the reducing bath, dehydrated in absolute alcohol, cleared in xylene and embedded in paraffin. Cut sections are stained on the slide with a 2 per cent. aqueous solution of toluidin blue, and differentiated and dehydrated in absolute alcohol, oil of bergamot and xylene. The spirochetes are stained black; the ground work of the tissue is blue. Noguchi's method, which is somewhat similar to Levaditi's, is more especially useful for staining brain and cord sections.

3. Neutral Canada balsam is prepared by mixing equal parts of Canada balsam and petroleum benzin and filtering. The filtrate is put on a water bath, and the petroleum benzin evaporated; enough xylene is added to the residue to secure the proper consistency.

CALCIUM AS A THROMBOPLASTIC

To the Editor:—Please furnish me information on most desirable strength of solution, amount, preparation, etc., of calcium as an intravenous thromboplastic agent. Please omit my name.

H. E. L., Delaware.

Answer.—Calcium is generally employed for intravenous injection, in inaccessible hemorrhages, in the form of a 10 per cent. sterile solution of calcium chlorid, of which 5 to 10 c.c. are injected, at about 103 F., two to three times daily into the cubital vein. These injections must be given very slowly—the slower the better—for the intravenous use of calcium chlorid carries with it danger of producing collapse. It is important that not a drop of the solution escape outside the vein. Should this mishap occur, it causes severe pain and may produce necrosis. In such case the immediate application of hot moist compresses would be most likely to help. That such injections may be dangerous is shown by experiments such as those of Huebner and Rona. On injecting into cats from 0.12 to 0.27 gm. of calcium chlorid per kg., in 5 per cent. solution in the course of two to five minutes, there occurred one death from heart paralysis during the injection, marked transient heart irregularity in another case, and death of several of the animals within the next few days. These doses evidently exceed the therapeutic limits. That such dosage may produce marked circulatory disturbance in human beings is shown by the intravenous injections of calcium lactate in 1.25 gm. doses given to 5 and 6 kg. infants by Brown, MacLachlan and Simpson, who noted depression, ranging from drowsiness to almost complete collapse with dyspnea, lasting from 1 to 7 hours, as a result. Lowering of blood pressure produced by the intravenous use of calcium, which was noted among others in animal experiments by Fleisher and Loeb, may indeed be of considerable importance in the hemostatic action of these injections. Thus, Huebner and Rona report: "Not a drop of blood could be obtained from incisions into the ear and but little on venesection, evidently due to low arterial pressure."

CASTOR BEAN AS A POISON

To the Editor:—I had recently some cases of poisoning. Two children ate castor beans. The symptoms were like those of ptomain poisoning. I have several books on toxicology, but none give anything about castor bean poisoning. Please describe the best treatment in Queries and Minor Notes.

R. S. Wilson, M.D., Oilton, Okla.

Answer.—The castor-oil bean is the seed of *Ricinus communis*. In addition to a fixed oil (castor oil), which is relatively nontoxic, the seeds of the castor-oil plant contain an exceedingly toxic substance (or substances) called ricin. This belongs to a class of plant poisons called toxalbumins, a number of which are known. The toxalbumins are soluble in water but not in fixed oils; consequently castor oil contains no ricin. The toxalbumins are violent irritants to the mucous membrane, and possess agglutinizing action on blood corpuscles. They are more toxic in the blood stream than when taken by the stomach, as they are partly destroyed in alimentary digestion. Repeated small doses produce immunity. Five or six castor beans contain sufficient ricin to cause the death of a child, while a smaller number may produce violent gastro-enteritis, with nausea, headache, persistent vomiting, colic, bloody diarrhea, thirst, emaciation and great debility. More serious intoxications cause somewhat frequent pulse, cold sweat, icterus and convulsions. Death occurs in from six to eight days from the convulsions or from exhaustion. The mortality is stated to be about 6 per cent. Usually the symptoms do not set in until after several days. The treatment consists in catharsis, rest in bed, heat to the extremities, and hypodermic injections of strychnin.

ARTICLES ON FIXATION ABSCESS

To the Editor.—Kindly give bibliography, old and new, on "fixation abscess" produced by subcutaneous injections of oil of turpentine and other substances as a treatment of acute infections. I will look for answer in Queries and Minor Notes. Please omit my name.

M. J. S.

Answer.—

Rathery, F., and Bonnard: Induced Typhoid Abscesses, *Bull. et mém. Soc. méd. d. hôp. de Paris* **44**: 285 (Feb. 27) 1920; abstr. The Journal, June 5, 1920, p. 1608.

Damade, R.: Typhoid Bacillus in Fixation Abscess in Typhoid, *J. de méd. de Bordeaux* **91**: 153 (March 25) 1920.

Cerioli, A.: Immunization and Fixation Abscesses, *Gazz. d. Osp.*, June 10, 1915; abstr. The Journal, July 31, 1915, p. 467.

Santi, E.: Fixation Abscess in Treatment of Puerperal Infection, *Ztschr. f. Geburtsh. u. Gynäk.* **76**: 1914; abstr. The Journal, July 18, 1914, p. 285.

Péhu and Pillon: Turpentine Fixation Abscess in Children, *Lyon méd.*, Dec. 7, 1913; abstr. The Journal, Jan. 17, 1914, p. 243.

Probst, L.: Fixation Abscess in Influenza, *Rev. méd. de la Swisse Rom.* **40**: 159 (March) 1920; abstr. The Journal, May 8, 1920, p. 1356.

Roumaillac: Fixation Abscess (Fochier's Method) Cures Neuralgia, *J. de méd. de Bordeaux* **90**: 250 (June 25) 1919; abstr. The Journal, Aug. 9, 1919, p. 455.

Vergeley, J.: Fixation Abscess in Treatment of Influenzal Pneumonia, *J. de méd. de Bordeaux* **90**: 57 (Feb. 15) 1919; abstr. The Journal, March 29, 1919, p. 967.

Montagnon: Fixation Abscess for Infants, *Lyon méd.*, Dec. 4, 1910; abstr. The Journal, Jan. 21, 1911, p. 227.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.
DELAWARE: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover.
FLORIDA: Jacksonville, June 13-14. Sec., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.
GEORGIA: Augusta, June 1-3 and Atlanta, June 8-10. Sec., C. T. Nolan, Marietta.
ILLINOIS: Chicago, June 20-23. Supt. of Registration, Mr. J. C. Dodds, Springfield.
IOWA: Iowa City, June 9-11. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.
LOUISIANA: New Orleans, June 9-11. Sec.-Treas., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.
MICHIGAN: Ann Arbor, June 14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MINNESOTA: Minneapolis, June 7-9. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.
MISSISSIPPI: University, June 21-22. Sec., Dr. W. S. Leathers, University.
MISSOURI: St. Louis, June 13-15. Act. Sec., M. E. Holliway, State House, Jefferson City.
NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.
NEBRASKA: Lincoln, June 8-10. Sec., Mr. H. H. Antles, Dept of Public Welfare, State House, Lincoln.
NEW JERSEY: Trenton, June 21-22. Sec., Dr. Alexander Macalister, State House, Trenton.
NEW YORK: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.
NORTH CAROLINA: Raleigh, June 21. Sec., Dr. Kemp P. Bonner, Morehead City.
OHIO: Columbus, May 31-June 1-3. Sec., Dr. H. M. Platter, State House, Columbus.
SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.
TEXAS: Galveston, June 21-23. Sec., Dr. Thomas J. Crowe, 918-19 Dallas County Bank Bldg., Dallas.
VIRGINIA: Richmond, June 14-17. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.
WISCONSIN: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.
WYOMING: Cheyenne, June 6-8. Sec., Dr. J. D. Shingle, Cheyenne.

Kansas October Examination

Dr. Henry A. Dykes, secretary, Kansas State Board of Medical Registration and Examination, reports that 23 candidates were licensed by reciprocity at the meeting held at Topeka, Oct. 12-13, 1920. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Bennett Medical College		(1915)	Illinois
Northwestern University	(1902) Wisconsin, (1918),	(1920)	Illinois
University of Illinois		(1905)	Missouri
State University of Iowa Coll. of Medicine	(1895),	(1906)	Iowa
University of Minnesota College of Med. and Surg.		(1891)	Illinois
Barnes Medical College		(1897)	Missouri
Marion-Sims College of Medicine, St. Louis		(1895)	Missouri
St. Louis College of Physicians and Surgeons		(1898)	Iowa
St. Louis Medical College		(1868)	Missouri
St. Louis University School of Medicine	(1913), (1915), (1918),	(1919)	Missouri
University Medical College, Kansas City, Mo.		(1907)	Missouri
College of Medicine of the University of Nebraska		(1909)	Nebraska
John A. Creighton Medical College	(1915), (1917) (1917)		Nebraska Missouri
Meharry Medical College		(1908)	Oklahoma
Medical College of Virginia		(1917)	Virginia

District of Columbia January Examination

Dr. Edgar P. Copeland, secretary, Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, Jan. 11-13, 1921. The examination covered 16 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 4 candidates examined, 2 passed and 2 failed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED		Year Grad.	Per Cent.
Georgetown University School of Med.	(1915)	81.6,	(1920)	78
	FAILED			
Howard University			(1919)	72.1
Harvard University			(1904)	64.5

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Minnesota		(1898)	Minnesota
Meharry Medical College		(1895)	Georgia

Book Notices

A PHYSICIAN'S ANTHOLOGY OF ENGLISH AND AMERICAN POETRY. Selected and Arranged by Casey A. Wood, M.D., and Fielding H. Garrison, M.D. Cloth. Price, $4. Pp. 346. New York: Oxford University Press, 1920.

The collection of verse in this volume was originally intended as a birthday tribute to Sir William Osler, whose literary knowledge and judgment were of the keenest. He was a lover of poetry. The present selection consists of poems which the authors believe come close to life in both its pleasant and its serious aspects. With few exceptions, the poems selected are good and in excellent taste. Some poems which one would expect to find are not included. One misses "The Chambered Nautilus" of Oliver Wendell Holmes; "Crossing the Bar" of Tennyson; and especially "In Flanders' Fields" of John McCrae, the last certainly the outstanding poem of the great war and written by a physician. But why review an anthology! The authors know what they like and what they think we ought to like. We admire their judgment and are glad to have their choice. And we know where we can find the other things we like!

VENEREAL DISEASES: THEIR CLINICAL ASPECT AND TREATMENT. With an Atlas of 106 color and 21 half-tone illustrations. By J. E. R. McDonagh, F.R.C.S., Surgeon, London Lock Hospital. Cloth. Price, $20. Pp. 419. St. Louis: C. V. Mosby Company, 1920.

This volume contains the record of an enormous experience in venereal diseases. It covers syphilis, chancroid and gonorrhea, and has chapters on various collateral subjects. The clinical aspect of the subject is well and fully covered. The book is bountifully illustrated, most of the illustrations being in color and fairly good. The whole trouble about the book is that the reader never knows just where he is. When a book starts off in the present day with the proposition that the cause of syphilis is *"Leucocytozoon syphilidis"* and that *"Spirochaeta pallida* is only the adult male of a coccidial protozoon," the reader of it at once finds himself up in the air. Then when he goes on and finds that in the treatment of syphilis McDonagh recommends the intravenous injection of colloidal iodin, and the use of intramine along with arsphenamin and mercury and other things, he does not know where he is going to alight. And that represents pretty fairly one's situation in reading McDonagh's works, this one as well as others. McDonagh is away ahead of his day, or he is away wrong. Certainly he has not established that he is right, and at the present time his works on venereal diseases cannot be recommended as giving a statement of the present generally accepted knowledge of the subject. Pioneers in the sciences and the arts usually have a hard time gaining acceptance for their views. The reason is, of course, that 999 of a thousand of such pioneers are wrong. Their consolation is the illustrious examples of pioneers who were right, and who were misjudged in their time. Perhaps McDonagh is one of these Galileos.

THE SEX FACTOR IN HUMAN LIFE. A Study Outline for College Men. By T. W. Galloway, Ph.D. Cloth. Pp. 142. New York: The American Social Hygiene Association, 1921.

This handbook was prepared primarily for the use of college men. It is organized on the question and answer system, and is based on a selection of the best textbooks on the subject, together with the results of a conference recently held in New York in which seventy prominent educators participated. Special chapters deal with the general subject of human appetites and their direction, popular misconceptions about sex, and the relation of sex to inheritance, marriage and religion. It is a safe book of information on a most difficult subject.

CLINICAL STUDIES FOR NURSES. A Text-Book for Second and Third Year Pupil Nurses and a Hand-Book for All Who Are Engaged in Caring for the Sick. By Charlotte A. Aikens. Fourth edition. Cloth. Price, $3.25 net. Pp. 577, with 200 illustrations. Philadelphia: W. B. Saunders Company, 1920.

This standard text follows previous lines. Some additions have been made of the changes in medical practice developed by the war, and in the section on infectious diseases as they relate to practice with children. The book is an excellent guide for all who are engaged in caring for the sick.

Medicolegal

Aggravation of Injury by Physician's Mistake or Negligence

(Yarrough v. Hines (Wash.), 192 Pac. R. 886)

The Supreme Court of Washington, in affirming a judgment for $3,250 damages in favor of the plaintiff for personal injuries received while in the employ of the defendant, says that the direct result of his injury was a fracture of the lower end of the fibula. His foot was put in a plaster cast and he was confined to the hospital for several weeks, and at the time of the trial, which was some six months after the injury, there was a shortening of the heel cord, which caused a drawing up of the heel and a consequent dropping of the toes, so as to cause a condition commonly known as "claw-foot," or "toe-drop." The testimony quite conclusively indicated that the condition of the foot was not the necessary result of the injury, but that it might have been caused by improper placement of the foot in the plaster cast, or by some other improper treatment of the original injury. However, it did not make much difference whether the plaintiff's condition was the result of the original injury or that injury in connection with its treatment, for the law unquestionably is that if the injured party in good faith and in the exercise of reasonable care employs a physician to treat his injury and it is aggravated through the mistake or negligence of his physician, such negligence or mistaken treatment of the physician does not become an intervening cause, and that the injured party may recover damages for the injury he has sustained, including the aggravation thereto resulting from the mistaken or improper treatment.

Liability of State for Death from Vaccine

(Sandel v. State (S. C.), 104 S. E. R. 567)

The Supreme Court of South Carolina, in reversing a judgment rendered in favor of the state, says that, by consent of the state, given by an act of the legislature, the plaintiff brought this action for damages for the death of his two children, which he alleged was caused by inoculating them with impure antityphoid vaccine sent out for use by the state board of health. The plaintiff put in evidence a report made by the director of the state laboratory, to the state health officer, of his investigation of the circumstances of the death of the plaintiff's children and two others, following inoculation from the same lot of vaccine. The report stated that unused portions of the vaccine from which the plaintiff's children had been vaccinated were examined, and found to have been contaminated with pus germs. From facts which he stated, the director concluded that some portions of the lot were contaminated in the bottling, from the hands of the person who did the bottling, and that the death of the children was caused by protein poison. The medical experts who testified for the plaintiff and the state differed as to the cause of death. Those who testified for the plaintiff thought that it was caused by the contamination, or, at least, that it might have been so caused; while the experts who testified for the state were of the opinion that death could not have been caused by the presence of pus germs in the vaccine, at any rate, not within the time that elapsed between vaccination and death, which was from nineteen to thirty-six hours. The plaintiff's evidence tended to prove some of his specifications of negligence, while the state's evidence tended to prove due care, and that the methods observed and practiced in the preparation and bottling were the same as those followed in the best laboratories.

There was error in charging the jury that no recovery could be had where there was any intervening cause, in the absence of which the patient would not have died, as the charge ignored some of the essential elements of an intervening cause which would shield the original wrongdoer from liability. The test of intervening causes to defeat recovery is not to be found in the mere fact of their existence or number, but rather in their nature, and the manner in which they affect the continuity of the primary cause, or the connection between it and the injury. If they so affect it that the injury cannot fairly be said to be the natural and probable consequence of the primary cause, they become the proximate or efficient, and the primary becomes the remote, cause. The law does not go back of the last efficient cause. The difference between intervening and concurring causes was apparently overlooked. Suppose the plaintiff's children had some latent weakness, say weak hearts or kidneys, but were strong enough to withstand the reaction from pure vaccine, but too weak to overcome the reaction from contaminated vaccine. While their weakness might, in one sense, be said to have been a concurring cause, in the absence of which death would not have ensued, nevertheless, the state would be liable, provided, of course, the contamination was the result of the negligence of its agents; for, in the case supposed, the negligence complained of was an efficient cause, set in motion by the defendant, and, but for it, the injury would not have occurred.

The jury was charged that the degree of knowledge, skill and care required of a pharmacist, manufacturing chemist, physician or surgeon is that which is ordinarily possessed and exercised by those in their special line of work. There was no error in the instruction, as modified by the statement that it was charged in connection with what had already been charged, when it had been charged that, in all cases, the law requires the exercise of due care, which was defined to mean that amount and degree of care which a person of ordinary reason and prudence would exercise in the circumstances, and that it should be commensurate with the danger involved; that the greater the danger, the greater would be the care required.

The act of the legislature authorizing the bringing of this action was constitutional. It did not create a liability which did not exist before its passage. The liability was one recognized by the common law, but it could not be enforced without the state's consent, on account of the state's immunity from suit.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.

American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Climatological and Clinical Association, Lenox, Mass., June 3-4.
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston, June 3-6.
American Psychopathological Association, Atlantic City, June 11.
American Radium Society, Boston, June 6-7.
American Surgical Association, Toronto, Canada, June 14-16.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
Conference of State and Provincial Health Authorities, Boston, June 3-4.
Connecticut State Medical Society, Hartford, May 18-19.
Illinois State Medical Society, Springfield, May 17-19.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Maine Medical Association, Bangor, June 28-29.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Missouri State Medical Association, St. Joseph, May 24-26.
National Tuberculosis Association, New York, June 13-17.
Nevada State Medical Association, Elko, June 24-25.
New Hampshire Medical Society, Concord, May 25-26.
North Dakota State Medical Association, Fargo, May 26-27.
Oklahoma State Medical Association, McAlester, May 17-19.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
South Dakota State Medical Association, Aberdeen, May 24-26.
Southern Minnesota Medical Association, Winona, June 27-28.
West Virginia State Medical Association, Charleston, May 24-26.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Annals of Surgery, Philadelphia

April, 1921, **73**, No. 4

*Pericardiotomy for Suppurative Pericarditis. E. H. Pool, New York.—p. 393.
*Case of Diaphragmatic Hernia. S. Gitlow and B. Breakstone, New York.—p. 417.
Present Status of Gastric and Duodenal Ulcer. A. O. Wilensky, New York.—p. 420.
*Marginal, Gastrojejunal or Peptic Ulcer Subsequent to Gastro-Enterostomy. J. F. Erdmann, New York.—p. 434.
Gastro-Enterostomy in Acute Perforated Ulcer of Stomach and Duodenum. J. B. Deaver and D. B. Pfeiffer, Philadelphia.—p. 441.
Comparative Results of Pyloroplasty and of Gastro-Enterostomy in Stomach Surgery. B. B. Davis, Omaha.—p. 450.
Drainage of Common Bile Duct Through Cystic Duct: Cystico-Choledochostomy. M. R. Reid, Baltimore.—p. 458.
*Rubber Dam Mikulicz Tampon. C. L. Gibson, New York.—p. 470.
*Gibson-Mikulicz Tampon in Acute Appendicitis. C. E. Farr, New York.—p. 473.
Congenital Valves of Posterior Urethra: Report of Two Cases. A. Randall, Philadelphia.—p. 477.
Krukenberg Tumor of Ovary. P. J. Reel, Columbus, Ohio.—p. 81.
Treatment of Ununited Fractures. M. S. Henderson, Rochester, Minn.—p. 487.
Integral Traction-Providing Splint for Vicious Fractures of Femur. H. C. Masland, Philadelphia.—p. 495.
*Three Frequent Causes of Weak and of Flat Feet. J. T. Rugh, Philadelphia.—p. 499.

Pericardiostomy for Suppurative Pericarditis.—Pool resects portions of the seventh, sixth, and fifth cartilages. He claims that this meets the most important indications, namely, it opens the pericardium at its lowest part; involves little risk of injury to the pleura; provides ample drainage and allows such exploration as is necessary both at the time of operation and during the postoperative course. The procedure was employed in one case, which is reported, and gave quite satisfactory exposure and provided efficient drainage.

Diaphragmatic Hernia.—In spite of a very large diaphragmatic hernia, Gitlow and Breakstone's patient could get about with comparative comfort. She successfully passed through two attacks of what is evidently a respiratory infectious disease, influenza. Her chief complaint was discomfort in the left chest and dyspnea. The authors suggest that this condition may be very common but go unrecognized; hence greater care in diagnosis should be exercised.

Syphilis as Cause of Peptic Ulcer.—A pathologic examination of the area containing a perforated ulcer of the duodenum disclosed evidence of syphilis. Four other excised areas of perforated ulcers of this portion of the intestinal tract were returned, two with syphilitic evidence and two without, making a total of three out of five. Such results, therefore, Erdmann says, force one to include in the list of causations of gastrojejunal, recurring or peptic ulcer, syphilis as a probable strong factor.

Rubber Dam Mikulicz Tampon.—Gibson has modified the Mikulicz tampon by making the outer enveloping layer out of dental rubber dam. A square of rubber dam of suitable size, say 20 by 20 inches in the case of a large retrocecal appendiceal abscess, is folded two or three times in the form of a cornucopia. The apex, which will eventually be the lowest point of the dam, is snipped off, making the hole the size of the little finger. An inch and a half above this the edges of the cornucopia are cut out, making a perforation about one-half inch in size. In some cases a second row of perforations is cut about one inch higher up. The tampon is then introduced as follows: After the appendix has been removed and the cavity sponged out of all purulent material and blood, the operator carries the tampon into the cavity, the index finger being placed at its apex. The pads and retractors are still in place. The edges of the rubber dam are spread out and while the operator still keeps his finger on the apex, the tampon is filled with strips of packing. A large loose dressing is applied. At the end of twenty-four hours the outer dressing is removed. The tampon is usually not disturbed that day, although the gauze packing may be partially withdrawn in order to allow a little better drainage by loosening the dressing. At the end of another forty-eight hours the gauze is all removed. Then one of two things may be done; either the tampon is also removed or it is left in place and a small amount of fresh gauze reintroduced. At the end of seventy-two hours the original tampon should be entirely removed. At this period one of the principal advantages of using the tampon will have been obtained; namely, the permanent pushing back of the abdominal contents from the wound cavity, and there is now left a well-defined, walled-off cavity which can be drained with great ease by inserting a small piece of rubber dam folded on itself two or three times. This piece of rubber dam is generally removed in the course of a day or two.

Gibson-Mikulicz Tampon in Appendicitis.—Farr is convinced that the Gibson tampon lessens mortality in the very severe type of cases. It also lessens morbidity and suffering and the number of postoperative hernias is no greater than in other forms of treatment; the hospital stay is no longer; the conditions of the wound and the intraperitoneal conditions are better than by any other form of drainage.

Causes of Weak and Flat Feet.—The first of these causes mentioned by Rugh is a shortened Achilles tendon. The second condition that mechanically predisposes to a weak or flatfoot is a hypertrophy of the inner end of the scaphoid bone. The third factor found frequently, especially in cases of congenitally weak and in flat feet, is a supernumerary tarsal bone placed at the inner side of the scaphoid and over which runs the tendon of the tibialis posticus. This bone is called the tibiale externum and by some has been called a sesamoid in the posterior tibial tendon.

Journal of Biological Chemistry, Baltimore

April, 1921, **46**, No. 2

Metabolism of Eunuch. B. E. Read, Pekin, China.—p. 281.
Determination of Inorganic Phosphate in Urine by Alkalimetric Titration. C. H. Fiske, Boston.—p. 285.
Formation of Hydrocyanic Acid in Plants. P. Menaul, Stillwater, Okla.—p. 297.
Colorimetric Method for Determining Hydrogen Ion Concentration of Small Amounts of Fluid. L. D. Felton, Baltimore.—p. 299.
Preparation of Galactonic Lactone. P. A. Levene and G. M. Meyer, New York.—p. 307.
*Antiscorbutic Potency of Milk Powders. E. B. Hart, H. Steenbock and N. R. Ellis, Madison, Wis.—p. 309.
Relation of Lactic Acid Bacteria to Corn Silage. E. B. Fred, W. H. Peterson and J. A. Anderson, Madison, Wis.—p. 329.
Destruction of Pentosans in Formation of Silage. W. H. Peterson, E. B. Fred and J. H. Verhulst, Malison, Wis.—p. 329.
*Clinical Method for Quantitative Determination of Potassium in Small Amounts of Serum. B. Kramer and F. F. Tisdall, Baltimore.—p. 339.
Modification of Van Slyke Method of Protein Analysis. P. Menaul, Stillwater, Okla.—p. 351.
Lecithin of Brain. P. A. Levene and I. P. Rolf, New York.—p. 353.
*Stability of Antiscorbutic Vitamin and Its Behavior to Various Treatments. N. R. Ellis, H. Steenbock and E. B. Hart, Madison, Wis.—p. 367.
Blood Sugar Regulation and Origin of Hyperglycemias. I. Glycogen Formation and Glycogenolysis. E. Langfeldt, Christiania, Norway.—p. 381.
Id. II. Conditions of Action of Liver Diastases. E. Langfeldt, Christiania, Norway.—p. 391.
Id. III. Theory. E. Langfeldt, Christiania, Norway.—p. 403.
Blood as a Physicochemical System. L. J. Henderson, Cambridge, Mass.—p. 411.

Antiscorbutic Potency of Milk Powders.—Milk powders made by the Merrell-Soule process, the California Central Creameries spray process and the Just process, were tested by Hart and others as to their antiscorbutic value. They found that aside from the factor of the initial quantity of this vitamin in the milk as influenced by feed, the powders vary in their potency with the process used in their manufacture, the spray processes of manufacture being more destructive of the antiscorbutic vitamin than the Just process. These results should in no way condemn the milk powders made by spray processes. They only point out their limitations when used as the sole source of nutrients in infant feeding. Probably with all milk powders, irrespective of method of manufacture, the safest procedure in a restricted dietary, particularly in infant feeding, is to supplement them with some potent source of the antiscorbutic vitamin. A possible exception to this statement would apply to the powders made by the Just proc-

ess from summer-produced milks or even winter-produced milks where the cow's ration is made rich in the antiscorbutic vitamin by the proper selection of roots and tubers.

Quantitative Determination of Potassium in Blood Serum.—With the method described by Kramer and Tisdall the potassium is precipitated in undiluted serum by adding an excess of a sodium cobalti-nitrite reagent. This reagent precipitates all the potassium while the proteins remain in solution. The precipitate is centrifuged and washed repeatedly with water and then titrated as in the original method proposed by Kramer. The results obtained on serum are accurate to within 5 per cent. of the amount of potassium actually present. The potassium content of the serum of both normal children and adults is singularly constant, the maximum variation being from 18 to 21 mg. per 100 c.c.

Stability of Antiscorbutic Vitamin.—While desiccation of cabbage in an atmosphere of carbon dioxid for thirty-five hours at 65 C. did not prevent the destruction of the antiscorbutic vitamin, fermentation processes involved in the making of sauerkraut from cabbage and silage from corn resulted in a destruction of the antiscorbutic factor. What part heat played in this destruction is as yet undetermined. This vitamin was not removed from orange juice by either ether or by aeration. Oxidizing agents such as hydrogen peroxid and potassium permanganate caused its destruction, while the mild reducing action of molecular hydrogen was without effect. Blood charcoal and the Chamberlain filter removed a measurable amount of this vitamin from orange juice.

Journal of Experimental Medicine, Baltimore

April 1, 1921, **33**, No. 4

*Studies on Lymphoid Activity. V. Relation Between Time and Extent of Lymphoid Stimulation Induced by Physical Agents and Degree of Resistance to Cancer in Mice. J. B. Murphy, W. Nakahara and E. Sturm, New York.—p. 423.
*Studies on Roentgen-Ray Effects. VII. Effect of Small Doses of Roentgen Rays of Low Penetration on Resistance of Mice to Transplanted Cancer. W. Nakahara and J. B. Murphy, New York.—p. 429.
*Id. VIII. Influence of Cancer Inoculation on Lymphoid Stimulation Induced by Small Doses of Roentgen Rays. W. Nakahara and J. B. Murphy, New York.—p. 433.
Etiologic Relation of Bacillus Actinoides to Bronchopneumonia in Calves. T. Smith, Princeton, N. J.—p. 441.
*Precipitin Response in Blood of Rabbits Following Subarachnoid Injections of Horse Serum. H. L. Alexander, New York.—p. 471.
Granules in Cells of Chick Embryos Produced by Egg Albumin in Medium of Tissue Cultures. M. R. Lewis, Baltimore.—p. 485.
*Experimental Syphilis in Rabbit. VI. Affections of Bone, Cartilage, Tendons and Synovial Membranes. Part 1. Lesions of Skeletal System. W. H. Brown, L. Pearce and W. D. Witherbee, New York.—p. 495.
Id. Part 2. Clinical Aspects of Syphilis of Skeletal System. Affections of Facial and Cranial Bones and Bones of Forearm. W. H. Brown, L. Pearce and W. D. Witherbee, New York.—p. 515.
Id. Part 3. Syphilis of Posterior Extremities with Other Affections of a Miscellaneous Type. W. H. Brown, L. Pearce and W. D. Witherbee, New York.—p. 525.
New Strain of Transmissible Leukemia in Fowls (Strain H). V. Ellermann, Copenhagen, Denmark.—p. 539.

Lymphoid Stimulation Increases Resistance to Cancer.—It has been shown that resistance to transplanted cancer follows stimulation of the lymphoid tissue when the stimulation is induced by either heat or small doses of roentgen rays. In this paper Murphy and others report on attempts to determine whether the degree of immunity had a quantitative relation to the amount of the stimulation. All the results together are taken to indicate that the degree of immunity is dependent on the amount of lymphoid stimulation existing either at the time of or following soon after the cancer inoculation.

Effect of Roentgen Ray on Resistance to Cancer.—The experiments reported on by Nakahara and Murphy show conclusively that roentgtn rays given in a dose sufficient to stimulate the lymphoid tissues, increase the resistance of mice to a transplanted cancer. As the degree of stimulation induced by this agent is less than that induced by exposure to intense dry heat or that following the injection of homologous living tissue, it is not surprising that the degree of resistance is less than that seen after the employment of the latter two methods.

Id.—Changes in the blood of mice roentgenized and inoculated with cancer seven days afterward show that the state of resistance to cancer inoculation is attended by blood lymphocytosis, as is the case in all other varieties of immunity to transplanted cancer so far studied.

Effect of Horse Serum on Precipitin Response.—Normal horse serum, without preservative, was injected by Alexander into the subarachnoid space of rabbits by introducing a No. 24 Luer needle attached to a glass syringe, through a sterile field just below the occipital ridge in the midline. The needle was carried forward and slightly downward until it punctured the occipito-atlantoid ligament. A yield of from 0.5 to 1 c.c. of cerebrospinal fluid was thus readily obtained. The needle was left in place, the syringe disconnected, and a second syringe with the correct amount of serum was attached. After slightly withdrawing the plunger to prevent any chance puncture of a vessel the serum was slowly injected. Precipitin tests were made by mixing 0.3 c.c. of rabbit serum with 0.3 c.c. of normal horse serum (for unchanged horse serum, equal parts of an antihorse rabbit serum with dilutions of the serum or cerebrospinal fluid to be tested). After incubation at 37 C. for one hour in a water bath the tubes were placed in the ice chest over night and readings were made the following morning. As controls, normal rabbit serum and normal sheep serum were used. Rabbits which received a single dose of normal horse serum produced precipitins in the blood in greater abundance, of higher titer, and persisting longer than those in control rabbits which received a similar injection intravenously. Repeated subarachnoid injections of normal horse serum induce precipitins in the blood early. They may appear a few days afterward and reach a high titer. No anaphylactic manifestations occurred in rabbits treated repeatedly with subarachnoid injections of normal horse serum when the precipitin content of the blood was high. Anaphylactins, as determined by passive transfer of anaphylaxis, were demonstrated in serums with high precipitin content. Alexander feels that these experiments may explain clinical evidences of anaphylaxis observed when an initial intravenous injection of horse serum followed a series of intraspinal injections of such serum.

Experimental Syphilis.—From a study of a series of rabbits inoculated with two old strains of *Spirochaeta pallida*, it was found by Brown and others that localized infection of bones and tendons was of frequent occurrence and led to the formation of a variety of lesions. The bones usually involved were those of the face and the feet and legs. Most often the lesions arose from the periosteum, but they developed also within the bone or the marrow cavities and at the lines of epiphyseal union.

Southern Medical Journal, Birmingham, Ala.

April, 1921, **14**, No. 4

Spruc: Its Prevalence in South. S. K. Simon, New Orleans.—p. 255.
*Differential Diagnosis of Hematemesis: Report of Case. W. Rowland, Jr., Oxford, Miss.—p. 260.
Sclaret Fever and Streptococcic Sore Throat: Epidemiologic Discussion. A. J. Waring, Savannah, Ga.—p. 265.
Reporting of Morbidity Statistics with Special Reference to Malaria Fever. W. S. Leathers, Jackson, Miss.—p. 269.
Standard Treatment for Malaria. C. C. Bass, New Orleans.—p. 280.
Destruction of Anopheles in Screened Dwellings. D. L. Van Dine, Washington, D. C.—p. 289.
Cooperative Antimalaria Campaigns in United States in 1920. J. A. LePrince, Memphis, Tenn.—p. 297.
Postoperative Thrombophlebitis. F. K. Boland, Atlanta, Ga.—p. 307.
Transplantation of Cartilage. W. T. Coughlin, St. Louis.—p. 311.
Importance of Early Diagnosis in Acute Abdominal Conditions. J. L. Ransohoff, Cincinnati.—p. 313.
*Apoplexy of Placenta. M. P. Rucker, Richmond, Va.—p. 318.
Functional Examination of Ear. J. D. Heitger, Louisville, Ky.—p. 326.
Intubation Versus Tracheotomy in Laryngeal Diphtheria. J. H. Foster, Houston, Texas.—p. 332.

Differential Diagnosis of Hematemesis.—Rowland cites the case of a man who presented a typical history of gastric ulcer with hemorrhage but the condition had not been recognized previously. The appendix had been removed for a supposed appendicitis and pulmonary tuberculosis had been suggested. All of the classical symptoms and signs descriptive of peptic ulcer were practically without a single exception unmistakably present. Additional evidence was added by a series of roentgenograms, which showed a marked hypomotility of the stomach, the forty-eight hour film showing a large amount of the barium meal still remaining in the stomach.

Apoplexy of Placenta.—Six cases are reported by Rucker in which there were large red infarcts of the placenta. These patients presented a symptomatology definite enough for the condition to be recognized clinically: marked albuminuria with a few casts; a sudden rise in blood pressure; edema of the feet and face; no subjective symptoms; premature labor with antepartum hemorrhage; still-born infant; a large red infarct occupying two thirds of the placenta. The most characteristic sign was a symptomless and rather sudden rise in blood pressure that resisted all treatment. This was associated with albuminuria in three instances. In two cases the urine remained practically free from albumin throughout pregnancy, and in one case no urine examination was made. Edema was noted in two instances. Next to the rise in blood pressure, the most characteristic thing was the absence of subjective symptoms. Headache, disturbances of vision, nausea and epigastric pain, were rarely noted, and when present were very transitory. The association of large white and red infarcts in the same placenta, the presence of necrotic areas in the center of many of the infarcts, and finally the presence of clotted blood in many of these infarcts with signs of premature separation of the placenta Rucker says suggests that this may be the sequence of events in certain cases of ablatio placentae.

Surgery, Gynecology and Obstetrics, Chicago

April, 1921, **32**, No. 4

*Treatment of Bilharziasis of Bladder; Report of Case with Permanent Cure. D. Petillo, New York.—p. 287.
*Habitual or Recurrent Dislocation of Shoulder. T. T. Thomas, Philadelphia.—p. 291.
Perineal Operation for Removal of Stone in Lower End of Male Ureter. O. S. Lowsley, New York.—p. 300.
*Tissue Resistance in Malignant Disease. W. Boyd, Winnipeg, Manitoba.—p. 306.
Reconstruction Surgery and Its Application to Civilian Practice. C. L. Starr, Toronto, Can.—p. 311.
*Vesicosigmoidal Fistulae. G. D. Sutton, Rochester, Minn.—p. 318.
*Acidosis in Operative Surgery; Occurrence During Operation and Its Treatment by Glucose and Gum Acacia Given Intravenously. L. K. P. Farrar, New York.—p. 328.
Superfetation or Superfecundation? H. E. Radasch, Philadelphia.—p. 339.
*Breast Infections. J. L. Baer and R. A. Reis, Chicago.—p. 353.
Perineorrhaphy for Complete Laceration. T. J. Watkins, Chicago.—p. 360.
Scoliosis. S. Kleinberg, New York.—p. 364.
Purulent Pericarditis: Closed Suction Technic for Drainage; Report of Case. W. Whittemore, Boston.—p. 371.

Treatment of Bilharziasis of Bladder.—Inasmuch as Petillo's patient refused to enter the hospital, he decided to modify the Christoferson method by injecting intravenously only a constant dose of one-half grain of antimony tartrate diluted in 10 c.c. of fresh physiologic sodium chlorid solution. In addition, he prescribed a small dose of sodium phosphate to be taken every night at retiring and recommended the patient a purin-free diet. Nine days after beginning treatment the patient had to leave town for a week, therefore, a cumulative dose of 4.5 grains of the medicine was injected. At this date examination of centrifugated sediment of urine still showed living ova of bilharzia. Eleven days later a second series of injections was inaugurated and continued without any interruption for two months thus reaching a total dose of 40 grains. During the intravenous treatment of antimony, occasional irrigations of the bladder were practiced either with 1:3,000 solution of silver nitrate or with 2 per cent. mercurochrome. No bilharzia were found after the last injection made about three months after the first. A cystourethroscopic examination showed an almost normal bladder. A noteworthy circumstance in this case is the fact the patient's wife remains entirely immune from bilharzia. This would corroborate the assumption that for the transmission of the infection from one to another subject a third medium is necessary.

Habitual Dislocation of Shoulder.—Of twenty-four shoulders in nonepileptics, in all of which only the capsule operation was performed by Thomas, in eighteen there have been no dislocations since the operation, done in the most recent case three months ago and in the first nearly thirteen years ago. Four more cases, in which only one operation was performed, may fairly be classed as cures, making twenty-two successful results from the capsule operation. Two cases have been failures, one after two operations and one after one operation. Of eighteen shoulders in epileptics the capsule operation was done in all but one in which only a high excision was performed without any further dislocation. In eleven cases one capsule operation in each was completely successful after four years in the most recent case and eleven and a half years in the first. Of the remaining six cases, one was successful from reshaping the glenoid cup after a failure by one capsule operation, and one was successful from a high excision after three capsule operations had failed. This operation, in Thomas' opinion, will stop the dislocations in any case but impairs the joint function considerably. Two recent cases show encouraging results after the second capsule operation. Two cases are classed as failures, one after two capsule operations and one after one capsule operation had been performed.

Tissue Resistance in Malignant Disease.—That a partial immunity against malignant disease may exist, Boyd thinks, is shown by three cases he describes. It is possible for the patient to remain in a condition of apparently absolute health while metastases are being formed in a widespread manner throughout the body, very much as if nonpathogenic bacteria established themselves in foci here and there without affecting the general health. Not only may the metastases be held in check, as it were, by the defensive forces of the body, but they actually may recede and disappear. There can be no explanation for such behavior as long as our ignorance of the essential nature of neoplasms is so profound. At the same time, it is more than probable that, in some instances, at least, the behavior of the metastases is governed and controlled to some extent by the primary growth. Thus it is a recognized fact that remoal of the primary tumor in chorioepithelioma may be followed in exceptional cases by disappearance of the secondary growths in the lung. The fat of a metastasis depends not only on the proliferative activity of the tumor cells, but also on the behavior of the tissue in which they are implanted.

Vesicosigmoidal Fistula.—A review of thirty-four cases of vesicosigmoidal fistula in which operation was performed demonstrated a great preponderance of the type due to inflammation and infection in contradistinction to the fistulae due to malignant conditions, the ratio being 14.50:1, and to those of traumatic origin, the ratio being 9.66:1. The etiologic infection was in organs adjacent to the bladder, such as the appendix, the sigmoid, the rectum, and, most often, the fallopian tubes (38.23 per cent.). Only six cases were due to diverticulitis of the sigmoid. Three other patients had vesicoenteric fistulas and gave histories simulating sigmoidal diverticulitis, yet the true etiology remained obscure. Twenty-three of the thirty-four patients were cured by operation, the condition of six was improved, six had recurrences, and two of these had definite recurrences of symptoms as severe as they were originally. One of these patients was cured at the second operation, and the other improved but died of influenza. There were four postoperative deaths, a mortality of 11.76 per cent. In eleven cases the vesical fistula was cured but a fecal fistula remained. In five the drainage gradually stopped in from fifteen days to three years and three months; in one, cure was affected by a second operation; and in two, the fistula gradually healed. After free drainage has been established, a proper radical dissection with the removal, in so far as is advisable, of all diseased tissue has been done; if the approximation is made with difficulty the sigmoid is closed over a large rectal tube. Sutton considers these results as being gratifying even though there may be a gradually diminishing fecal fistula for a relatively short time. All the patients with vesicosigmoidal fistulas of tuberculous origin on whom he operated were cured.

Use of Glucose to Prevent Acidosis Following Operation.—Farrar holds that a solution of glucose given intravenously during an operation at the rate of 0.8 gm. glucose for every kilogram of body weight each hour of the operation will lessen the acidosis incident to operation by promoting metabolism, prevent or diminish the vomiting, and promote diuresis. A solution of gum acacia (6 per cent.) in glucose (20 per cent.) if given at a subtolerant rate the entire time of opera-

tion is an aid to the maintenance of blood pressure. Carbohydrate feeding before and after the operation, together with the use of sodium bicarbonate, will do much to prevent or lessen acidosis. Farrar suggests that every well equipped hospital laboratory should have a paid physiologist who could devote his time to the study of problems on the living tissue as the pathologist does on the specimens removed. The study should cover organic regulation as a whole and not individual cells or tissues. Biology would not then be divided into its branches but would comprise a study not only of anatomy and pathology but physiology and biologic pharmacology as well. The problems should be of practical import, of like value to patient and surgeon. The student should have made known to him the facts of general metabolism and their relation and importance to surgery. This information should not be isolated and scattered but grouped and given as a part of student work preparatory to surgical training.

Breast Infections Due to Influenza.—Baer and Reis point out that the influenza epidemics of 1918-1919 were largely responsible for the increase in breast infections following them, in the Michael Reese Maternity. The technic employed in the Michael Reese Maternity conforms closely to that used in most of the clinics analyzed. These procedures were not varied during the periods of increased incidence of infection. This tends to confirm the view that the increase was in relation to the influenza waves. The authors believe it would be advantageous for the largest possible number of clinics to adopt a uniform procedure for the prophylactic treatment of pathologic nipples, breast lymphangitis, and threatened abscess, preferably that favored by the largest group in each case.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

January-March, 1921, **18**, Nos. 205-207

Malaria in Children at Smyrna. S. Veras.—p. 1.
Celiac and Allied Types of Infantilism. R. Miller.—p. 11.
*Mongolism. H. Thursfield.—p. 18.
Case of Hemihypertrophy. E. G. Hall.—p. 21.
Nature of Plantar Reflex in Early Life and Causes of Its Variations. W. M. Feldman.—p. 24.
Case of Esophagectasia in a Child. D. H. Paterson.—p. 27.
Hydatid Disease of Liver in a Child. E. E. Hughes.—p. 29.

Mongolism.—Forty-two Mongol children examined by Thursfield failed to corroborate the statement that the Mongol is apt to be the last born child of a long family. Of the forty-two cases five were first, and eleven were second children, three were third, and seven were fourth, so that two thirds of the whole number were certainly not members of an unduly long family. Of the remaining fourteen one was a fifth child, three were sixth, three seven, three eight, three ninth, and one was the tenth. Nor, again, are they by any means the last children. In seven instances children have been born since the advent of the Mongol: respectively a third, a fourth, two fifths, an eighth, a ninth and a tenth, all quite healthy children. A current statement on this point is that the mother of the Mongol is near the end of the child-bearing period. Of the mothers in this series the average age was 36 years, but if the mothers of more than four children are excluded the average age sinks to between 33 and 34 years—an age which is certainly within the child-bearing period. Among the mothers of Mongols were apparently healthy young women of 23, 25 and 27 years. Among these forty-two mothers were nineteen who had miscarried at some time in their pregnancies, many of them more than once. On the other hand there were seventeen with more than one pregnancy who had not had a miscarriage. There is no evidence to connect the advent of the Mongol with any obvious defect of health during the months of pregnancy. Nor does there appear to be any evidence of the influence of syphilis or tuberculosis. In no instance in this series was there any obvious taint of either of these diseases; and in the few cases where a Wassermann reaction was used for a test the result was negative. An obvious cardiac defect was noted in seven of the forty-two, six were not noted, and of the remaining twenty-nine it is definitely stated that there was no physical sign of a cardiac lesion, but in two of these attacks of "blueness" were stated to occur. Nystagmus was noted in four cases, double congenital cataract in one, an accessory auricle in front of the ear in one, and in one webbed toes, the second and third toes on either foot being joined together. The well known incurving of the last phalanx of the little fingers was noted as present in thirteen patients, absent in sixteen, and not noted in thirteen.

British Medical Journal, London

April 9, 1921, No. 3145

Orthopedic Treatment of Poliomyelitis. H. A. T. Fairbank.—p. 517.
Mitral Stenosis, Auricular Fibrillation and Action of Digitalis. C. H. Cattle.—p. 521.
*Treatment of Sciatica by Galvanic Acupuncture. E. A. Goulden. p. 523.
Light Metal Limbs in Above-Knee Amputations. E. M. Corner.—p. 524.
*Pressure in Renal, Portal and Glomerular Capillaries of Frog's Kidney. L. Hill.—p. 526.
*Case of Complete Pneumothorax in an Infant, Due to Pulmonary Tuberculosis. G. Bourne.—p. 526.
Melena Neonatorum Treated by Blood Transfusion. R. D. Laurie. —p. 527.
Diphtheria and Follicular Tonsillitis. W. H. Palmer.—p. 527.
Bradycardia. H. C. Woodhouse and F. C. Jones.—p. 527.
Treatment of Local Leishmaniasis. G. F. Mitchell.—p. 528.

Galvanic Acupuncture in Sciatica.—The aim of all the various forms of treatment devised for sciatica is to induce hyperemia of the nerve. Goulden claims that by acupuncture the hyperemia occurs just where it is required, and it can be given in definite doses varying according to the response of the nerve. Again, when an electric current is passed through the tissues, sodium hydrate is formed at the negative electrode, which in this case is the needle passed down to the tender spot on the nerve. This sodium hydrate has a caustic action on the tissues. In acupuncture only a small amount of current is used (from 3 to 6 ma.). The effect of ionic movement in the tissues is involved also. From one or all of the above effects it is maintained by Goulden that by this treatment there is complete relief of pain, but the wasting of muscles with weakness of limb and lameness requires appropriate treatment. Electrical acupuncture, carried out according to instructions, is harmless. It must not, of course, be used recklessly with any strength of current, nor must the needle be plunged into any part of the body without consideration of the underlying parts.

Pressure in Kidney Capillaries.—By making an incision through the skin and abdominal wall in the lumbar region of a urethanized frog and removing the ileum on the same side Hill exposes the kidney. The cautery is used to stop all hemorrhage. A ligature is tied around the membrane attached to the outer edge of the kidney. By very gentle traction, the kidney is then drawn on to the transparent peritoneal membrane which covers a small brass chamber with a glass floor, similar to that used by Roy and Graham Brown in their measurement of capillary pressure in the frog's web. A glass cover is then brought down on to the upper surface of the kidney so that it can be squeezed between the membrane and glass cover when air is blown into the chamber. A water manometer indicates the pressure used for compression. The kidney is examined under the microscope, using a magnification of 100 times. The kidney appears closely covered with a network of branches of the renal portal vein, through which blood flows slowly in copious streams. On compressing with a pressure of about 2 cm. of water these vessels are squeezed empty, and the tubules and, in successful preparations, the glomeruli then come into view; the arterial blood is seen rapidly circulating through the glomeruli. The Bowman capsules can be seen surrounding some of the glomeruli, and the glomeruli hanging in a clear space within these. In some glomeruli the afferent and efferent vessels are clearly seen, and the blood corpuscles can be watched racing through the afferent vessel, whirling round the twisted capillaries of the glomerulus and out through the efferent vessel. On the inner edge in one preparation a row of glomeruli were seen fed by the branches of one of the renal arteries.

Complete Left Pneumothorax in Young Child.—Bourne's patient, a boy, aged 18 months, had cyanosis, cough and

dyspnea he had been in his usual health until three months before, when he contracted measles. Since then he had been in poor health, the chief symptoms being lack of appetite, constipation, wasting, and cough. A condition of complete pneumothorax of the left side, associated with bronchopneumonia of the right lung, was diagnosed. The child died. Cyanosis was extreme; the nails of the hands and feet were light blue in color. Hypostasis was well marked. The left lung was collapsed down on its root, except at the apex, where it remained adherent to the parietal pleura. The left parietal pleura was studded with miliary tubercles; none were seen on the right side. The left lung was a solid mass of yellow tubercles. It sank in water. At the apex, where it was adherent to the pleura, a cavity the size of a hazel nut was present. The right lung contained many miliary tubercles. The glands at the hilum of both lungs were slightly enlarged, hyperemic, but definitely not caseous anywhere.

Journal of Laryngology and Otology, London

April, 1921, **36**, No. 4

Cavernous Sinus Thrombosis. T. R. Rodgers.—p. 169.
Death After Tonsillectomy. T. B. Layton.—p. 177.
Foreign Body in Esophagus Removed by External Esophagotomy. Cure. J. N. Roy.—p. 183.
Infection of Middle Ear and External Auditory Meatus from Vincent's Organisms. J. Adam.—p. 186.
Tonsil as Focus of Infection. W. M. Mollison.—p. 188.

Lancet, London

April 9, 1921, **1**, No. 5093

Colonial Medical Service as a Career. J. K. Fowler.—p. 729.
When to Open Mastoid Antrum in Acute Ear Disease. T. B. Layton.—p. 734.
*Toxemic Stage of Diphtheria. M. E. Harding.—p. 737.
*Prophylaxis of Typhus Fever. J. M. Mitchell and G. P. N. Richardson.—p. 742.
*Fatal Case of Celiac Infantilism. R. Miller.—p. 743.
Recurrent Hernia: Operations for Its Cure. A. W. Sheen.—p. 746.

Toxemic Stage of Diphtheria.—During the first week or ten days of an attack of diphtheria of the most severe type the patient shows certain clinical and pathological signs which differ from those of the second stage of the disease, a stage dominated by cardiac (or possibly tissue) degeneration. These phenomena are dependent on an overwhelming toxemia. Harding has therefore, called it the toxemic stage of the disease. It gradually merges into the second stage, that of cardiac weakness. Experiments made by Harding indicate that treatment must consist in increasing the fluid in effective circulation and at the same time, if possible, in diluting the blood so as to reduce its concentration and viscosity. Various solutions were tried. It was found that by increasing the blood volume, and at the same time reducing the concentration of the blood, the circulation could be improved, but that the effect was only transitory as the fluid was rapidly lost from the vessels with a return to the previous high concentration of the blood. It was therefore concluded that physiologic sodium chlorid would not give any increased survival rate after a heavy dose of toxin. There were no more survivals in the groups treated with hypertonic saline or gum saline, together with antitoxin, than in the control group treated with antitoxin alone. A certain number of animals which otherwise would certainly have died recovered as a result of the intravenous injections of citrated blood in addition to antitoxin treatment. It is safe to conclude that in clinical diphtheria treatment along these lines will probably reduce the risk of death—i. e., will increase the chance of survival, and by safeguarding the suprarenals will shorten the illness and lighten its severity. If blood transfusions served merely to protect the suprarenals the indication for their use in all very severe cases would be strong.

Prophylaxis of Typhus.—Although the results obtained by Mitchell and Richardson are suggestive, they do not claim that the prophylaxis of typhus by inoculation has yet been placed on a firm basis. Further observations on a more extensive scale are necessary. Apart from the general prophylactic measures indicated above some trial was made of the specific prophylaxis of the disease by inoculation and encouraging results were obtained. The vaccine used in South Russia during the winters 1918-1919 and 1919-1920 consisted essentially of sterile typhus blood free from fibrin. Three doses of the vaccine were given in the arm subcutaneously or intermuscularly at intervals of from five to seven days, the amounts being 1 c.cm., 2 c.cm., 2 c.cm. No general reaction was observed. Of 195 persons who were inoculated in this way only one subsequently developed typhus.

Celiac Infantilism.—Details are given by Miller of a fatal case of celiac infantilism in which postmortem examination failed to show any chronic changes in the pancreas, liver, intestine, or elsewhere to account for the prolonged failure in fat digestion. The necropsies hitherto recorded in cases of at all a similar nature are discussed; and it is argued that the intestinal changes found in them do not prove that the excessive fat loss in celiac disease is due to an enteritis. It is concluded that celiac disease is independent of organic changes and thus must be due to a digestive fault (probably a defective action of the bile on fat absorption).

South African Medical Record, Cape Town

March 12, 1921, **19**, No. 5

*Psoriasis in South Africa. C. Pijper, Johannesburg.

Psoriasis in South Africa.—A questionnaire sent out by Pijper disclosed the fact that in those parts of South Africa where the altitude is less than 4,000 feet psoriasis seems to be very irregularly distributed; it appears to be rare in the parts where the altitude is more than 4,000 feet. A rather high percentage of cases are complicated by asthma. The consensus of opinion in South Africa is that psoriasis is decidedly rare among the non-European sections of the population. This agrees with the views laid down in the literature on the subject, Castellani alone being of a different opinion.

Annales de Médecine, Paris

January, 1921, **9**, No. 1

*Encephalomyelitis of Malarial Origin. G. Marinesco.—p. 1.
The Mental Disturbances and Somnolency in Epidemic Encephalitis. E. Gelma and A. Hanns.—p. 17.
*Artificial Plus Spontaneous Pneumothorax. R. Burnand.—p. 22.
*Neurology in the United States. J. Lhermitte.—p. 34.
Experimental Cancer. G. Roussy and M. Wolf.—p. 51. Cont'd.

Malarial Myoclonic Encephalitis.—In Marinesco's case the myoclonus involved most of the muscles of the extremities, trunk, and abdomen. The young woman died twenty-five days after the first symptoms, which had suggested epidemic encephalitis. The malarial parasite in the blood corrected the diagnosis, and necropsy showed the parasites located exclusively in the nerve centers.

Spontaneous Pneumothorax Complicating Artificial Pneumothorax.—Burnand writes from Leysin to describe several cases which show the irreparable nature of an extensive opening between the pleura and lung. In four of his nine cases the spontaneous pneumothorax had existed before and had developed anew in the course of the therapeutic pneumothorax. Expectoration of pus and the anomalous behavior of the manometer warned of this complication. Three of the nine patients succumbed to the effects in the first month and four in from three to six months. Forlanini's eight patients all died. The only recourse, if the pus keeps forming, is to open the pleura and drain, but this is only palliative. A favorable evolution is extremely rare.

Neurology in the United States.—Lhermitte describes the progress in medical and surgical treatment in nervous disease in this country, especially Harvey Cushing's school of neurologic surgery. He emphasizes the value of the cooperation of the neurologist and the surgeon, profiting by recent progress in physiology.

Bulletin Médical, Paris

April 2, 1921, **35**, No. 14

*Insufficiency of Left Ventricle. L. Gallavardin.—p. 279.

Insufficiency of the Left Ventricle in Valvular Disease.—Gallavardin describes three cases of chronic endocarditis with perfect compensation until the age of 42 to 55. Then the patients suddenly developed acute insufficiency of the left ventricle. Necropsy in one case confirmed the endocardial

valvular disease. In the second case compensation was restored by digitalis after six months of disturbances, including nocturnal pulmonary edema and dyspnea on exertion. The benefit from the digitalis has persisted for a year to date.

Journal de Chirurgie, Paris

April, 1921, **17**, No. 4

*Bone-Periosteum Transplants. H. Delagénière.—p. 305.
*Cinematization of Amputation Stumps. G. Bosch Arana.—p. 325.

Osteoperiosteal Transplants. — Delagénière describes his technic for an implant to promote regeneration of bone. It is not a graft, but merely supplies the elements indispensable for formation of bone. He declares that, contrary to what Albee says, it is possible to reconstruct any part of the skeleton and cure any pseudarthrosis, and obtain the desired results in a simple, effectual and more certain manner than with Albee's grafts. He obtained excellent and complete results in 244 of his 273 cases of the kind. The graft should be about as thick as a 50 centime piece, and should consist of the periosteum, lined throughout with a thin layer of bone. The bone strengthens the graft, holds the periosteum stretched, and keeps it in good shape to facilitate the reconstruction of the bone. A tibia can furnish about 22 cm. of such grafts. His illustrations show how he rolls up the rectangular graft on the periosteum side to insure the proper curve to fit it in its new bed. The bone-periosteum strips are implanted side by side, end to end, or overlapping, the bone side toward the bone bed. The edges are slipped under the periosteum all around. When an angular space is to be filled, he ties two sheets together at an angle. The flaps are kept in place usually by suturing the soft parts over them. Operations on jaw, nose, skull and shoulder are illustrated.

Cinematization of Amputation Stumps.—Bosch Arana's method has been previously described in The Journal. He makes four longitudinal incisions on the stump at equal distances apart, and resects the bone and some of the muscles to make the stump smaller. He then mobilizes the skin and draws it through from one incision to the opposite one, suturing the skin together on each side and thus making a skin-lined tunnel. The oblong spaces left at the incision on the other sides of the stump, where the skin has been drawn away to line the tunnel, soon heal over. He gives a number of illustrations of his technic and the way in which the muscles can voluntarily control the prosthesis.

Lyon Chirurgical, Lyons

January-February, 1921, **18**, No. 1

*Excision of Subclavian Aneurysm. W. S. Halsted.—p. 1.
*Coxa Plana. H. Waldenström.—p. 7.
*Appendicular Symptoms in Dysentery. P. Bonnet and L. Michon.—p. 14.
*Meninges After Spinal Anesthesia. P. Santy and L. Langeron.—p. 22.
*Nature of Trophic Ulceration. R. Leriche.—p. 31.
Capillary Vasomotor Phenomena. A. Policard.—p. 51.

Excision of Subclavian Aneurysm.—Summarized in The Journal, Aug. 28, 1920, p. 633, when published elsewhere.

Coxa Plana.—Summarized in The Journal, July 10, 1920, p. 141.

Appendicular Syndrome in Chronic Amebic Dysentery.—Bonnet and Michon report a case of gangrenous perforation of the cecum close to the appendix which proved to be the work of latent amebic dysentery. The surface of the parietal peritoneum looked as if it had been washed, and the pus was pale and milky. Symptoms suggesting appendicitis are often the precursor of an exacerbation of latent dysentery. When there is a history of dysentery, even after a silent interval of years, the stools should be examined for the ameba before accepting the diagnosis of appendicitis.

The Sequelae of Intraspinal Anesthesia.—Santy and Langeron describe cases which show that disturbances may follow, ranging from simple headache to aseptic puriform meningitis after intraspinal anesthesia. The disturbance is essentially congestion with resulting exudation, as from any toxic action on the meninges.

Trophic Ulceration After Section of a Nerve.—Leriche concludes from his fifty-eight cases of severing of the sciatic nerve and seventeen cases of operations for trophic ulcers, that the latter is the result of the vasomotor disturbance from proliferation of the fibers of the upper stump in or outside of the neuroma. An abnormal reflex action results which entails vasomotor disturbances at the periphery. Removal of the neuroma and resection of the sympathetic nerve fibers break up the reflex arc, and restoring the continuity of the nerve wards off further trouble.

Lyon Médical, Lyons

March 25, 1921, **130**, No. 6

*Gastric Ulcer in the Tuberculous. G. Aigrot and R. Gaillard.—p. 245.
Poisoning from Automobile Gases. C. Armand.—p. 288.

Gastric Ulcer in the Tuberculous.—Aigrot and Gaillard have found signs of pulmonary tuberculosis in a surprisingly large proportion of their gastric ulcer cases, and they urge giving the tuberculous the benefit of operative treatment the same as if they were not tuberculous, reporting four cases.

Nourrisson, Paris

March, 1921, **9**, No. 2

*Athrepsia in Infants. A. B. Marfan.—p. 65.
*Treatment of Spasmophilia. P. Rohmer and P. Vonderweidt.—p. 87.
Muscular Lesions in Choleriform Diarrhea. H. Sloboziano.—p. 96.
Melena in Syphilitic Infant. Lemaire and others.—p. 104.

Athrepsia in Infants.—Marfan describes in detail the clinical picture of hypothrepsia and athrepsia which has too long been obscured by inclusion of symptoms from the causal disease or from secondary complications. By excluding these he shows that the main feature of denutrition is the gradual disappearance of the subcutaneous layer of fat. In young infants almost all the fat in the body is found in this subcutaneous layer. By taking up a fold in the skin of the abdomen it is easy to estimate the degree of denutrition. With obesity and myxedema, the fold is very thick, and in advanced athrepsia the fold may be as thin as if merely of silk. After more or less complete disappearance of the fat there is usually a considerable loss of water, testifying to the complete disintegration of the tissues. The organs shrink and the findings are remarkably like those in animals dying from inanition. He points out that this is a feature which must be borne in mind in treatment. In all the cases of athrepsia he has encountered, only three children survived; one was breast fed, the other was restored to the breast, but the third recovered on cow's milk.

Treatment of Spasmophilia.—Rohmer and Vonderweidt give the details of twelve cases of severe spasmophilia in young children with recovery under systematic calcium chlorid treatment. In urgent cases they begin with 1 gm. calcium chlorid every hour until the effect is apparent, giving chloral also. After six hours they continue with 6 gm. calcium chlorid per day, plus 5 gm. of cod liver oil, with phosphorus, morning and evening. As a rule all the symptoms disappear the second day but the treatment should be kept up for ten or twelve days. Nine of the twelve children were cured by this means. In the three others there was some tendency to recurrence but all were improved. In one case notwithstanding the most rigorous treatment it was impossible to conquer the latent spasmophilia. They give anhydrous calcium chlorid in a 5 per cent. mucilaginous solution. The dose is 20 gm. flavored with a little raspberry syrup. They never saw any by-effects from this treatment, possibly owing to the adjuvant action of the phosphorus and the cod liver oil. In one case, the six months child seemed moribund from the violent, repeated convulsions, with arrest of respiration and heart action. After massage of the heart and artificial respiration, chloral was given and 6 gm. of the calcium chlorid hourly from 9 p. m. to 6 a. m.; then the cod liver oil and phosphorus, and there were no further convulsions after this for nearly two weeks. Then a mild convulsion ushered in pneumonia, but recovery was soon complete.

Paris Médical

March 26, 1921, **11**, No. 13

Cerium in Treatment of Tuberculosis. Grenet and Drouin.—p. 241.
*Diagnosis of Syphilis. P. Merklen, Devaux and Desmoulière.—p. 244.

Diagnosis of Syphilis.—"Syphilis may impair the functioning of various organs without direct symptoms from them,

and even with negative Wassermann reaction." . . . "The great danger from the Wassermann reaction is that we assume that a negative reaction implies the absence of syphilis. The Desmoulière cholesterin modification of the Wassermann technic is much more sensitive, and this may reveal the syphilitic basis of the asthenia, the anemia, ready fatigue, backward growth and development at puberty, the loss of mental balance, dystrophia, strabismus, ptosis, etc." The writers urge in conclusion not to be frightened away from the truth by the innumerable constant responses to the Desmoulière cholesterin serodiagnosis. "However high we estimate the proportion of persons with inherited or acquired syphilis, we yet will fall short of the truth."

Presse Médicale, Paris

March 26, 1921, **29**, No. 25

*Reconstruction of Upper Tibia. E. Juvara.—p. 241.
*Tardy Pain in Stomach Disease. F. Ramond.—p. 243.
*Dangers of Spinal Anesthesia. P. Guibal.—p. 244.
Physiology of the Kidney. L. Binet.—p. 246.

Reconstruction of Upper Tibia.—Juvara's illustrations show the resection of the upper third of the tibia and reconstruction of the bone with the anterior half of the lower third of the femur. The implant was cut long enough for the upper and lower ends to extend a short distance beyond the actual gap, and be fastened with wire to sound bone above and below. Five years after the resection for sarcoma, the young woman still wears a leather knee cuff and uses a cane, but is otherwise in perfect condition.

Pain with Stomach Disease.—Ramond explains why tardy pain in the stomach always is a sign of defective functioning or of inflammation of the pylorus. As long as the chyme protects the inflamed pylorus there is no pain, but as the chyme is expelled, the gastric juice comes in contact with it and pain results. Or if the pylorus refuses to open, the peristalsis seeking to force the chyme past this obstacle becomes so intense that it is painful.

Intraspinal Anesthesia.—Guibal was delighted with this method in his first 1,800 cases without a mishap, but in his latest series of 1,200 cases he had three cases of apnea, one with grave syncope, and one death. The apnea cases compelled artificial respiration for fifteen and seventy minutes and two hours and a half. The disturbances developed a few seconds after the injection.

Progrès Médical, Paris

Feb. 5, 1921, **36**, No. 6

Rehabilitation of the Disabled. P. Mauclaire.—p. 57.
Professional Secrecy. Garçon.—p. 59.
*Suppurating Inguinal Gland of Appendicitic Origin. Chifoliau and J. Humbert.—p. 61.

Inguinal Adenitis of Appendicitic Origin.—The case in the woman of 66 teaches that a suppurating gland in the inguinal region with a tumor in the iliac region may be explained by infection spreading by the lymphatics, against the current.

Feb. 26, 1921, **36**, No. 9

*Treatment of Gonorrhea. Cattier.—p. 89.
*Traumatism and Surgical Tuberculosis. A. Broca.—p. 91.
Diethylendiamin in Treatment of Uricemia. Pellissier.—p. 93.

Treatment of Gonorrhea.—Cattier cites Lebreton's study of the semen of persons supposed to be quite cured of gonorrhea. Fully 80 per cent. of those who had supposed themselves fully cured showed gonococci in the semen, examined within an hour. Cultivation of the seminal fluid is thus the best guarantee that the patient is or is not a carrier of gonococci. Cultivation of the secretions from the uterus at the beginning of menstruation may prove to be the best equivalent for this in women. Unsuspected gonococcus infection of the urethra in the wife is one of the most common causes of supposed "relapse" in the husband. He has had hundreds and hundreds of instances of this.

Influence of Trauma on Surgical Tuberculosis.—Broca relates some curious examples of the almost universal tendency to ascribe to some external cause every morbid phenomenon. The assumption of a traumatism as the cause of an infectious or specific lesion must never be accepted without the greatest reserve, and without ascertaining the previous condition, etc. The trauma may reveal the lesion for the first time, and the lesions are always aggravated by any trauma.

March 12, 1921, **36**, No. 11

*Suppurative Ependymitis. M. Loeper and J. Forestier.—p. 111.
*Cryology. Lortat-Jacob.—p. 112.
*Hyperhidrosis in Children. H. Jumon.—p. 114.

Suppurative Ependymitis of Mesocephalus.—The symptoms in the man of 42 had been ascribed to epidemic encephalitis by the attending and consulting physicians, but death the third week revealed an acute partial and purulent streptococcus meningitis restricted to the third and fourth ventricles.

Cryology.—Lortat-Jacob reviews the different ways in which very low temperatures can be found useful in the laboratory. Among other points, he mentions that freezing organs with liquid air or carbon dioxid snow allows the discovery of alcohol in the tissues after death. Also that the human cornea kept at 5 C. retained its vitality, and seven months after it had been transplanted into another eye, vision had improved to 1 : 10.

Hyperhidrosis in Children.—Jumon enumerates the different forms which hyperhidrosis may assume, and reiterates that its suppression is not dangerous for the child. Besides local, general and other measures, including vaccine and organotherapy, radiotherapy may prove effectual when all else fails. Sabouraud, Hutinel, Jeanselme and Noiré have reported cures after a single sitting.

Schweizerische medizinische Wochenschrift, Basel

March 24, 1921, **51**, No. 12

*The Crystalline Lens. A. Vogt.—p. 265.
*Antibodies. M. Neisser.—p. 268. Reply. H. Sahli.—p. 269.
*Quinidin as Heart Tonic. E. Jenny.—p. 272.
*Research on the Blood. E. Liebreich (Bucharest).—p. 275.

The Crystalline Lens.—Vogt discusses the spaces that develop in the senile lens, and the way in which these modify vision.

Antibodies.—Sahli's work on the origin and the nature of antibodies was summarized here, Jan. 29, 1921, p. 344. Neisser disputes some of his statements, and Sahli explains his theory more clearly, and reiterates that the production of antibodies is a secretion. As in practically all biologic processes, there is always excess of secretion beyond what is needed.

Quinidin for the Heart.—Jenny's experience confirms the way in which quinidin is able to arrest auricular fibrillation and restore the normal sinus rhythm. This occurred in eleven of Frey's twenty-two cases, in six of Bergmann's nine, and once in Klewitz' fifteen. In seventeen of Jenny's eighteen cases of auricular fibrillation and tachysystolia, the normal rhythm was restored by the action of quinidin. This took from 0.5 gm. to 15.5 gm. in different cases, and this effect was realized in from three hours to ten days. The pulse has kept regular since to date in most, but the longest interval is only five months. It may be necessary to give the drug continuously, or to repeat the courses. Jenny's results surpass all previously published. He gave 0.5 gm. of quinidin two or three times a day. The tranquilizing action of the drug has been found useful also in paroxysmal tachycardia and similar overexcitability. He says that up to 2 or 3 gm. a day need not be feared, under constant supervision, but at the slightest sign of derangement of vision or hearing the drug should be dropped.

Research on the Blood.—Liebreich announces that all factors which prevent coagulation prevent the appearance of eosinophil cells and of Charcot's crystals in the blood. Also that it is possible to cause large masses of eosinophil cells and Charcot crystals to appear in every specimen of extravasated blood, regardless of the previous proportions of eosinophils in the blood. His research has shown further, he says, that the eosinophil granules are the crystals of a substance which, when conditions are particularly favorable, crystallizes in the form we know as Charcot's crystals. Eosinophilia, he continues, is the result of an overproduction

of this eosinophil secretion and of its solvent, both of which participate in coagulation outside of the body. Eosinophilia may be the expression of some phenomenon of colloidoclasis as Widal uses the term. Charcot's crystals can be shown up in any blood by removal of the plasma and allowing the drop of blood to coagulate between slides. Among the facts which these assumptions explain is the sudden appearance of eosinophilia, as may occur in asthma. Also the local and general eosinophilia which may accompany considerable extravasation of blood that does not coagulate. Also the abundance of eosinophils and Charcot's crystals in myelogenous leukemia with its slow coagulation of blood.

Annali d'Igiene, Rome

November, 1920, **30**, No. 11 and Supplements

Typhoid Fever in Italy. V. Puntoni.—p. 665. Cont'd.
*Isolation of Tetanus Bacillus. C. Ninni.—p. 684.
Failure of Attempt at Transmission of Malaria to Monkey. E. Bertarelli.—p. 689.
*Blastomycosis of Axilla. L. Condorelli.—p. 691.
*Anopheles and Malaria. C. Fermi. Supplement.—pp. 1 to 158. Idem. Supplement.—pp. 1 to 32.
*Campaign Against Malaria in Rome District. B. Grassi and M. Sella. Supplement.—pp. 1 to 314.

January, 1921, **31**, No. 1

The Gastro-Enterotropism of Cholera Vibrios. G. Sanarelli.—p. 1.
Plurality of Rabies Virus. V. Puntoni.—p. 27.
Epidemic Encephalitis at Rome. G. Pecori.—p. 32.
Chronic Experimental Tetanus. C. Ninni.—p. 58.

Isolation of Tetanus Bacillus.—Ninni announces that it is not necessary to heat the suspected material to 80 C. to kill off other bacteria. Heating to 60 C. for an hour is ample for the purpose while this does not modify the toxicity of the tetanus bacillus.

Trichomycosis of the Axilla.—Condorelli has been able to find in the literature only one case (Waldeyer) that resembles the one he describes in his own person. It is a blastomycosis of the hairs in the axilla and he proposes for it the name trichoblastomycosis axillaris as it differs in certain respects from tropical trichomycosis nodosa. The mycosis was readily exterminated by 1 per thousand solution of mercuric chlorid.

Campaign Against Malaria in Roman District.—Grassi and Sella give an illustrated description of the means employed in the efforts to exterminate malaria at Fiumicino, and the results. Grassi has insisted until recently that quinin and tonics with screening and capture of mosquitoes are all that is necessary, but of late has abandoned this standpoint, urging the application of all measures. He discusses the epidemiology and the polymorphism of the malarial parasites, while Sella describes the biology of anopheles, and urges that malaria should come under the head of workmen's compensation when prophylactic measures have not been thoroughly applied. Fermi discusses the answer to 130 different problems of what he calls anophelology as he studied them at the hygiene institute of the University of Sassari.

Policlinico, Rome

March 21, 1921, **28**, No. 12

*Oral Auscultation. A. Lura.—p. 395.
Experiences with Ouabain. P. F. Zuccòla.—p. 401.
*Primary Syphilitic Chancre on Tonsil. D. Maselli.—p. 404.
Syphilitic Lesion in Cauda Equina. P. De Tommasi.—p. 406.

Auscultation at Open Mouth.—Lura distinguished a murmur by this means in four of 200 persons examined by oral auscultation. He interprets the instructive findings in these and other groups.

Syphilitic Chancre on Tonsil.—The bacteriologic findings were characteristic of Vincent's angina, but the ulceration on one tonsil resembled a chancre so perfectly that Maselli gave a tentative dose of neo-arsphenamin. The patient was a virgin of 25, and this treatment was followed by subsidence of the chancre and development of a typical syphilitic roseola.

March 1, 1921, **28**, Medical Section No. 3

Mechanism of Epinephrin Leukocytosis. A. Sanguinetti.—p. 97.
Acute Leukemia; Two Cases. P. F. Zuccola.—p. 116.
*Pernicious Anemia in Malaria. M. Coda.—p. 123.

Pernicious Anemia in Malaria.—In Coda's two cases the blood findings were typical of pernicious anemia, but the malarial parasite was found in the blood although there had long been no clinical manifestations. Under treatment of the malaria the anemia subsided, with no recurrence during the years since.

Riforma Medica, Naples

March 5, 1921, **37**, No. 10

*Malingering and Workmen's Compensation. D. Giordano.—p. 217.
Sarcoma of the Tongue. V. Aloi.—p. 219.
*Roentgen-Ray Treatment of Sarcoma. F. Sanvenero.—p. 221.
*Gas Cysts of the Intestines. P. F. Zuccòla.—p. 222.
*Local Treatment of Arthritis. G. Lampronti.—p. 225.
Etiology of Epidemic Encephalitis. G. Tarozzi.—p. 226.
Biologic Independence of the Metazoic Cells. G. Galeotti.—p. 227.
*Aneurysm of the Aorta. A. Ferrannini.—p. 228.

March 26, 1921, **37**, No. 13

Torsion of Omentum. D. Taddei.—p. 289.
Use of Tonsil Forceps in Dermatology. A. Fontano.—p. 292.
Latent and Chronic Amebiasis. III. G. Izar.—p. 292.
Computation of Dilutions in Serodiagnosis. E. Calendoli.—p. 294.
Asthma from Contact with Horses. E. Debenedetti.—p. 295.

Malingering and Workmen's Compensation.—Giordano describes cases in which the men tried to connect with an industrial trauma some old pathologic conditions.

Roentgen-Ray Treatment of Sarcoma.—Sanvenero witnessed the complete subsidence of a sarcoma in the wall of the chest under roentgen-ray treatment. The sarcoma was an ulcerating recurrence, and had developed rapidly and spread deep in the man of 30. The original sarcoma had been excised. There has been no trace of recurrence or disturbance of any kind during the six months since the exposures.

Gas Cysts of the Intestines.—Zuccòla's patient, a man of 31, died a few days after the laparotomy which had shown the intestines studded with gas cysts. The intestines and the peritoneum showed signs of inflammation. In the 46 cases of cystoid pneumatosis he has compiled, in 25 there was tuberculous peritonitis; in 7 benign processes in stomach and intestine; in 5 septic ulcerative processes; in 2 gastric cancer; in 2 ulceration and in 2 severe cholitis. In 21 cases in which the pneumatosis was a necropsy surprise, in 9 there was tuberculous peritonitis or lung disease or enteritis; in the others chronic kidney or heart trouble, and in 2 appendicitis. A very few have reported a complete cure with laparotomy alone, and Winands by treatment of the meteorism by puncture. In all the others no benefit was obtained, or the condition was aggravated.

Local Treatment of Arthritis.—Lampronti has been experimenting with different drugs injected directly into the joints in acute polyarthritis. The best results were obtained with 8 c.c. of a 3 per cent. solution of antipyrin injected directly into the joint. The local reaction is slight and there never was suppuration, but the temperature drops in a few hours while the pain ceases at once as if by magic. The absorption of the edema around the joint rapidly follows. It sometimes seems as if the arthritis fled before the drug, the benefit in one joint being followed by aggravation in another, so he usually distributes about 12 c.c. among the other joints. He never gives over 20 c.c. during the twenty-four hours. His formula is 1.5 gm. of antipyrin with 46 gm. distilled water. After sterilizing in the water bath, he adds 4 gm. of 1 per thousand epinephrin solution.

Aneurysm of Aorta.—Ferrannini reviews the pioneer work of the Italians in respect to aneurysms of the aorta. The name of Cardarelli is especially associated with cardiosystolic pulsation in the larynx and trachea as a sign of aneurysm in the aorta.

Rivista Critica de Clinica Medica, Florence

Jan. 5, 1921, **22**, No. 1

*Banti's Disease. G. Garin.—p. 1. Conc'n in No. 2, p. 13.

Feb. 25, 1921, **22**, No. 6

Cirrhosis of Liver of Hanot Type. Satta.—p. 61. Begun, No. 3, p. 25.

Banti's Disease.—Garin describes with necropsy findings a case of typical Banti's disease in a man of 67 who had been

nder observation for eleven years, in consultation with 'rofessor Banti himself. Garin thinks that syphilis, tuberulosis and alcoholism can be certainly excluded in this case s causal factors, although acute miliary tuberculosis was esponsible for the patient's death the eleventh year of the Banti set of symptoms. The testimony seems to favor some rimary infection localizing in the spleen, permanently injurng its structure and function after the infectious process had lied out. The toxins generated by the abnormal metabolism n the spleen are responsible for the further injury of the pleen and of organs directly connected with its circulation, he liver in particular. Cirrhosis of the liver occurred early n the course, although the ascites did not develop until nine ears later. There was no hemorrhage at any time, and even t the tenth year there were 3,500,000 erythrocytes and 40 per ent. hemoglobin. Arsenical treatment with a few exposures f the spleen to the roentgen rays may have aided in attenuatng the disease. The patient would not allow splenectomy vhich Garin urged from the first.

Rivista di Patologia Nervosa e Mentale, Florence

Jan. 15, 1921, **25**, No. 7-8

*Pathologic Anatomy of Dementia Praecox. V. M. Buscaino.—p. 197.
*Inherited Neurosyphilis. P. Ciuffini.—p. 226.

Pathology of Dementia Praecox.—In five cases of dementia praecox, the fundamental changes were of a degenerative nature. The differences found in the paranoid and the catatonic types confirm that the striate body has something to do with catatonia.

Inherited Syphilitic Disease of the Nervous System.—Ciuffini warns, from 5 cases described, that cerebral arteritis from inherited syphilis may develop with an onset like that in the acquired disease, and the course may be the same. In 8 other cases, headache was the main symptom of neurosyphilis: in half in this group it was the only appreciable symptom. The headache came on or was worse in the evening or night, and was usually located in the brow or vertex, frequently accompanied by vomiting. In another group of 8 children, epileptiform convulsions were the first manifestation of the neurosyphilis, and mercury and iodid treatment permanently arrested the convulsions. He encountered a total of 33 cases of nervous disease from inherited syphilis among the 20,000 applicants at the Rome neurologic clinic and dispensary, that is, 1:175, not including hydrocephalus cases. The list includes a few cases of sclerosis in patches, tics, radiculitis, Little's disease, psychasthenia, and other nervous and mental disturbances. Success beyond all anticipations is the rule when treatment is begun early and kept up perseveringly and repeated. The details of the total 33 cases are given.

Anales de la Facultad de Medicina, Montevideo

1921, **5**, No. 11-14

*Conservative Obstetrics. A. Peralta Ramos.—p. 581.
*Autoserotherapy of Infections. E. Escomel.—p. 604.
Teaching of Hygiene. E. Paz Soldán.—p. 618.
*Calculi in the Pancreas. A. Navarro.—p. 627.
Chronic Obstruction of the Duodenum. A. Navarro.—p. 641.
*Operations for Traumatic Epilepsy. D. Prat.—p. 660.
The Diagnosis in Psychiatry. S. C. Rossi.—p. 676.
Tuberculin Therapy. E. Claveaux.—p. 682.
*Slight Fevers. R. Schiaffino.—p. 694.
Aneurysm of Abdominal Aorta. F. Abente Haedo.—p. 712.
*Phrenic Reaction in Gynecology. C. Stajano.—p. 722.

Progress in Conservative Obstetrics.—In this address as exchange professor at Montevideo, Peralta Ramos said that in his seventy-three cases of puerperal infection in the last six years, of the type of common endometritis, treated by abstention, there was only one death from septicemia, and in this case no active measures could have been successful. He is convinced that Nature has plenty of measures for defense in common cases of infection.

Autoserotherapy of Infections.—Escomel recalls that each individual has his special saprophytes and special defenses, forming a personality in this respect as distinct as his external personality. His serum is polyvalent, and the whole serum should be used in autogenous therapy. Escomel's experience has been remarkably favorable with this, injecting 1 or 10 c.c. of the patient's own serum, heated to 56 or 58 C. Among the cases cited to show the prompt and durable benefit is one of intense acute gonorrhea in an old syphilitic; one of extreme prostration and joint pains in the secondary phase of syphilis acquired at the age of 68, and another of acute gonorrhea reinfection. The heating destroys the thermolabile toxins and may attenuate the others. He adds that this autoserotherapy is free from all the drawbacks of other forms, and is applicable in all infections of known and unknown nature.

Calculi in the Pancreas.—The tertipara had recurring jaundice and pains suggesting gallstones, but the tenderness and dull ache corresponded to the pancreas, and the pulse grew slower and weaker with pressure on the pancreas. Three calculi were removed from the pancreas, and the gallbladder, containing others, was also removed. The health has been perfect during the four years since. The pain was referred to the kidney in some cases on record; in others regular tardy pains simulated pyloric ulcer. In almost all cases there is a history of vague gastric symptoms before the colics develop.

Jacksonian Epilepsy.—In two of the five operative cases described, trauma was responsible but in the others the cause was a chronic inflammatory process, possibly of syphilitic origin in one. Prat operated under local and regional anesthesia at a single sitting, and the immediate results were brilliant and there has been no recurrence in four of the cases up to five years since; one has had a few mild symptoms but the earning capacity is not impaired.

Slight Fever.—In examining women for the teacher's certificate, Schiaffino found about 40 per cent. with temperature slightly above normal; the proportion in the men was less. In the majority the temperature was found normal on reexamination a few months later. His practice is to allow the subjects to continue to teach, reexamining them every two or three months if nothing to explain the *febricula* can be found. A new candidate with it is obliged to present evidence that teeth, nose and throat are in apparently perfect condition, and the certificate is not granted until repeated examinations have failed to disclose any cause for the slightly abnormal temperature.

Phrenic Reaction in Gynecology.—Several cases are described to illustrate the frequent occurrence of symptoms in the upper abdomen from possibly unsuspected disease in the adnexa. Stajano never has witnessed actual subphrenic suppuration, but the phrenic reaction often dominated the clinical picture in gonococcus infection and in puerperal lymphangitis.

Revista Española de Medicina y Cirugía, Barcelona

February, 1921, **4**, No. 32

Arthritic Atrophy of Muscle. L. Barraquer.—p. 63.
*Abdominal Arteriosclerosis. F. Fernández Martínez.—p. 69.

Abdominal Arteriosclerosis.—Fernández Martínez remarks that obliteration of some mesenteric artery should be suspected when there is paroxysmal pain in the abdomen, with bloody vomit and stools. Accompanying ileus sustains this assumption, with or without a tumor. He describes a case in which only the necropsy cleared up the diagnosis. The first symptom had been sudden agonizing pain near the umbilicus, accompanied by incessant vomiting, both rebellious to all measures. The pain became diffuse but persisted intense. The diagnosis was peritonitis from perforation of a gastric ulcer, but death ensued the thirty-sixth hour as the man was being prepared for a laparotomy. Necropsy revealed obliteration of a group of mesenteric arteries.

Semana Médica, Buenos Aires

Feb. 24, 1921, **28**, No. 8

Vaccine for Whooping Cough. G. B. Cavazzutti.—p. 213.
Some Derivatives of Nicotin. J. A. Sánchez.—p. 217.
Experimental Sympathetic Ophthalmia. P. B. Ferro.—p. 220
*The Abdominal Sympathetic Syndrome. J. A. López.—p. 242.

The Abdominal Sympathetic Syndrome.—López discusses a set of symptoms in young soldiers which suggest suprarenal deficiency. Their prompt and complete subsidence under

epinephrin treatment confirms this origin. The more or less subjective train of symptoms had developed after influenza, pneumonia or gonorrhea, or extreme worry or emotional stress—all liable to depress suprarenal function. The symptoms were constipation, oppression in the epigastric region after eating, abdominal pains and sometimes vomiting.

Zeitschrift für Kinderheilkunde, Berlin

1920, **27**, No. 3-4

*The Lymphocytosis of Pertussis. R. Hess.—p. 117.
*Bone Changes After Scurvy. Helene M. Frank.—p. 127.
*Macrogenitosomia Praecox. M. Ambrozic and H. Baar.—p. 135.
Idem. H. Baar.—p. 143.
Histology of Skin of the Newborn. E. Slawik.—p. 153.
Czerny's Butter-Flour Mixture for Infants. Klotz.—p. 161.
*Spinal Auscultation of Bronchial Glands. K. Klare.—p. 169.
*Measles Convalescents' Serum. R. Degkwitz.—p. 171.
*Glycemic Reaction in Infants. F. Goetzky.—p. 195.
*The Thyroid in the Young. E. Schlesinger.—p. 207.

The Lymphocytosis of Whooping Cough.—Hess tabulates the differential blood count before and after the paroxysms in a number of cases of whooping cough. The physical stress of the paroxysm forces leukocytes, and especially lymphocytes, out into the blood stream.

Persisting Changes in Bones After Scurvy.—In eight of thirteen cases of clinically cured scurvy in infants from 7 to 12 months old, Frank found on reexamination from one to seventeen months later that the bones still showed the effects of the disease. Abnormal conditions were found in the epiphyses and periosteum and one femur was shorter in some of the children. The pathologic changes disappeared in a few in time; in others they persisted, and nearly all the infants had rachitis.

Macrogenitosomia Praecox.—The girl of 3 was a head taller than other children of her age and the external genital organs were unusually large, and covered with hair. An abdominal tumor proved to be an epithelial cancer of the left suprarenal. This is the twentieth case on record of a suprarenal tumor with macrogenitosomia praecox confirmed by necropsy. There were only three boys in the list. In Baar's case of macrogenitosomia praecox a tendency to cerebellar ataxia and the exceptional size of the external genitals in the girl of 5, and her general precocious development suggest by exclusion pathologic conditions in the pineal gland. All previous known cases were in males. Baar compares this case with the literature on pathology of the pineal gland.

Auscultation of Spine in Diagnosis of Tuberculous Glands.—Klare declares that auscultation of the vertebrae is the most reliable method for confirming the diagnosis of pulmonary tuberculosis in children. Comparison of all the findings has shown in his extensive experience that bronchophony, while the spine is ausculted, and roentgenography yield the most reliable testimony. Enlargement of the bronchial glands always increases bronchophony with the whispered voice. This is d'Espine's sign, and when it is pronounced up to the fifth or sixth thoracic vertebra in a child of 8, roentgenography will usually prove a guide to treatment. But with a child of 12, and bronchophony only to the third thoracic vertebra, we can be confident that the bronchial glandular process is slight and inactive. Every child with pronounced bronchophony over the upper thoracic spine always showed a heavy roentgen shadow in the hilus.

Preventive Serotherapy in Measles.—Degkwitz now has a record of 172 cases in which convalescents' serum was injected in children who had been exposed to measles from two to six days before, and none of them developed the disease while all the untreated children did. The effects were as prompt and reliable in institutions as in the home, even in foundlings' asylums. After the sixth day, the effect is less certain, and by the eighth day, the seroprophylaxis always failed. Injection of adults' serum does not prevent the disease but notably attenuates it, and Degkwitz queries whether it may not be an advantage to acquire immunity in this way. The success was complete with convalescents' serum that had been kept up to nine months. Serums that had been kept for four months, both in fluid and desiccated form, were frequently used. He urges extensive use of convalescents' serum, not in the expectation of eradicating the disease—the supply of serum would not permit this—but in the certain anticipation of postponing the measles until the children are over 6. He discusses ways and means how convalescents' serum could be best procured. In conclusion he adds that experiments along this line with scarlet fever convalescents' serum have yielded very encouraging results. The prospects are that the disease can be warded off, after exposure, by injection of 5 or 6 c.c. of serum from a scarlatinal convalescent from fourteen to twenty days after defervescence. Attempts with pertussis convalescents' serum have also been encouraging. Degkwitz' work was done under a grant from the *Münchener medizinische Wochenschrift,* at the Munich children's clinic.

Glycemia in Infants.—Goetzky found the glycemia curve after a test meal an index of the carbohydrate intermediary metabolism. By this means we can distinguish between seemingly identical toxic conditions, and obtain a guide for treatment. The test is made with 2 or 3 gm. of grape sugar per kg., given in a 5 or 10 per cent. solution. In health, the sugar content of the blood runs up to a sharp peak in half an hour but drops back again in another hour. In toxicosis, it runs up more gradually, taking three hours to reach 0.264 per cent., or the curve may slowly climb to 0.18 per cent. in two hours and take two more hours to drop even to 0.135 per cent. This delayed rise is never noted in pure dyspepsia and in "decomposition," nor in the grave condition from lack of adequate carbohydrates which sometimes deceptively resembles toxicosis. He gives curves from 10 of his 47 cases.

Goiter in the Young.—Schlesinger states that in a region where goiter is endemic, the new-born often show transient hyperplasia of the thyroid but it subsides in a few months. A second wave sets in at the age of 6 or 7 in girls, 9 in boys, and reaches its height before or during puberty. About a sixth of the boys and youths and a third or more of the girls show cardiovascular disturbances. The growth and development of the children with this hyperthyroidism are usually in advance of their years, both physically and mentally, and curvature of the spine is more common in them, and pronounced myopia.

Norsk Magazin for Lægevidenskaben, Christiania

March, 1921, **82**, No. 3

*Addison's Disease in Child. K. J. Figenschau and J. H. Berner.—p. 161.
External Pseudohermaphrodite. J. Holst.—p. 177.
*The Weight of the New Born. T. Frølich.—p. 182.
*Aseptic Purulent Meningitis in Uremia. O. Bang.—p. 195.
*Urobilinuria in the Pregnant. S. K. Mørdre.—p. 202.

Addison's Disease in Child.—At necropsy of the girl of 4 who had presented symptoms of Addison's disease, the left suprarenal gland was found transformed into a ganglioneuroma with some small metastatic tumors nearby. The diagnosis during life had been tuberculosis of the abdomen. Although the abdomen was much distended no ascites was found, the large tumor weighing 50 gm. In connection with this case, forty of ganglioneuroma from the literature are tabulated, including seventeen cases in children. In all, the tumor had developed from the sympathetic nervous system and the suprarenal. In another group of thirteen cases, including one child, the ganglioneuroma had developed in the brain, spinal cord or cerebrospinal nerves.

Weight of Young Infants.—The composite curves from 233 infants are given, showing the changes in weight during the first months. The list includes twenty-nine artificially fed.

Aseptic Purulent Meningitis in Uremia.—Bang reports two cases of purulent meningitis which seemed to be aseptic. It had developed in a man of 40 and a woman of 60 with uremia, in the course of chronic or acute kidney disease, with fatal outcome in both. In the woman the symptoms had suggested a focus in the brain, but nothing could be found at necropsy. In the man there were no convulsions and the blood pressure was comparatively moderate, but vomiting was frequent and there was headache.

Urobilinuria in the Pregnant.—Mørdre investigated for urobilinuria twenty nonpregnant healthy women and 139 pregnant. His conclusion from his research is that urobilinuria is of little practical importance in estimating conditions in a pregnancy.

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ACUTE RHEUMATIC FEVER AND ITS VARIANTS IN CHILDHOOD AND ADOLESCENCE *

DAVID RIESMAN, M.D.

PHILADELPHIA

Rheumatism is not, like typhoid fever or diphtheria, a unit disease manifesting itself in a more or less uniform manner. The rheumatic chain, as Osler called it, has a number of apparently dissimilar links, the connection of which with rheumatic fever is not always easily established. Yet we have abundant evidence that such connection exists. We may name, among these links, chorea, tonsillitis, rheumatic skin affections, especially the rheumatic nodules, cerebral rheumatism, acute rheumatic polyarthritis and rheumatic carditis.

At first sight the multiplicity and diversity of these lesions might argue against their interrelation, and might strengthen the view of those who maintain that rheumatism is not a specific clinical entity. To this I answer that syphilis is no less protean: we have the chancre, the cutaneous secondary and tertiary lesions, the visceral gummas, cerebrospinal syphilis and the cerebrospinal scleroses. While the close connection of these widely differing processes was long suspected, the actual demonstration of their relationship was brought only through Schaudinn's discovery of *Spirochaeta pallida*. If I venture to make the statement that the corresponding proof is lacking in the case of rheumatic affections, it is tantamount to saying that I am not a believer in the etiologic significance of the organisms hitherto found. The streptococcus has, of course, been blamed (of what is it not accused?) and at times has been isolated from the heart valves, from the tonsils, etc.

In 1914, Rosenow, of the Mayo Clinic, isolated from the joints, blood and tonsils in rheumatic cases three different strains of diplostreptococci and cultivated them anaerobically. Two of them caused in rabbits arthritis, pericarditis and endocarditis, while the third caused myositis and myocarditis in addition. Rosenow believes that nonvirulent streptococci acquire in the tonsils new specific properties which make them capable of giving rise to rheumatic fever. Many facts, however, militate against the primary etiologic importance of the streptococcus although, just as in scarlet fever, influenza and smallpox, it may become an important secondary invader. The absence of suppuration, the therapeutic action of the salicylates, the usually sterile character of the joint fluid and the blood make it highly improbable that in the streptococcus we have the essence of rheumatic diseases. Furthermore, although it is possible to produce myocardial nodules by injection of *Streptococcus viridans* into rabbits, as Cecil [1] has shown, these are not identical with Aschoff's nodules, of which I shall speak later.

Regarding Poynton and Paine's diplococcus, little need be said. Even though Poynton on one occasion isolated it from the pericardial fluid, too many others have been unsuccessful. Moreover, it has been found in arthritic conditions that do not belong to the rheumatic group. Recently Chantemesse, Matruchot and Grimberg [2] isolated a small bacillus, called by them *Mycobacillus synovialis,* from the endocardial lesions and from the pia mater and the cerebral cortex, in a case of acute articular rheumatism. Cultures, when inoculated into rabbits, gave rise to arthritis and endocarditis. One cannot accept this bacillus as the cause of acute rheumatic fever on such slender and unsupported evidence. The bacillus of Lustgarten and the Sanarelli bacillus, the one acclaimed as the cause of syphilis, the other as the cause of yellow fever, are still remembered by skeptical minds. The matter thus stands as in scarlet fever, measles and smallpox: We are convinced that these are infectious diseases, but do not know the contagium vivum that produces them. Perhaps we shall have to look in rheumatic fever for a filtrable virus or an ultramicroscopic organism which Noguchi or, shall I say, some Noguchi will eventually discover.

Strange to say, we have no absolutely characteristic macroscopic postmortem finding in acute articular rheumatism; [3] but since Aschoff in 1904 described his submiliary nodules of the heart muscle, we have what seems to be a trustworthy histologic finding, at least in the acute disease. In cases of long standing, these nodules undergo fibroid organization, and then are no longer characteristic.

If the streptococcus or Poynton and Paine's diplococcus were the cause of rheumatism, one should be able to find these organisms in the fresh nodules; but, so far as I know, this has not been accomplished. Streptococci have been found in rare instances in the valvular vegetations.

Much evidence has been accumulated in proof of the contention, early brought forward by the late F. A. Packard, that the tonsils are the infection atrium of rheumatic fever and its variants. They are probably not the only one. Furthermore, it is a plausible assump-

* Read before the Philadelphia County Medical Society, Feb. 23, 1921.

1. Cecil: J. Exper. Med. **24**: 739 (Dec.) 1916.

2. Chantemesse, Matruchot and Grimberg: Compt. rend. Acad. d. Sc. **164**: 652, 1917.

3. It is true, the fine, grayish-pink seedlike vegetations along the line of closure of the valve are seldom found in endocarditis of nonrheumatic origin.

tion that the rheumatic virus, when once introduced, may survive in the tonsils, the pericardium and the valvular endocardium after the primary attack is over, just as the spirochete of syphilis and the plasmodium of malaria may long survive in their hiding places. In that way we may account for relapses, although I would not of course deny the possibility of reinfection from without. In any event, one attack does not confer immunity: rather does it increase susceptibility to the disease.

For the frequent recurrence of rheumatic joint affections, the work of Faber [4] gives a rather interesting explanation. Faber injected the joints of rabbits with killed cultures of streptococci, and found that when the rabbits were afterward inoculated, intravenously or subcutaneously, with minimal doses of living streptococci, they would develop arthritis in the sensitized joints. It may be that relapsing arthritis in man is due to the effect of a virus on an homologously sensitized joint.

The rapid swelling of the joints as well as its prompt subsidence suggests the thought that the articular change is due to toxins rather than the micro-organisms themselves, a surmise strengthened by the sterility of the joint exudate. In many respects, acute articular rheumatism resembles serum sickness, the anaphylactic joint swelling that sometimes follows antitoxin and other serum injections.

Chorea and rheumatism are undoubtedly related. That the former does not respond to salicylates is not an argument of much moment. Witness tabes and cutaneous syphilis in their respective behavior to mercury or arsphenamin. An important observation was made by Thalheimer and Rothschild,[5] who found Aschoff's nodules in the heart in three cases of chorea. Chorea rarely precedes, more often follows, rheumatism, but it may occur without preceding joint involvement. The same cutaneous lesions have been found in chorea as in articular rheumatism;[6] that chorea leads to endocarditis is of course well known.

No statistics are available regarding the frequency of rheumatic fever and chorea, for these diseases are not reportable and are most often treated at home. The death rate for the last five years in Philadelphia for acute articular rheumatism, which includes rheumatic fever, is 83 in 1916, 111 in 1917, 64 in 1918, 78 in 1919 and 104 in 1920, or from 3.59 to 6.33 per hundred thousand. That for chorea is remarkably uniform, 5 for the years 1916 and 1918, and 7 for each of the years 1917, 1919 and 1920. This low death rate from chorea is a sign that chorea is probably not a very common disease in Philadelphia. The greatest mortality from articular rheumatism is in the age period from 5 to 15.

It is unnecessary to describe a typical case of acute rheumatic fever. The polyarthritis, intensely painful and shifting, involving the larger joints and the fingers, is a well known picture. In adults the disease seems to spend itself chiefly on the joints, while in childhood it has a much greater tendency to attack the heart. The blood shows decided changes, a secondary anemia quickly develops; the leukocytes are considerably increased, up to 14,000 and 16,000, or even more. Blood culture as a rule is sterile. When cardiac complications have occurred, one may find, especially in the later stages, *Streptococcus viridans* in the blood.

4. Faber: J. Exper. Med. **22**: 615, 1915.
5. Thalheimer and Rothschild: J. Exper. Med. **19**: 417, 1914.
6. Bass, M. H.: M. Clinics N. America **2**: 201 (July) 1918.

Recovery is the rule in the ordinary polyarthritis, but recurrences are frequent.

THE DISEASE IN CHILDHOOD

In childhood, the disease presents certain important peculiarities:

1. Though occurring in children of all ages—even intra-uterine infection has been described—it is most frequent between the ages of 5 and 15 years, and is especially common about the period of puberty. It seems to affect girls a little more frequently than boys, which is interesting in view of the fact that in the adult the male sex greatly predominates over the female.

2. The joint involvement is often slight; indeed, so slight as to be easily overlooked. The so-called growing pains are frequently rheumatic signals.

3. Involvement of the heart is very common in children. Neither its occurrence nor its intensity bears any definite relation to the severity of the joint involvement. Trivial joint involvement may be followed by severe cardiac damage.

4. Tonsillitis, follicular tonsillitis, is a frequent preoccurrence in the acute attack, and is a common antecedent in the patient's history.

5. Chorea is a sequel in a number of cases.

6. Skin manifestations are more common in children than in adults.

7. Cerebral rheumatism, characterized by delirium and hyperpyrexia, is rarely seen in childhood, but is a complication of the disease in adults.

THE HEART

I can perhaps save time and give precision to what I have to say if I make my statements somewhat dogmatically:

1. Cardiac involvement may occur within twenty-four hours after the beginning of the disease. More frequently it is discovered through the hearing of a definite murmur, three or four days after the onset of the joint trouble.

2. Only a careful routine examination of the heart will permit early discovery of cardiac lesions.

3. The textbooks hold that mitral endocarditis is much more common than any other valvular inflammation. My experience is not entirely in accord with this. Aortic involvement, while perhaps not so common as mitral, is nevertheless much more frequent than is indicated in textbooks. It is often overlooked because, believing the mitral valve area to be the danger zone, some listen only there and not at the base.

4. Certain clinicians contend that the mitral murmur of acute rheumatism is not endocarditic, but is due to dilatation and myocardial weakness. Against this view I feel inclined to protest. I have heard the mitral murmur as already indicated within twenty-four hours after the first joint pain appeared, before there could have been any marked myocardial weakening. Secondly, one does not hear the mitral murmur very often in other severe acute infections, such as typhoid fever and pneumonia.

5. Mitral endocarditis is capable of complete recovery; at any rate, all auditory evidence may disappear. It is, however, possible that mitral stenosis is a delayed result of a mild and apparently evanescent lesion. It is this tendency on the part of the systolic murmur to disappear that has led some observers to doubt its inflammatory origin.

6. Aortic lesions, probably on account of the greater strain on the delicate valve leaflets, very rarely disappear. Hence I dread the finding of a diastolic murmur at the aortic cartilage or at the left border of the upper sternum.[7]

7. Double valve involvement rarely occurs in the first attack. It usually means at least two separate seizures.

8. Pericarditis is extremely common, and may occur after one of the valves has been attacked or without such prior involvement. It is often overlooked for several days, the reasons being that:

(*a*) It is usually entirely painless. This is one of the most remarkable phenomena of clinical medicine, and is difficult to explain. The friction may be so pronounced as to be palpable, and yet the patient may have scarcely any pain in the precordial region. Sometimes when he takes a very deep breath a slight pain appears.

(*b*) It does not always produce a to-and-fro friction sound at the beginning, but rather a rumble resembling a valvular murmur. The true nature of the sound may, however, be recognized by its superficial character and by its location away from a valve point toward the base of the heart, over the upper sternum. Pericarditis nearly always causes an access of fever and frequently an increase in the respiration rate. To the latter sign I am inclined to attach a great deal of importance. Not alone in rheumatic fever, but also in pneumonia I have seen a decided increase in the respiration rate coincide with the onset of pericarditis. On several occasions I have been able to surmise the existence of the complication by a study of the temperature chart.

In severe cases of pericarditis, there is usually an associated pleuropericarditis and mediastinitis which may be detected by studying the influence of respiration on the friction sound. The pain in the back of which some patients complain may be due to inflammation of the posterior wall of the pericardium or of the tissues in its proximity.

A curious feature in pericarditis, one that may cause error in diagnosis, is the presence in many cases of the signs of pneumonic consolidation of the left lung. Distinct impairment on percussion, bronchial breathing and bronchophony suggest the presence of pneumonia; but usually there is no pneumonia. I believe that the deceptive signs are produced through compression of the left lung by the heart. For the production of this condition, which I would call *pericarditic pseudopneumonia,* a large amount of fluid is not necessary. I have seen it when there was only a little fluid, but a great deal of fibrous exudate and an enlarged heart.

The myocardium probably never escapes entirely in acute rheumatic fever, certainly not in children. Usually a muffling of the heart sounds, perhaps due to edema of the valve leaflets as well as to weakening of the heart muscle, can be demonstrated. Now that we know of the formation of the nodules of Aschoff, the clinical behavior of the heart is more readily understood.

English writers have coined the useful word carditis (or pancarditis) to designate the widespread harm that rheumatic fever does to the heart and to indicate in a single word involvement of the myocardium, pericardium and endocardium.

Pleurisy with effusion is not rare in severe cases of rheumatic fever in which the heart is involved. If on the left side, it complicates the diagnosis of pericardial effusion. It is not rarely right-sided, and in either case adds greatly to the embarrassment of the respiration.

7. Since writing this I have examined a girl in whom I found unmistakable signs of aortic regurgitation five years ago, during an attack of acute articular rheumatism. To my amazement, every trace of valvular defect has disappeared.

THE RHEUMATIC SKIN AFFECTIONS

The most characteristic of rheumatic skin affections is the so-called rheumatic nodule, which histologically resembles the miliary nodule in the heart muscle.[8] Usually there are but few of these nodules, chiefly about the elbows, the backs of the wrists, near the ankles, and over the buttocks. At times the number is enormous, as in a case that I saw with Dr. Zall of this city.

> The patient was a girl, aged 15 years, with well marked aortic and mitral insufficiency. Closely aggregated over the buttocks were innumerable reddish papules, pea size and larger, with very little intervening normal tissue. They were movable, not tender, and gave the buttocks a pebbly feel and appearance. Nodules of smaller size were present on the legs. In addition, there were scars of the same size as the papules scattered over the arms and thighs. Dr. Zall assured me that these had all been papules originally. When I saw the child again four months later, every trace of nodules and scars had disappeared.

As a general rule, the rheumatic nodules occur in cases with marked cardiac involvement.

Various types of nodular or papular erythema may be encountered in rheumatic cases and may be properly considered as rheumatic in origin.[9] The papules or nodules are usually discrete, violaceous, shiny, raised, hard and somewhat tender. They are most profuse about the knees, elbows and buttocks.

PURPURA

A good deal has been written about so-called rheumatic purpura. In many instances the condition is not rheumatic at all, being due to hemophilia, or to toxic substances, such as drugs. Still others are associated with bleeding into the intestinal tract and severe cramplike pains in the abdomen, and are examples of the erythema group of Osler. However, after all these nonrheumatic types are deducted, there still remains a small group of purpura of true rheumatic origin.

DIAGNOSIS

The subject of diagnosis is an enormous field in itself, for there are few conditions in which more errors are possible than in acute inflammation of the joints. One should always be skeptical when one joint alone is involved. In adults, this is practically never acute articular rheumatism. In children it may be; but if the pain persists and is sharply localized in one joint or in its neighborhood, the probabilities are that the condition is an osteomyelitis, a tuberculous process, or, in infants, Barlow's disease or scurvy. The early occurrence of endocarditis or pericarditis is a point in favor of the rheumatic nature of the trouble.

The acute stages of chronic polyarthritis, arthritis deformans, or infectious arthritis may resemble acute articular rheumatism. However, in the former the small joints are predominantly involved, especially those that are rarely attacked by articular rheumatism, as, for example, the sternoclavicular, the temporomaxillary and the vertebral joints. The inflammation does not shift so rapidly from joint to joint, and heart complications are exceedingly rare. Gonorrheal rheumatism in its acute stages may be mistaken for acute articular

8. Cooms: J. Path. & Bacteriol. **15,** 1910-1911.
9. Bass (Footnote 6). Schloss: Am. J. M. Sc. **140,** 1910.

rheumatism; but the history, the presence of the gonococcus in the prostatic secretion, the inefficacy of the salicylates, and the complement fixation and precipitin tests assist in the diagnosis. Endocardial involvement is quite common in gonorrheal arthritis; pericardial, while it occurs, is rare.

TREATMENT

I shall not discuss the mooted question of the specificity of the salicylates. The very fact that there is such a mooted question makes it probable that they are not true specifics. However, they are the best we have at the present time. The dose must be large—from 6 to 10 gm. a day (90 to 150 grains)—and should be given in divided doses for the first twenty-four hours, so as to get as much salicylate as possible into the body. A large part of the salicylic acid, more than half, is quickly converted into almost inert salicyluric acid. Hence the advisability of administering the drug at short intervals. The choice of preparation is not very important; I prefer the sodium salicylate combined with an equal amount of sodium bicarbonate in a simple vehicle. After twenty-four hours the dose may be lessened or the interval increased. If the case responds at all, the fever and pain will subside in the course of forty-eight hours. Unfortunately, a large proportion of cases do not respond so readily to the intensive treatment with salicylates. I have seldom found when the sodium salt failed that any other preparation possessed any value, although one may try oil of gaultheria, acetylsalicylic acid, or any one of the many synthetic preparations on the market. Contrary to the opinion of some clinicians, I have not observed any difference between the synthetic and the natural salicylic acid.

In some instances the pain is so excruciating that morphin must be given.

Local measures are of value. The joints may be wrapped in cotton held on with a loose bandage, or soothing lotions, such as lead water and laudanum, or saturated solution of magnesium sulphate; or an oil of gaultheria ointment may be applied. Baking of the joints is sometimes useful. Much comfort is often obtained from putting a splint on the hands when the wrists and fingers are greatly swollen.

Water should be given in abundance, either plain or as lemonade or orangeade. Sometimes it is difficult to get children to take the proper amount of fluid, and it may be necessary to administer it by bowel. The food should be that of all febrile diseases: milk, buttermilk, cereals, junket, chicken broth, cocoa, etc. It is well to have the patient either lying between thin blankets or wearing thin flannel pajamas or a flannel night dress. The less the patient is handled while the joint swelling lasts, the better.

TREATMENT BY VACCINES AND SERUMS

Until we have definitely isolated the cause of rheumatic fever, the use of vaccines and serums is purely empiric. That does not of necessity condemn their employment. In rare instances the use of a stock vaccine in an obstinate case seems to prove beneficial; perhaps it is the foreign protein rather than any specific substance that brings about the improvement.

PROPHYLAXIS

The patient who has had rheumatic fever should protect himself in every way against wetting and chills. He should wear proper underclothing and overclothing, should pay attention to the bowels and, if a child, should be subjected to a gradual hardening process. A change of climate, when the circumstances permit, is at times of the greatest value.

TONSILLECTOMY

If the tonsils were the only point of entrance, their removal might promise deliverance from further attacks. This is not the case, as has been pointed out by Crowe, Watkins and Rothholz.[10] However, recurrence is not very frequent, as it took place in only four out of twenty-five cases of acute rheumatic fever in which the tonsils had been removed. I am therefore of the opinion that their removal is justified, if they are diseased. The rheumatism may not recur, and the heart may be spared further damage. The tonsils should not be removed during an acute attack of rheumatic fever.

As for chorea, tonsillectomy offers much less assurance against recurrence. In twenty-three cases of chorea reported by Crowe, Watkins and Rothholz in which the tonsils and adenoids were removed, recurrence took place in eight. One patient who had never had chorea developed the disease after the removal of the tonsils.

I want to say a word about the after-care of cases of simple follicular tonsillitis. I believe the profession underestimates the importance of this disease—its great power of mischief. The patient should be kept in bed and should be watched for two or three days after the acute attack of the disease has subsided, and should have at least one thorough urine examination before discharge.

Can cardiac complications be prevented? The question is not easily answered. We can never know positively that they would have occurred in cases in which we believe we have prevented them. Nevertheless, every intelligent effort should be made in the direction of cardiac protection. The measures that suggest themselves are:

1. Prompt confinement to bed.
2. Prompt salicylization of the patient. There is little evidence that, given a definite heart lesion, the continued use of the salicylates does any good.
3. Careful daily auscultation of the heart.
4. The use of small blisters at the first sign of pronounced muffling of the heart tones or of a friction sound.
5. Long confinement to bed after subsidence of all acute phenomena.
6. In cases of pericardial effusion, embarrassing the action of the heart, aspiration.
7. Aspiration of the pleural sac even while fever is still present, if there is marked dyspnea.

CONCLUSION

It may be said that, of all the common diseases of childhood, those most to be dreaded are rheumatic fever and scarlet fever, for they are treacherous. While they do not often kill, they frequently maim for life. It is rather an opprobrium to the medical profession that it has not found the causes of these diseases and therefore is still powerless to attack them in a fundamental way. I hope it will not be long before we shall master them as we have mastered typhoid fever and smallpox.

1715 Spruce Street.

10. Crowe, S. J.; Watkins, S. S., and Rothholz, A. S.: Bull. Johns Hopkins Hosp. **28**: 1 (Jan.) 1917.

THE AUTO-URINE TEST FOR ACTIVE TUBERCULOSIS

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In May, 1919, Wildbolz [1] of the Island Hospital, Berne, Switzerland, described a test for active tuberculosis in any stage. While the principle of this test was not new, its efficiency, as reported by him and his co-workers in several later articles, has been so definitely shown as to attract considerable interest in Europe.

So far as is known, however, no efforts have been made in this country to compare results with his findings, although digests of his articles from the foreign literature have been quoted in several American journals. That such a test, if proved to be accurate, would be of great importance in the diagnosis of active tuberculosis, goes without saying.

Reactions obtained by the von Pirquet, Mantoux or Stich tests indicate infection or latent tuberculosis, but do not define active disease, and only assist in upholding the contention that a large majority of civilized people have at some time during life been infected with tubercle bacilli. The difficulty in diagnosing active tuberculosis in children is not materially abated by positive tuberculin reactions, but such a test as described by Wildbolz could here assume a most important rôle.

Since this sanatorium is for children suffering with tuberculosis, and in view of the obstacles that have confronted us in arriving at definite diagnoses of tuberculosis among our youthful patients, such possibilities as are contained in the auto-urine test theory have appealed to us mightily and have induced us to make an attempt toward proving or disproving its value and efficiency.

PRINCIPLES AND THEORIES OF THE AUTO-URINE TEST

As stated before, the biologic tuberculin reactions heretofore in use indicate little or nothing of the stage of the disease, of its development, of the retrogression of the process or of its healing—in other words, of the activity of the disease.

These biologic tests announce through positive results only that a hypersusceptibility of the body against tuberculin exists, that is, at the time tuberculous antibodies are in circulation in the organism. But, since after infection has once existed the hypersusceptibility of the skin, if developed, is said to continue for a long time, the positive result of a tuberculin reaction proves only that infection has at some time occurred.

No interpretation or meaning attributed to reactions obtained by the use of present tuberculins can definitely determine a question of activity. We make this statement, fully recognizing the existence of the so-called sensitization reaction, but reserving the opinion that this criterion of activiy or nonactivity has not remained undisputed and has not received universal recognition.

The propounders of the auto-urine test theory believe it possible to demonstrate the activity of a tuberculous process through the proof of antigens in the human urine by means of an allergy reaction of the skin.

This theory is the product of the thought that when there is an active tuberculous process in the body there must be products of elimination and disintegration of and due to the tubercle bacilli. These products of active disintegration or antigens, or tuberculin-antituberculins, as they are described by some, are thrown into and distributed by the blood stream, where a part of them are held and made harmless by the defensive mechanism of the body: the antibodies; and a part are removed from the organism by the secretory organs: the kidneys, the intestines, the liver, the skin, the lacteals, etc.

It follows that if the existence of these antigens can be proved, then will the activity of the tuberculous process be evident; for, unless there is an active and disintegrating infected focus in the body, the formation and elimination of antigens is not comprehensible or conceivable.

The method by which the existence of these antigens is demonstrated and proved is the auto-urine reaction, depending, however, on allergy or organic hypersusceptibility of the skin. The demonstration of the presence or absence of antigens is accomplished by injecting into the skin of the urinator his own urine, which has undergone certain modifications. It is, of course, generally understood that many patients who have demonstrable active tuberculosis have skin anergy, or organic resistance, that is, do not react to the injection of tuberculins. The same is also true in the auto-urine reaction. Should the skin of the patient be anergic, then his urine is injected into another known to have skin allergy, or organic hypersusceptibility to tuberculins.

So long as there is a focus of active tuberculosis anywhere in the body, then so long will there be antigens excreted with the urine which, if injected into the

TABLE 1.—ALLERGIC CASES WITH POSITIVE SPUTUM *

Case No.	Age	Ill	Clinical Description	Sputum	Mantoux	Auto-Urine
1	15 yr.	6 mo.	Both uppers active; febrile; tachycardia	Pos.	Pos.	Pos.
12	11 yr.	8 mo.	Infiltration both uppers; intermittently febrile; loss of weight; night sweats	Pos.	Pos.	Pos.
13	30 yr.	4 yr.	Extensive involvement left lung with infiltration right upper; nontoxic; nonfebrile	Pos.	Pos.	Pos.
14	12 yr.	4 mo.	Infiltration right upper lobe; tracheobronchial adenitis; sputum once positive, now negative; nonfebrile	Pos.	Pos.	Pos.
16	49 yr.	4 yr.	Tuberculous elbow, healed; dorsal Pott's, clinically inactive; nonfebrile; nontoxic; second stage	Pos.	Pos.	Pos.
18	57 yr.	2½ yr.	Nonprogressive signs of tuberculosis in left lung; nonfebrile; fair general condition	Pos.	Pos.	Pos.
25	14 yr.	9 mo.	Admitted 5 months previously with beginning involvement both uppers, and positive sputum; has been negative for 4 months; for last 4 months afebrile, nontoxic and progressively improving and classed as apparently arrested	Pos.	Pos.	Neg.

* These seven allergic cases had presented at one time or another positive sputum, all but one recently. Six of this seven were classed as progressive cases; the seventh was termed as apparently arrested. All six positive cases reacted positively to the auto-urine test, while the seventh was negative.

1. Wildbolz: Biologic Test for Active Tuberculosis Focus in the Human Body by the Response to Intradermal Injection of Auto-Urine, Cor.-Bl. f. Schweiz. Aerzte **49**: 793 (May 31) 1919.

skin of a tuberculous urinator in sufficient concentration when his skin is allergic or hypersusceptible to tuberculin, will result in a similar reaction in the skin to that obtained by injecting tuberculin. Briefly, the tuberculin used for the skin reaction is furnished by the patient himself in his own urine.

If this reaction is positive, the assumption is that tuberculous antigens are in the urine, and that therefore an active tuberculous process exists in the body. If the urine contains no antigens, its injection affects the skin nonspecifically and exclusively, as would an injection of a solution of various urinary salts which, if not too highly concentrated, will not cause a reaction of itself.

In anergic patients the test is believed to be of great value; for, since a person may harbor an active focus of disease and yet react negatively to tuberculins, thus denying even infection, yet his urine if injected into a hypersusceptible or allergic individual will react positively, thus defining an active lesion which may be impossible of clinical demonstration.

tend with the variations in concentration of the urine or with the highly diluted antigens occurring in the urine of those patients who have impaired renal function. The latter is an extremely important consideration; for in those patients whose renal activity is disturbed, the antigens in the urine, by reason of the impaired filtering powers of the kidneys, are highly diluted and almost impossible of demonstration but can be shown to exist in the blood, which is, of course, the ordinary source of these substances. There is also less liability to skin necrosis.

Although we have considered these points, the convenience of obtaining urine rather than serum from our young patients has convinced us that the auto-urine test is more practical at the present time for our uses; but we are now carrying through a series of the older patients with the autoserum test for a later report.

In preparing for the auto-urine test, the first consideration is a means whereby the antigens which are in the urine in a highly diluted state can be concentrated

TABLE 2.—ALLERGIC CASES WITH NEGATIVE SPUTUM*

Case No.	Age	Ill	Clinical Description	Sputum	Mantoux	Auto-Urine
2	7 yr.	15 mo.	Tuberculosis of spine, hip and cervical glands; extremely active	None	Pos.	Pos.
15	6 yr.	18 mo.	Tuberculosis of spine, hip and knee	None	Pos.	Pos.
17	44 yr.	3 yr.	No definite active lesion; recurring pleuritic attacks	Neg.	Pos.	Pos.
20	13 yr.	3 mo.	Infiltration of apexes; febrile; toxic	Neg.	Pos.	Pos.
22	14 yr.	3½ yr.	Tuberculosis of right hip with discharging sinuses	None	Pos.	Pos.
27	9 yr.	18 mo.	Infiltration, right upper; nonfebrile; nontoxic	Neg.	Pos.	Pos.
28	13 yr.	18 mo.	Moderately active lesion, right upper; nonfebrile	Neg.	Pos.	Pos.
29	14 yr.	3 mo.	Admitted with infiltration, left upper; now improved; signs retrogressive	Neg.	Pos.	Neg.
33	14 yr.	6 mo.	Infiltration, both uppers on admission: nonfebrile; now fibrotic	Neg.	Pos.	Pos.
38	13 yr.	3 yr.	Involvement, left upper; nonfebrile; nontoxic	Neg.	Pos.	Pos.
39	19 yr.	4½ yr.	Nonfebrile; slightly progressive; old lesion both uppers	Neg.	Pos.	Pos.
40	11 yr.	3 yr.	Nonprogressive; nonfebrile; healed lesion, right upper	Neg.	Pos.	Neg.
42	35 yr.	4 yr.	Alternately progressive lesion, both uppers; nonfebrile	Neg.	Pos.	Pos.
43	15 yr.	5 yr.	Clinically inactive lesion, right upper; nonfebrile	Neg.	Pos.	Pos.
50	6 yr.	18 mo.	On admission submaxillary adenitis; loss of motor coordination, lower extremities; thickened pleura; old empyema, left base	None	Pos.	Pos.
51	8 yr.	6 mo.	Heart and lungs negative; splenomegaly of unknown etiology; granular inspiration, inner border right scapula	Neg.	Pos.	Pos.
53	11 yr.	1 yr	Clinically negative for tuberculosis; lungs negative; mitral regurgitation	Neg.	Pos.	Neg.
47	11 yr.	2 yr.	Healed cervical adenitis; tracheobronchial adenitis; mitral regurgitation; four plus Wassermann; not believed to be now clinically tuberculous	Neg.	Pos.	Neg.
31	28 yr.	No	Normal individual; no illness	None	Pos.	Neg.
46	28 yr.	No	Normal individual; no illness	None	Pos.	Neg.
61	14 yr.	6 yr.	Old infiltration of apexes, healed; healed cervical and inguinal adenitis	Neg.	Pos.	Neg.
60	13 yr.	1½ yr.	Healed cervical adenitis; lungs negative	Neg.	Pos.	Neg.
57	15 yr.	1½ yr.	Lungs negative; old pyogenic osteomyelitis of tibia; intermittently discharging sinus, left thigh; not considered clinically tuberculous	Neg.	Pos.	Neg.
59	13 yr.	2 yr.	Active involvement, both upper lobes; nonfebrile but progressive	Neg.	Pos.	Pos.

* Results in twenty-four allergic cases in which the sputum was negative. Five of this twenty-four were classed as arrested; two, nontuberculous, and two, no disease, while the remaining fifteen all presented definite signs of tuberculosis. All except the first nine reacted positively to the auto-urine test.

The principles of these several theories and their development as facts are supported by findings in about 300 cases reported by Wildbolz,[1] Lanz [2] and Imhof.[3] Offenbacher [4] and Miche [5] do not altogether agree with the findings of the former three, but a study of the technic used by these two investigators reveals to some extent methods which appear to be somewhat dissimilar to those of Wildbolz, and may account for the disparity in results.

Lanz, working on the same line of thought, has presented the autoserum test and reports of more than 100 cases. With several minor modifications, the technic is the same as that of the auto-urine test; but he believes that this test is an improvement over the auto-urine reaction, since with serum one does not have to concentrate to a sufficiently condensed volume as to permit demonstration. It has been shown that concentrating the urine and evaporating it at the ordinary boiling point destroys these delicate substances. Therefore the urine must be evaporated at a sufficiently low temperature to avoid destruction of the antigens; and since this can be done accurately only by removing atmospheric pressure, the urine is boiled and evaporated in vacuo at a temperature not exceeding 55 C.

Water will boil at 37.8 C. in a container in which there is a vacuum of 28 inches, and at 52.2 C. with a vacuum of 25.85 inches. Therefore the urine can be reduced in volume and the antigens concentrated sufficiently by evaporating the fluid in a vacuum of from 26 to 28 inches without exceeding a temperature of 55 C. and without destroying the antigen content. So long as the vacuum remains above 26 inches the temperature in vacuo cannot rise above 55 C., regardless of outside heat.

METHODS EMPLOYED

One hundred and fifty cubic centimeters of morning urine were evaporated to a tenth of the volume or 15 c.c. in vacuo

2. Lanz, W.: Research Concerning the Auto-Urine Reaction of Professor Wildbolz, Schweiz. med. Wchnschr., April 22, 1920.
3. Imhof, O.: In regard to the Wildbolz Auto-Urine and Auto-Serum Reaction for the Proof of an Active Tuberculous Focus, Schweiz. med. Wchnschr. **50**: 1033 (Nov. 11) 1920.
4. Offenbacher, R.: The Urine Test for Tuberculosis, Ztschr. f. Tuberk. **32**: 355 (Sept.) 1920.
5. Miche, F.: Intradermal Urine Test for Tuberculosis, Rev. méd. de la Suisse Rom. **39**: 567 (Dec.) 1919.

(never at a temperature greater than 50 C.). The apparatus used for obtaining a vacuum was an ordinary water filter or vacuum pump. The urine was placed in a 500 c.c. distilling flask with side arm, to which was attached high pressure tubing extending to a condensing bottle placed between the flask and the vacuum pump. A rubber stopper perforated for and containing a Centigrade thermometer was placed in the neck of the flask. Inserted into the vacuum line past the condensing bottle was a vacuum gage and a capillary tube for controlling the vacuum.

The vacuum pump was attached to a water bib, and the pressure of the water flowing through this faucet was high, else sufficient vacuum could not be established and maintained.

When a vacuum of 28 inches had been developed and not before, as evidenced by the gage, the flask was immersed in a water bath, the temperature of which was above 70 C. If the flask was immersed in the water bath before that amount of vacuum was obtained, the temperature of course exceeded 55 C. and the possibility of destruction of the antigens was incurred. The urine boiled and evaporated rapidly to the required 15 c.c., which was measured by placing the tip of the inserted thermometer in the stopper in such a manner as barely to clear that desired quantity. If the vacuum at any time during the concentration began to drop below 27.5 inches, the flask was immediately removed from the water bath, so as to prevent a rise of temperature. With the vacuum reestablished to the required measurement, slight agitation would induce the resumption of boiling, after which it was replaced in the water bath. The average length of time required for the necessary concentration was about twenty minutes.

When the urine was concentrated to one tenth of its volume, the flask was clamped off and air allowed to enter gradually. The concentrated fluid was then placed in a sterile container and allowed to stand twenty-four hours, at the end of which time the greater portion of the irritating urinary salts was precipitated. These were removed by passing the urine through a sterile filter paper. Wildbolz advocates impregnating this filter paper with 2 per cent. phenol; and while the object of this was not readily comprehended, we followed this technic.

A minute quantity, about 0.1 c.c., was then injected intracutaneously on the anterior portion of the forearm, according to the method of Mantoux with tuberculin and of Schick with diphtheria toxin. A very fine needle was used, making easy the formation of a small bleb with the fluid. This bleb persisted for a short time, as did a slight burning sensation. In no case did we observe any systemic effects whatsoever, the entire reaction being manifested by a local infiltration of the tissues at the point of injection which developed within from eighteen to forty-eight hours after introduction of the fluid. The size of the infiltration varied from about 4 to 10 mm., 5 mm. being about the average. In but few of the cases was there any visible manifestation, the reactions being read with the finger rather than the eye—in marked contradistinction to the ordinary tuberculin reactions.

In every case a control urine was injected at the same time, in the same quantity and in the same manner. This control urine was made from urine of an allergic nontuberculous individual who did not react to his own urine. The control urine injection was of great value in estimating the amount of infiltration about the site of the auto-urine injection.

TABLE 3.—ANERGIC CASES WITH POSITIVE SPUTUM *

No.	Age	Ill	Clinical Description	Sputum	Mantoux	Injection in Auto-Urine	Injection in Allergic Individual	Result
55	48 yr.	3 yr.	Tuberculous laryngitis; fistula in ano; moderately active lesion, both uppers; now nonfebrile and improving	Pos.	Neg.	Neg.	13	Pos.
58	14 yr.	6 mo.	Infiltration, right upper, active; left apex inactive; tracheobronchial adenitis; afebrile; nontoxic	Pos.	Neg.	Neg.	16	Pos.
48	41 yr.	6 yr.	Nonfebrile; nontoxic; slightly active lesion, both uppers; beginning fibrosis, right apex	Pos.	Neg.	Neg.	17	Pos.
45	59 yr.	4½ yr.	Moderately active involvement, both upper lobes; dorsal Pott's, slowly progressive; markedly impaired renal function; autoserum in this case resulted positively	Pos.	Neg.	Neg.	22	Neg.
62	18 yr.	2 yr.	Moderately active lesion, right upper; nonfebrile; nontoxic.....	Pos.	Neg.	Neg.	28	Pos.
54	14 yr.	4 mo.	Infiltration of both apexes; slightly febrile; slightly toxic.....	Pos.	Neg.	Neg.	27	Pos.

* Results in six positive sputum anergic cases or patients who did not react to 1:10,000 solution of tuberculin administered by the method of Mantoux. All were negative when their urine was injected into their own skins; but when it was injected into allergic persons or known reactors, all were positive save one. This exception was a man, aged 59 years, with markedly impaired renal function. An autoserum test in his case resulted positively.

To determine definitely whether or not the patient was allergic or hypersusceptible to tuberculin, a Mantoux test was also made simultaneously with the two urine injections. The von Pirquet test was used in the first few cases, but was discarded in favor of the Mantoux, since it was believed that the latter was more reliable.

RESULTS

A slight skin necrosis was observed in five cases, but persisted for only a short time, and, it is believed, was due not so much to the urinary salts as to injections too superficially made.

TABLE 4.—ANERGIC CASES WITH NEGATIVE SPUTUM *

No.	Age	Ill	Clinical Description	Sputum	Mantoux	Injection in Auto-Urine	Injection in Allergic Individual	Result
49	10 yr.	Indef.	No definite signs of tuberculosis except granular breathing, left upper, and poor nutrition	Neg.	Neg.	Neg.	39	Neg.
52	5 yr.	4 mo.	Roentgen-ray diagnosis lymphatic tuberculosis; tentatively diagnosed Banti's disease; tracheobronchial adenitis	Neg.	Neg.	Pos.	22	Pos.
63	13 yr.	4 mo.	Early involvement, left upper lobe; tracheobronchial adenitis....	Neg.	Neg.	Pos.	42	Pos.

* Findings in three cases that did not react to tuberculin and in which the sputum was negative. It is interesting to note that two of these cases showed positive results with the auto-urine reaction, in spite of this fact. Urine from these cases was also injected into allergic known reactors, with positive results in two cases and a negative reaction in the third. The third case was that of a boy, aged 10 years, with an indefinite history of loss of weight. Beyond granular breathing over the upper left lobe, no signs of involvement or other illness could be elicited.

In most of the cases in which a positive reaction was obtained, the infiltration persisted for about seventy-two hours.

The accompanying tables present the results we obtained in forty cases with the auto-urine reaction.

It was observed that all cases with bone involvement were allergic, and all reacted distinctly to the auto-urine test.

In none of the cases were there conflicting results. In every case in which there was definite allergy to tuberculin along with signs of activity, the auto-urine reaction was positive. And all of the anergic patients with positive signs gave definite reactions when their urine was injected into allergic individuals except in the one case mentioned above in which the renal impair-

ment induced us to use the auto-serum test, the result of which was positive.

Further, the negative reactions obtained in the allergic cases have only borne out the opinion that these individuals had no active tuberculosis and were accepted as favorable rather than as disparaging results.

Aside from this recapitulation of cases, we do not care to draw any conclusions or make any definite statements as to the value of the reaction, and we feel that this attitude will be readily comprehended in view of the small number of cases that we have completed, as compared with the several hundred reported by Wildbolz and his associates.

In conclusion, however, we do desire to call attention to the following statement, which we consider of exceptional interest, made by Lanz in his original article after he had observed the auto-urine and autoserum reactions in more than 300 cases:

> In all clinically positive cases of tuberculosis, both reactions give positive results. In all nontuberculous cases both reactions are negative. If the reaction turns out positive contrary to expectation, then there is positively an undemonstrable but still active tuberculous process in the body. The reactions are the finest diagnostic medium for the discovery of an active tuberculous focus.

IODIN IN THE CEREBROSPINAL FLUID

WITH SPECIAL REFERENCE TO IODID THERAPY

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The presence of iodin in the cerebrospinal fluid of normal individuals or of patients receiving iodids therapeutically has hitherto not been demonstrated. Catton,[1] in 1916, reported a series of tests in patients receiving from 15 to 45 grains of potassium iodid by mouth three times a day. He concluded that, regardless of the amount of iodin administered by mouth, no iodin or compounds of iodin can be found in the spinal fluid, and that either iodin compounds do not pass the ependymal cells of the choroid plexus in any measurable quantity, or such iodin as reaches the spinal fluid is very rapidly fixed in the tissues. These conclusions were based on a method less delicate than that devised by Kendall, which I have employed in this study. This method has enabled me to show that there is iodin in the normal cerebrospinal fluid, and that iodin is found in the fluid in increased amounts following its administration by mouth, by rectum and intravenously. A brief outline of Kendall's method is as follows:

> The material is placed in a nickel crucible and evaporated to dryness with sodium hydroxid. It is then fused with solid sodium hydroxid, with the addition of potassium nitrate to assist in the oxidation of the organic matter. The fused mass is poured on the crucible cover, and after cooling is dissolved in boiling water on a hot plate. The solution is transferred to a 500 c.c. Erlenmeyer flask and cooled. Five cubic centimeters of a 20 per cent. solution of sodium bisulphite and two drops of a 2 per cent. solution of methyl orange are added. Eighty-five per cent. phosphoric acid is added slowly, with constant shaking until the indicator turns pink. Then 5 c.c. of a 20 per cent. solution of phosphoric acid is added. This solution is made up to about 250 c.c.; and after a small piece of hard coal has been placed in it to prevent bumping, it is boiled for at least ten minutes, and then cooled. From five to ten drops of bromin are added, and the flask is shaken until the contents assume a definite yellowish color. It is again boiled for just five minutes after the solution becomes colorless. A small amount, from 1 to 2 mg., of salicylic acid is added and the solution cooled. Five cubic centimeters of a reduced 20 per cent. solution of phosphoric acid, and a few crystals of pure potassium iodid are added. The free iodin liberated is titrated with two hundredth normal sodium thiosulphate with starch as an indicator. For the numerous details of Kendall's method the reader is referred to his original articles.[2]

In Table 1 the results obtained with normal spinal fluid are recorded. From 5 to 10 c.c. of spinal fluid was withdrawn from each patient besides the ordinary amount for routine laboratory tests. A mixed spinal fluid from ten to twenty patients was used in each determination. Each patient was carefully questioned with regard to previous therapy, and specimens from those who admitted having had medication by mouth at any time during the preceding three or four months were rejected. Kendall and Richardson found the average iodin content of the blood to be 0.013 mg. per hundred cubic centimeters of blood. My figure of 0.018 for the same amount of spinal fluid is slightly higher (Table 1). This difference, 0.005 mg., is within the range of experimental error, and is equivalent to one drop of two hundredth normal sodium thiosulphate.

TABLE 1.—IODIN IN NORMAL SPINAL FLUID

Spinal Fluid, C.c.	Iodin, Mg. 100 C.c. Spinal Fluid
100	0.002
100	0.022
100	0.019
75	0.024
100	0.019
100	0.018
100	0.020
100	0.021
100	0.019
Average	0.018

POTASSIUM IODID BY MOUTH

In Table 2 are recorded the results obtained after administration of potassium iodid by mouth. In all of the six determinations iodin was found. Necessarily, specimens of spinal fluid from individual cases were in much smaller amounts than 100 c.c. A faint trace was recorded in four cases, because in the final titration the amount of two hundredth normal sodium thiosulphate used was so small that, if computed on a scale of 100 c.c. of spinal fluid, the margin of error would be very great. In the other two cases, amounts of iodin sufficiently large to be correctly determined were found. These two determinations were made at two and three

TABLE 2.—IODIN IN SPINAL FLUID AFTER ORAL ADMINISTRATION OF POTASSIUM IODID

Spinal Fluid, C.c.	Potassium Iodid Three Times a Day	Iodin, Mg. 100 C.c. Spinal Fluid
10	50 grains, last dose 3 hours before	Faint trace*
10	50 grains, last dose 12 hours before	Faint trace*
10	100 grains, last dose 2 hours before	Faint trace*
7	50 grains, last dose 2 hours before	0.357
15	50 grains, last dose 72 hours before	Faint trace*
15	70 grains, last dose 3 hours before	0.335

* Amount too small to be accurately titrated.

1. Catton, J. H.: Studies of the Spinal Fluid During Iodid Medication by Mouth, J. A. M. A. **67**: 1369-1370 (Nov. 4) 1916.

2. Kendall, E. C.: The Determination of Iodine in the Presence of Other Halogens and Organic Matter, J. Am. Chem. Soc. **34**: 894-909, 1912; The Determination of Iodine in Connection with Studies in Thyroid Activity, J. Biol. Chem. **19**: 251-256, 1914; The Determination of Iodine in Connection with Studies in Thyroid Activity, ibid. **43**: 149-159 (Aug.) 1920. Kendall, E. C., and Richardson, F. S.: Determination of Iodine in Blood and in Animal Tissues, ibid. **43**: 161-170 (Aug.) 1920.

hour intervals, respectively, following the administration of the drug. Buchholtz,[3] in 1918, showed that the blood concentration of iodin after administration by mouth was highest from two to three hours after administration. The foregoing determinations suggest a parallelism between the concentration in the blood and the cerebrospinal fluid. Further study with larger dosages is now in progress.

POTASSIUM IODID BY RECTUM

Two determinations were made on patients receiving potassium iodid by rectum only. The results are recorded in Table 3. Both patients showed appreciable amounts of iodin in the spinal fluid, in the first case 1.808 mg. per hundred cubic centimers (100 times the normal), one hour after the last administration of the iodid, and in the second case 0.381 mg. per hundred cubic centimeters (twenty times the normal), twelve hours after the last administration.

TABLE 3.—IODIN IN SPINAL FLUID AFTER RECTAL ADMINISTRATION OF POTASSIUM IODID

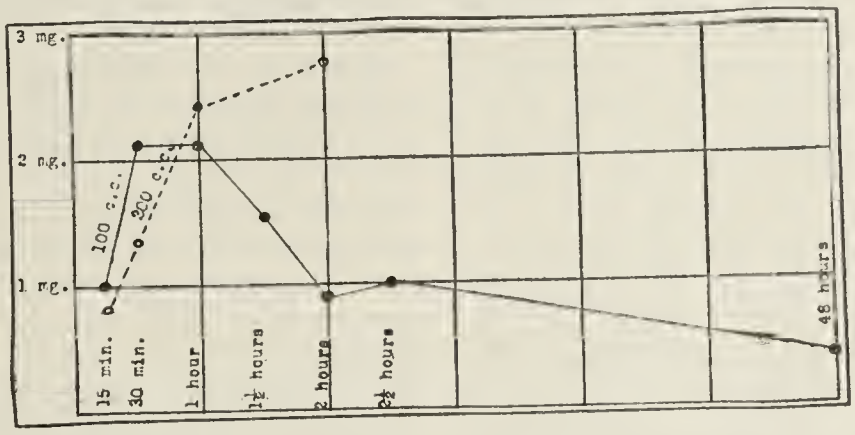
Spinal Fluid, C.c.	Potassium Iodid Three Times a Day	Iodin, Mg. 100 C.c. Spinal Fluid
5	125 grains, last dose 1 hour before.....	1.808
10	*350 grains, last dose 12 hours before.....	0.381

* Impossible to estimate exact amount retained; probably not more than 50 per cent.

SODIUM IODID INTRAVENOUSLY

The results obtained at varying intervals following an intravenous injection of 10 per cent. sodium iodid solution are shown in Table 4. Iodin in appreciable quantity appears in the spinal fluid within fifteen minutes after the intravenous injection of sodium iodid solution, as shown in the accompanying chart. With the injection of 100 c.c. of a 10 per cent. solution, the peak of the curve of increased iodin content of the spinal fluid is reached from one-half to one hour after injection. This amount, 2.133 mg. per hundred cubic centimeters, falls rapidly during the next hour, approximately to the same amount as that obtained for the fifteen minute interval. The decline in iodin content is then very gradual, until at the end of forty-eight hours 0.4 mg. per hundred cubic centimeters, or approximately twenty times the normal content, was found. With the injection of 200 c.c. of a 10 per cent. solution of sodium iodid, the iodin content of the spinal fluid at the end of the one hour interval is only 0.3 mg. per hundred cubic centimeters of spinal fluid, higher than with 100 c.c. However, instead of dropping at this point, the curve continues to rise, and at the two hour interval the amount of 2.784 mg. per hundred cubic centimeters of spinal fluid is reached. Of necessity, these determinations were made by observations on successive patients and not by successive punctures on a single patient.

With large dosages of sodium iodid intravenously, the question of a cumulative increase in the amount of the drug must be considered. Very little such increase was observed. One patient received daily intravenous injections of 100 c.c. of a 10 per cent. sodium iodid solution for ten days. On the eleventh day he received 200 c.c., and two hours later showed 3.180 mg. of iodin per hundred cubic centimeters of spinal fluid. This amount is approximately only 0.4 mg. higher than that recorded in Table 4 for the iodin content of the spinal fluid two hours after the intravenous injection of 200 c.c. of a 10 per cent. solution of sodium iodid in the normal patient.



Iodin in spinal fluid following sodium iodid intravenously (10 per cent. solution).

TABLE 4.—IODIN IN NORMAL SPINAL FLUID AFTER INTRAVENOUS ADMINISTRATION OF 10 PER CENT. SODIUM IODID SOLUTION

Spinal Fluid, C.c.	Sodium Iodid, C.c.	Hours Before Spinal Puncture	Iodin, Mg. 100 C.c. Spinal Fluid
15	100	¼	1.00
15	100	½	2.133
15	100	1	2.133
15	100	1½	1.533
15	100	2	0.900
15	100	2½	1.033
10	100	48	0.400
15	200	¼	0.804
15	200	½	1.341
10	200	1	2.414
15	200	2	2.784
8	200	24	0.303

3. Buchholtz, J.: The Pharmacology of the Iodides, Ugesk. f. Læger. **80**: 139-146 (Jan. 24) 1918.

During the course of the study, several observations of especial interest were made which are summarized in Table 5:

Patient 1 presented a high grade meningeal involvement. His cerebrospinal fluid showed a positive Wassermann reaction, a positive Nonne reaction, and 306 lymphocytes. He was placed on 10 per cent. sodium iodid solution intravenously in amounts up to 450 c.c. daily (45 gm.). Twenty-four hours after the last injection the spinal fluid contained 4.851 of iodin per hundred cubic centimeters, which is approximately from fifteen to twenty times the amount (0.303 mg.) in 100 c.c. of spinal fluid of a normal patient twenty-four hours after the injection of 200 c.c. of sodium iodid solution (Table 4).

TABLE 5.—SPECIAL OBSERVATIONS

Case	Diagnosis	Following 10 per Cent. Sodium Iodid	Amt. of Last Injection, C.c.	Hours Before Spinal Puncture	Iodin, Mg. 100 C.c. Spinal Fluid
1 (298829)	Neurosyphilis; marked meningeal involvement	200 to 400 c.c. daily for two weeks	450	24	4.851
2 (316534)	Neurosyphilis; advanced tabes dorsalis	100 c.c. daily for two weeks	100	3	4.600
3 (250805)	Neurosyphilis; marked meningeal involvement	100 to 250 c.c. daily for two weeks	250	½	42.308
4 (334068)	Neurosyphilis; advanced tabes dorsalis	None	200	2	4.377

Patient 2 had advanced tabes dorsalis with moderate meningeal involvement which had resisted all efforts at treatment. The Wassermann reaction on the cerebrospinal fluid was positive, the Nonne reaction was negative, and there was one lymphocyte per cubic millimeter. The patient had received 100 c.c. of 10 per cent. sodium iodid solution daily for two weeks. Three hours after the last injection he had 4.6 mg.

of iodin per hundred cubic centimeters of spinal fluid. As shown in Table 4, the normal amount would have been about 1.0 mg. per hundred cubic centimeters.

Patient 3 had an even more marked meningeal syphilis. In spite of all treatment, the cell count on the spinal fluid varied from 149 lymphocytes at the time of examination to 110 lymphocytes and 306 polymorphonuclears at the time of the test. He had received daily injections of from 100 to 250 c.c. of the sodium iodid solution. His spinal fluid contained 42.3 mg. of iodin per hundred cubic centimeters. This amount is about thirty times more than would be expected under similar conditions in a patient without evidence of neurosyphilis.

Patient 4 presented a well advanced tabes dorsalis with very slight meningeal involvement. The spinal fluid Wassermann reaction and the Nonne reaction were positive; there was one lymphocyte. Two hours after an intravenous injection of 200 c.c. of a 10 per cent. solution of sodium iodid, the spinal fluid contained 4.377 mg. per hundred cubic centimeters as compared with the normal amount of 2.784 mg. under the same conditions.

These four observations point to one or both of two possibilities: Either the meninges are more permeable to iodin compounds when there is meningitis, or tissue actively involved by syphilis takes up more iodin than normal tissue. Loeb,[4] in 1912-1913, found that iodids accumulated in greater concentrations in syphilitic glands than elsewhere in the body, suggesting a selective affinity for syphilitic processes. Fujisawa,[5] in 1919, made the statement that all syphilitic tissue takes up more iodin than other organs. My observations tend to support the latter possibility. In Patient 1, moreover, the determination was made twenty-four hours after the last intravenous injection, which indicates that the iodin had been fixed in the syphilitic tissue, thus causing an increased concentration in the spinal fluid. In Patient 2 there was only a mild meningeal involvement. Neurologic examination revealed a far advanced parenchymatous degeneration of the posterior columns. This suggests that the large amount of syphilitic tissue had fixed a correspondingly large amount of iodin. In Patient 3, however, the process was predominantly meningeal, pointing to an increased permeability of the meninges. Patient 4 presented essentially the same condition as Patient 2, except that he had practically no active meningeal involvement. These data suggest the possibility that the iodin content of the cerebrospinal fluid following iodid administration may be of diagnostic importance in the study of diseases of the central nervous system.

CONCLUSIONS

1. Iodin is present in the cerebrospinal fluid of normal individuals.

2. Iodin, in increased amounts, is present in the cerebrospinal fluid following the administration of iodids by mouth, by rectum and intravenously.

3. The iodin content of the cerebrospinal fluid following administration of iodid by mouth or by rectum is small compared with that following the administration intravenously.

4. The iodin content of the cerebrospinal fluid following the administration of iodid intravenously plots a definite curve, depending on the amount administered.

5. Certain observations made in the course of this study suggest the possibility that (*a*) neurosyphilitic tissue takes up more iodin than normal nervous tissue, and (*b*) the presence of a meningitis increases the permeability of the meninges to iodin compounds in the blood.

4. Loeb, O.: Ueber Jodverteilung im syphilitischen Gewebe, Arch. f. exper. Path. u. Pharmakol. **69**: 108-113, 1912-1913.

5. Fujisawa, K.: Distribution of Iodin in Animal Body, Mitt. a. d. med. Fakult. d. k. Univ. au Tokyo **19**: 389, 1918.

TREATMENT OF THE SUBNORMAL AND PSYCHOPATHIC CHILD

A NEW AVENUE OF APPROACH *

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Psychiatry may be broadly defined as the study of the conduct reactions of an individual in his attempted adjustment to his environment. As long as an individual is adjusted to his environment, as long as his conduct reactions are in harmony with those of the particular group in which he finds himself, so long is he considered normal from the psychiatric standpoint. If, however, his actions become bizarre or different from those commonly accepted as proper by the particular group of which he forms an integral part, he becomes the subject for psychiatric study.

From this it follows that conduct reactions that are considered normal in one environment may be definitely abnormal in another. For example, it may be perfectly normal for a Fiji Islander to consider himself fully dressed when bedecked in a loin cloth or in a fig leaf. However, any one assaying such a feat in this country would rightly be taken into immediate custody and his sanity investigated.

Again, we see individuals who, although apparently perfectly adjusted to their environment, fail miserably when called on to do tasks or to struggle with situations which require a degree of mental ability greater than that which they possess. This was only too well demonstrated in the recent war. A large proportion of the "war neuroses" or so-called "shell shock" cases was composed of boys who had led perfectly adjusted lives in, it is true, possibly sheltered environments. However, when called upon to meet unusual stresses and strains, they succumbed.

The nature of an individual's conduct reaction and the possibility of a successful adjustment will depend on two fundamental factors: heredity and environment.

Through the former the individual is endowed with a certain capacity for reacting; through the latter this capacity is either permitted full sway or stifled.

VARIOUS POSSIBILITIES

The interplay of these two factors permits of various possibilities.

1. An individual may be born without capacity for reacting or adjusting, no matter how simple the environment—for example, an idiot.

2. An individual may be born with only a partial capacity for reacting, one insufficient for his environment but amply sufficient if he be placed in a different environment. For example, a moron placed in a highly complex situation will ultimately be submerged, but if removed from such a situation and placed in a simpler one, he will, without doubt, be able to adjust himself and become a useful member of society. A comparable example is the child born of tuberculous parents, who in all probability will die if permitted to live in squalor, filth, and dirt, but will live in spite of the handicap of bad heredity, if placed in proper hygienic surroundings and given plenty of fresh air and nourishing food.

3. An individual may be well born as far as his capacity for reacting is concerned; but his environment

* Read before the Academy of Medicine, Feb. 2, 1921.

may be such that it tends to thwart or stifle the normal development of his conduct reactions. This is the situation that makes for truancy and delinquency.

Therefore, when confronted with a child showing some form of psychopathy, such as delinquency, antisocial behavior, truancy, mental defectiveness, or mental retardation, it becomes imperative, in order to make not only a proper diagnosis, but also a proper prognosis, and to outline proper treatment to determine: (1) the innate mental capacity of the child, and (2) the make-up of the child's environment.

How are these determined?

NECESSITY FOR CAREFUL PHYSICAL EXAMINATION

The mental capacity can be ascertained only by making a thorough and exhaustive physical and neuropsychiatric examination, including a psychometric test.

It is true that some, fortunately not physicians, assert that such examinations are superfluous: that a psychometric examination is all that is necessary to determine the mental status of an individual. Perhaps, then, it will not be amiss if we digress a minute and discuss briefly the value of psychometric tests when undertaken before a thorough physical examination has been made.

The tests that are most commonly employed are known as the Stanford revision of the Binet-Simon intelligence scale. This scale consists of sixty-six questions divided into groups of six, covering the ages of from 3 to 16 years, which is considered the average adult level. On the basis of the grading received in answering these questions, the child is considered either supernormal, normal, mentally retarded, or definitely feebleminded, and his whole future decided accordingly.

As Strecker[1] said: "Once regarded as mentally deficient, the next logical step is an institution, and therefore the problem of the retarded child is often visualized and at least potentially disposed of before a physical examination has been made. A child's future must not be decided by a psychometric measurement alone, however scientific and exact it may be." Now let us see how scientific and exact it is, and how great a value can be attached to the intelligence quotient if the test is made before a thorough physical examination has been given.

Of the sixty-six questions composing the scale, twelve, or about 18 per cent., are dependent on good vision, and eight, or more than 12 per cent., are dependent on good hearing, for their proper answers. No one will assert that a person with poor vision or poor hearing is necessarily feebleminded, but such a person is obviously handicapped in answering questions, requiring good vision or good hearing. To the self-styled psychoclinician it is immaterial that the child may be suffering from a high-grade myopia or a severe astigmatism or deafness. Apparently all that is essential is to know whether the question has been correctly answered or not.

To the psychoclinician, failure means only one thing, and that is mental defectiveness.

I could mention many other factors, such as the personal equation of the examiner, the emotional state of the child at the time of the examination, the presence of an endocrine dyscrasia or a congenital neurosyphilis, that will influence the value of the psychometric test.

1. Strecker, E. A.: Physical Factors in Mental Retardation, J. A. M. A. 75: 659 (Sept. 4) 1920.

However, enough has been said to show that mental tests are only relative and should not be considered the sine qua non in determining the mental status of a child. They are of importance only when correlated with the findings of a thorough physical and neuropsychiatric examination. This correlation should be made only by a properly qualified physician.

IMPORTANCE OF ENVIRONMENTAL MAKE-UP

Having determined the innate mental capacity of the child by means of an intensive physical examination, it then becomes necessary to determine the makeup of the child's environment.

The social, economic, educational and religious factors that compose the environment can be ascertained only with the aid of a social service worker trained along special lines. By that, I mean a social worker who has learned enough of the workings of the human mind to recognize the rôle that all these environmental factors play in determining conduct reactions.

It is apparent that, in order to determine how far a given environment is responsible for abnormal conduct reactions, it will be necessary to take the individual out of that environment and observe his conduct reactions when placed in an environment that is subject to scientific control. Furthermore, it is a psychologic truism that few children are capable of consciously formulating their difficulties. In order to know what difficulty must be overcome, one has to rely on actual observation of the child while at play and at work. An observation home for children gives trained observers an opportunity for studying these patients during different phases in a fairly normal environment.

Such a place is the Psychopathic Institute, which has been established on the grounds of the Jewish Hospital, Cincinnati, by the United Jewish Social Agencies. When a child is admitted to the institute, certain definite routine examinations are made. These consist of complete physical, neuropsychiatric, visual, dental, and serologic examinations. Special examinations are made as the indications arise. Each examination is made by a physician especially qualified in that particular field. In this way the patient receives the benefit of diagnostic group medicine.

In the meantime, the child is made to feel that he is not at a hospital but in a large home in which there are many other children. He is given household tasks to perform comparable to the ones that a child is ordinarly asked to perform at home. If he is of school age, he is transferred to the public school in the neighborhood.

A definite time is set aside for study, and a teacher is provided for those needing special instruction. In addition, several afternoons a week are devoted to vocational training. This consists of bead stringing, sewing, carpentry, weaving, pottery and reed work. The object of this work is twofold. In the first place, it is of direct benefit to the patient, and in the second place, it is of great help to those who are observing the child. The defective and retarded child, who probably has become discouraged through his inability to cope with the more or less abstract work of the regular school curriculum, finds to his great surprise and joy that he is able to cope with concrete tasks and to produce definite and constructive results. His self-esteem is thus unconsciously raised, and his whole mental attitude changed. Nothing is more conducive to effort than the knowledge that one has the ability actually to accomplish or produce.

At the same time, those who are observing the child receive valuable information as to his potentiality for future industrial training and, thereby, his power of social adjustment when returned to the world.

The recreational and creature comforts of the child are not overlooked; thus many opportunities are afforded to watch the child while at play.

All of these social recreations are jotted down and finally are correlated with the facts obtained from the physical and mental examinations. These comprehensive data enable those in charge not only to make a diagnosis but also, at the same time, to recommend a course for future action.

A few case histories will possibly enable one more clearly to visualize the workings of this institute.

REPORT OF CASES

Case 1.—*History.*—M. L., aged 6, was referred to the Psychopathic Institute because of her mental retardation. The father, a butcher, was extremely alcoholic; the mother was feebleminded. Having given birth to five children, all mentally retarded, and having had two miscarriages, she had been sterilized. The woman's sisters were syphilitic. The child had had measles, whooping cough and pneumonia. Otherwise the findings were negative.

Physical Examination.—This was negative. A roentgen-ray examination of the teeth showed nothing of a pathologic nature. The neurologic examination was negative except for a suggestive Babinski sign on both sides.

It was impossible to make a psychometric test because of lack of cooperation on the part of the child, as she talked but seldom. The blood Wassermann reaction was negative.

Course.—During her stay at the hospital, the child spoke only on rare occasions and chiefly when by herself. She showed affection in a dumb, appealing way, but took very little active interest in what was going on about her. She made a feeble attempt at playing with the other children. Not infrequently she would soil herself, and in common with those of her type, she often practiced self-abuse.

The diagnosis made was that of a low-grade imbecile. From the results of the different examinations, and from the observations of her social reactions during her stay at the Psychopathic Institute, it was obvious that this case showed no point of attack; that no amount of special or intensive training or special medical attention would help her to the extent of making her able to get along in the community. Furthermore, the home environment was such that no assistance could be looked for from that source. Hence the recommendation was made that the child be placed in an institution for life.

Case 2.—*History.*—E. F., aged 9, admitted to the Psychopathic Institute July 27, 1920. The chief complaint was her inability to learn and her use of vile language. Both parents were of a low order of intelligence, the mother being distinctly feebleminded. There were five children. The home conditions were of the poorest. The mother thought that the child's mental state was due to the fact that her brains were cut out when her tonsils were removed.

The patient had a normal birth and was breast fed. She walked at 9 months. Talking, however, was delayed. Her teeth appeared in the regulation time, but they crumbled very early. She had had scarlet fever, diphtheria, and whooping cough, and, when 6 years of age, convulsions of unknown origin.

For several years, the child had been attending parochial schools. She often ran away from school, and had a bad influence on the other children in the neighborhood. She not only used vile language, but ate garbage and dirt collected from the street. A summary of the examination made at the Psychopathic Institute revealed:

Physical Examination: The findings were negative.

Dental Examination: Nothing abnormal was found. The teeth required routine dental care.

Neurologic Examination: Station and gait were normal. The pupils were unequal, the right being larger than the left. The right pupil did not react to light; the consensual reflex was absent in this eye. There was no nystagmus and no exophthalmus. The right palpebral fissure was more slanting than the left. The knee jerks were exaggerated. There was a positive Babinski, Gordon's and Oppenheim's sign. The Achilles tendon reflex was not obtained.

Serologic Examination: The blood Wassermann reaction was ++++.

Psychometric Examination: The chronological age was 9 years; the mental age, 2 years and 7 months, and the intelligence quotient, 30.

Social Reactions: During the first two days, the child made no attempt at cooperation. She did not seem to understand what was said to her. Her language was very bad at times, her vocabulary in this respect being equal to that of the lowest roustabout. Her table manners were indescribable. She either did not know how or did not care to play games. She made no effort at social contact with other children. She spent her time wandering around aimlessly and listlessly.

Diagnosis and Treatment: Congenital neurosyphilis associated with mental defectiveness was the diagnosis and the child was put on protiodid of mercury and neo-arsphenamin. She remained at the institute for about a month, and during that time showed a distinct and steady mental improvement. She rarely used bad words, her table manners were better and she took an active part in the group activities of the children, showing in every way a more intelligent interest in her surroundings.

COMMENT

The diagnosis in this case was that of marked mental defectiveness and bad conduct reactions due both to congenital neurosyphilis and to poor home environment. One can easily understand how a congenitally syphilitic condition of the nervous system could produce mental defectiveness. However, such an inheritance need not make the individual use the vilest possible language nor eat garbage and dirt from the street. Here evidently we have two factors at work that are preventing the child from developing properly: first, a congenital disease of the nervous system, and, second, a deteriorating home environment. Both of these factors are subject to attack and are remedial.

In this particular case, the factor of environment was overcome by placing the child in a different home. At the same time, intensive antisyphilitic treatment was given. From the favorable reports of the boarding mother, we have the right to expect that the child's mentality will be greatly benefited by such treatment. It is true, of course, that we cannot say this with absolute certainty, but, both for the sake of the child and for the benefit of science, this treatment should be carried out.

A still different type of case is presented in Case 3.

Case 3.—*History.*—S. M., aged 7 years, was referred to the outpatient department on account of peculiar spells that he was having at night, while asleep. These spells resembled epileptic seizures, and lasted from three to ten minutes. During these spells, the child made queer, choking noises, and fell over, but he did not foam at the mouth nor cry out. One night, about six months previous to his coming to the clinic, the child had walked in his sleep. Just as he was about to open a window, he was seen by his mother, who promptly screamed. This awakened the child and frightened him greatly. Since then the child had been having peculiar spells at night. Lately, they had been increasing in frequency, occurring as often as three times a week.

Examination.—Both the physical and the neurologic examinations were negative. Mentally the child appeared very bright and alert. He was pleasant and answered questions readily and to the point. It was evident that he was of the hyperactive type and inclined to be mischievous. The social history bore this out. It showed that the child was well advanced in his school work; that he played excessively; that his habits as to eating and sleeping were irregular, and that he was a petty tyrant at home.

The problem that presented itself was: Is this a case of epilepsy or is it a condition of intense and excessive play life carried over into the child's dream life, resulting in subconscious spells of motor hyperactivity?

Treatment and Result.—The mother was told that the child would be given no medicine; but that she should not permit him to play at night and should put him to bed at 8 o'clock every evening. The mother returned to the clinic the following week and reported no improvement either in the frequency or in the intensity of the spells. However, she added that she had been unable to follow the instructions given as to limiting his play activities and putting him to bed early in the evening. The child simply refused to obey, and the parents seemed powerless to enforce their demands.

Thereupon the child was sent to the Psychopathic Institute. The evening of his arrival, he was put to bed, despite his strenuous objections, at 7:30. Shortly thereafter, he had what appeared to the nurse to be a typical epileptic seizure. He cried out, thrashed around the bed, and voided involuntarily. The next morning, however, he was told that no matter what happened, he would be put to bed promptly at 7:30 in the evening. The attacks never recurred.

During his stay at the Psychopathic Institute, he was perfectly normal and easily controlled. At first, however, he determined to have his way and displayed outbursts of temper when crossed. He soon learned to sublimate the greater portion of his egocentric make-up and he became very docile.

COMMENT

Here then was a case of abnormal conduct reaction producing an apparent psychopathic state, due principally to environmental factors. The boy realized the fact that he was mentally superior to his parents and took advantage of it. As a result, the parents had no control whatever over his conduct, even when that control was for the obvious improvement of the child himself.

The children so far studied at the Psychopathic Institute can be roughly divided into four groups that I have named thus: (1) personality group; (2) endocrin group; (3) organic group, and (4) mentally defective group.

In the first group, the personality group, are placed those children who are normal physically, but who present personality problems. This group contains the neurotic children, the emotionally unstable, the hyperactive and hypoactive types, and those suffering from bad home environment. These are the cases that require a tactful social worker not only to elicit the personal and environmental data but also to accomplish a permanent social adjustment. Here also the quickest and most startling results can be expected. Case 2 is a good example. Another case in point is reported herewith.

CASE 4.—*History.*—R. R., a girl, aged 11 years, was sent to the Psychopathic Institute because of her inability to get along at home. Her mother complained bitterly, saying that the child was insubordinate, had fits of temper, showed spells of moodiness during which she was very sullen, was irritable and spent nearly all of her evenings at the picture shows, usually remaining until the last performance was over. According to her mother, she had developed a peculiar defense reaction which consisted in yelling at the top of her voice whenever she was upbraided. The yelling was apparently instrumental in bringing the neighbors to the scene. These kind souls took it for granted that the mother had been beating the girl and scored her for her cruelty, despite the mother's strenuous denials. It did not take the patient long to discover the efficacy of such a procedure whenever she wanted to carry her point. The family history was not very encouraging. The father was said to be insane. One brother was feebleminded. The mother herself was of a medium grade of intelligence, but she was eager and willing to cooperate in improving her daughter.

Examination.—The child was 16 pounds underweight. She was pale, and her face had a drawn, sad expression. She looked and acted the part of the shut-in type of personality. Except for the anemia and loss of weight, the physical examination was entirely negative. Her reaction for the first few days was one of reticence and sullenness. She spoke only when directly questioned. Gradually, after many heart-to-heart talks with various social workers, she became more communicative and told of her childish desires and longings. Those that were possible of fulfilment, such as piano playing, were encouraged. Every effort was made to gain her confidence, and our patience was finally rewarded. We found that her apparent shut-in and egocentric personality was but a mask for a sweet-natured child who had been unable, through lack of proper help, either to formulate her difficulties concretely or to solve them.

After remaining at the Psychopathic Institute for several months, she was sent home happy and contented. From all reports her home adjustment is complete.

In the second group, I have placed those who show some form of psychopathy as a result of an endocrine disturbance. An example of this group is reported herewith.

CASE 5.—*History.*—J. C., aged 7, was referred for observation because he was retarded both in his physical and in his mental development. Examination showed that there was a hypo-activity of the anterior lobe of the pituitary gland of the Loraine-Levy type; in other words, a preadolescent hypoactivity of the anterior lobe of the pituitary gland. This child was put on whole gland pituitary extract, and has improved both physically and mentally.

In the third group are those children who have definite organic lesions of the central nervous system that account for their mental subnormality. Some of the lesions found were congenital syphilis, poliencephalitis and Little's disease. In this group belongs Case 2.

The fourth group contains the children who are definitely feebleminded, children who, while apparently in the best of physical health, are endowed with a mental capacity insufficient to cope with their environment. Our aim with such children is to find whether they are educable; in other words, whether they can be taught some occupation which, under supervision, will make them self-supporting and self-respecting members of the community. In this way, many can be saved from spending their lives in institutions.

SUMMARY

From this brief presentation, the value of such an intensive study of the subnormal child may be thus summarized.

It is of value from the standpoint of pure science in that such a study adds to our knowledge of subnormality in children. It is a method of approach other than custodial, and looks for origins and causes.

It is of value to society at large in that it restores to society only those who will be able to harmonize with it.

It gives to the unfortunate child the advantage of every possible measure known to medical science that might throw light on his condition and help to overcome his handicap.

It will stop the indiscriminate sending of children to institutions, on the findings of a psychometric test alone.

4 West Seventh Street.

Physiologic History.—After Haller, the principal landmark of eighteenth century physiology is undoubtedly the *Statical Essays* (1731-1733) of Stephen Hales, an English clergyman.—Garrison.

THE DANGERS OF PITUITARY EXTRACT

SOME CLINICAL AND EXPERIMENTAL OBSERVATIONS

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Oliver and Schaefer,[1] in 1895, first demonstrated the pressor action exerted by extracts of the posterior lobe of the pituitary, while Dale [2] described the stimulant action on uterine muscle. Blair Bell [3] employed pituitary extract therapeutically in 1909 for its uterine action, advocating its use to reduce bleeding in placenta praevia, post partum hemorrhage, and in cesarean section.

The obstetric employment of the new drug rapidly became popular in Germany, and no distinct limitations to its use seem to have been at first recognized. During 1911 and 1912, German medical periodicals were filled with eulogistic accounts of its marvelous action. According to these early reports, it was devoid of all danger. The use of forceps was relegated to the past; the obstetrician need have only a few ampules of pituitary extract and a hypodermic syringe in order to cope with any emergency that might arise. From Germany, the use of pituitary extract in obstetrics spread like a scourge to all parts of the world, being especially prevalent in those parts of our own country and of South America that were most under the influence of German "Kultur." Finally, the conservative South took up its use, and field workers of the health department tell us that country practitioners use it almost as a routine measure in their obstetric cases. In certain parts of Cuba, Porto Rico and South America, its use became so common that it was adopted by the midwives, with dire results.

It was not long, however, before a note of warning was heard in this almost universal chorus of praise. Edgar,[4] as early as 1913, stated that even small doses of pituitary extract given during the first stage of labor had caused fatal compression of the fetus, premature separation of the placenta, or even rupture of the uterus. In thirty cases in which he had used the drug in the first or second stages, there were four stillbirths, and three instances of deep laceration of the cervix, necessitating sutures to control the hemorrhage. Polak [5] reports a case of uterine rupture and said that the extract had no place during the first stage of labor. Espeut [6] also emphasizes the danger of a possible uterine rupture. Winn [7] has pointed out that pituitary extract is a dangerous substance, intimating that the only excuse for its employment is ignorance; "If there is any definite indication for the use of forceps, and you know how to use them, why not use them?" he pertinently asks. He had seen a case of uterine rupture and death following the employment of pituitary extract. Kosmak [8] points out that clinical action of pituitary extract may result in lacerations of the cervix and perineum, or complete rupture of the uterus. In addition, post partum hemorrhage and asphyxiation of the child are liable to occur. De Lee [9] was personally aware of twenty cases of ruptured uteri following the use of pituitary extract. He suggests that the use of this drug after a cesarean section may be the cause of hemorrhage or peritonitis, the spasmodic uterine contractions elicited causing the sutures to cut through. Litzenberg [9] reports hemorrhage in the brain of the fetus following the administration of pituitary extract to the mother. According to Jimenez,[10] pituitary extract is useful "only to the accoucheur and, possibly, to the gynecologic specialist later."

The most exhaustive study of the bad effects of pituitary extract has been made by Mundell.[11] In 1915 he analyzed the results following the use of pituitary extract in 3,952 obstetric cases; and later he[12] reported 1,293 cases collected during 1915 and 1916. The results in these two series are outlined in Table 1.

Wertenbaker [13] reported two cases of uterine rupture. Both patients were multiparas with normal pelves, dilated cervices and ruptured membranes. The fetuses were large, weighing slightly more and slightly less than 9½ pounds, respectively. Each mother had received a single intramuscular injection of 1 c.c. of pituitary extract, and had promptly collapsed, one succumbing a little later.

TABLE 1.—EFFECTS OF PITUITARY EXTRACT OBSERVED BY MUNDELL

	First Series	Second Series
Total number of cases	3,952	1,293
Uterine rupture	8 (1 in 494)	12 (1 in 106)
Fetal deaths	27 (1 in 146)	34 (1 in 38)
Asphyxia pallida	.....	41 (1 in 32)

Maxwell [14] reports the case of a woman, aged 44, who had gone through eight full term pregnancies and seven spontaneous miscarriages. Forceps were used to terminate the sixth pregnancy on account of fetal indications. The seventh pregnancy was terminated by spontaneous delivery, after labor lasting ten hours, the child weighing 9 pounds. A painless hemorrhage occurred when she was at term with her eighth pregnancy. At this time she refused to go to the hospital, but entered two weeks later, with a history of slight bleeding of a week's duration. The membranes ruptured an hour after her entrance, and pains commenced five hours later. When the cervix was fully dilated and the head fixed, she was given ⅓ c.c. of a pituitary preparation intramuscularly. The head reached the spines in one and one-half hours, and the dose of ⅓ c.c. was repeated. Air hunger was complained of, and death occurred almost immediately. Necropsy revealed a child of 10 pounds in the left occipito-anterior position. There was an incomplete rupture of the uterus, extending through the uterine vessels.

Grosvenor [15] reports the case of a healthy young primipara. The fetus was in the left occipitoposterior position, the head firmly engaged; the cervix was moderately dilated. Four minims of pituitary extract was injected, and at the end of thirty-five minutes, 5½

1. Oliver and Schaefer: J. Physiol. **18**: 277, 1895.
2. Dale: Biochem. J. **4**: 427, 1910.
3. Bell, Blair: Biochem. Centralbl. **9**: 631, 1909.
4. Edgar, J. C.: Pituitary Extract in Uterine Inertia, abstr. J. A. M. A. **60**: 1733 (May 31) 1913.
5. Polak, J. O., in discussion on Cragin, E. B.: Under What Conditions Should Uterine Inertia Be Treated by Artificial Delivery? abstr. J. A. M. A. **60**: 1734 (May 31) 1913.
6. Espeut: München. med. Wchnschr. **60**: 1774, 1913.
7. Winn, John F.: J. A. M. A. **63**: 1978, 1914.
8. Kosmak, G. W.: The Use and Abuse of Pituitary Extract, J. A. M. A. **71**: 1117 (Oct. 5) 1918.
9. In discussion on article by Kosmak (Footnote 8).
10. Jimenez, N.: Rev. Clin. **1**: 149 (March) 1917; abstr., J. A. M. A. **69**: 597 (Aug. 18) 1917.
11. Mundell, J. J.: Am. J. Obst. **73**: 306 (Feb.) 1916.
12. Mundell, J. J.: The Present Status of Pituitary Extract In Labor, J. A. M. A. **68**: 1601 (June 2) 1917.
13. Wertenbaker, William: Spontaneous Rupture of Uterus Following Administration of Pituitary Solution, J. A. M. A. **68**: 1612 (June 2) 1917.
14. Maxwell, Alice F.: Uterine Rupture At Term After Pituitary Extract, J. A. M. A. **74**: 1378 (May 15) 1920.
15. Grosvenor, Wallace F.: Surg., Gynec. & Obst. **25**: 221, 1917.

minims. Collapse followed the second pain after the last injection. Death occurred, and a complete uterine rupture was revealed at necropsy.

Telfair [16] reports a case of ruptured uterus following the administration of two doses of pituitary extract, each 1 c.c., the patient having a contracted pelvis. Marcondes [17] reports five fatal cases occurring after the use of the drug by midwives. Marchand [18] encountered a case in which eversion of the uterus and fatal hemorrhage occurred.

It is rather significant that most of the cases reported occurred after administration of the drug by the "other fellow." There seems to be some reticence felt by the "other fellow" to report his own catastrophes, which suggests to us that a few instances of uterine rupture have followed the use of this drug but have not become generally known. Our own experience with pituitary extract has been very limited; we can truthfully say that we have not been so unfortunate as to witness any serious consequences following its employment, but we have been able to resurrect a few interesting reports from the note books of the student interns of the Medical College of Virginia. While the students are not allowed to use pituitary extract in outpatient obstetric work, some of them are interns in the local hospitals and are allowed to turn in the histories of patients that have been delivered in the hospital.

CASE 1.—A white primipara, aged 24, expected to be confined, Jan. 7, 1916. The past history was negative. The external measurements were: interspinal, 24 cm.; intercristal, 28 cm.; trochanteric, 30 cm.; Baudelocque's diameter, 19 cm. No internal measurements were made. The patient went into labor, Feb. 1, 1916, at 9 p. m. The membranes ruptured early in the first stage; the second stage began at 1:30 a. m., February 2, lasting four hours. Pituitary extract, 1 c.c., was injected. The placenta was delivered spontaneously in fifteen minutes. The mother died five hours after delivery; necropsy was refused.

CASE 2.—A colored tertipara, age not stated, was brought to the Virginia Hospital at term with a diagnosis of transverse presentation, April 1, 1917. Bags were inserted, and the next day a Braxton Hicks version was performed, which was very difficult. A foot was brought down, and 1 c.c. of pituitary extract was injected. Twenty minutes was required for the extraction of the child. During the third stage, the mother collapsed and died before the placenta was delivered. Necropsy revealed rupture of the uterus in several places and the presence of a well marked Bandl's ring. The child was stillborn.

CASE 3.—A colored tertipara, aged 25, was brought to the Virginia Hospital, Aug. 9, 1917, with a history of having been given pituitary extract by her attending physician. There was no record of pelvic measurements. On entrance into the hospital there were no labor pains; vaginal examination revealed the cervix almost completely torn off. Laparotomy was performed and the uterus was torn near the cervix; the dead fetus lay free in the abdominal cavity. Supravaginal hysterectomy was performed, but the mother died on the third day.

EFFECT ON THE CHILD

Most attention has been directed to the undesirable action of pituitary extract on the mother; injury to or death of the child is mentioned incidentally. Wilkerson [19] has reported convulsions occurring in the child after the mother had been given pituitary extract prior to delivery, and Sheffield [20] reports a similar case. Intracranial hemorrhage is a common finding in stillborn children; Spencer,[21] Archibald,[22] Warwick [23] and Bailey [24] have reported its occurrence in from 40 to 50 per cent. of the cases examined. We do not wish it to be inferred that we consider the use of pituitary extract as the sole cause of intracranial hemorrhage of the newborn; such factors as asphyxia and trauma to the head are only too obvious influences, and attention has been called to the possibility of hemorrhage in this locality being simply a manifestation of the hemorrhagic diathesis.

Bailey [24] has seen hemorrhages into the ventricles of an infant delivered by cesarean section, and Osler [25] describes a similar condition in the brain of a fetus in the uterus of a woman dead of typhoid fever. We do believe, however, that the action of pituitary extract creates conditions ideal for the production of intracranial hemorrhage in the child, and this supposition is supported by the small number of cases of stillborn children or of children dying soon after birth on whom we have been able to secure necropsies. Through the kindness of Dr. S. W. Budd of the Johnston-Willis Sanatorium, and Dr. H. S. Thatcher of the Memorial Hospital, we are able to report the results of the examination of the brains of twelve such infants. One of the bodies was secured from the department of anatomy, and no history was obtainable; this case will not be included in the series, because we are unaware as to whether pituitary extract was used or not. No hemorrhage was present in this case. For the sake of brevity, only a brief obstetric history and the anatomic diagnosis will be given.

1. Full-term, stillborn baby; mother eclamptic. Anatomic diagnosis; prematurity; marked postmortem changes.

2. Full-term, stillborn baby; spontaneous delivery. Anatomic diagnosis, stillborn; overdue.

3. Premature baby; mother preeclamptic; bags and version. Anatomic diagnosis, atelectasis; marked hyperemia of all the organs; marked distention of the carotid veins; hyperemia of the brain; petechial hemorrhages of the right lung; patent ductus arteriosus and foramen ovale.

4. Premature baby; spontaneous delivery; died fifth day. Anatomic diagnosis, prematurity; a huge hemorrhage in the left lateral ventricle of the brain; *no subdural hemorrhage.*

5. Premature baby; placenta praevia; bags and version. Pituitary extract, 0.5 c.c. Baby lived six hours. Anatomic diagnosis, foramen ovale and ductus arteriosus; fetal lobulation of the kidney; marked hyperemia of the brain and a huge *subdural hemorrhage.*

6. Premature baby; mother manic-depressive. Cervix rigid; packed with gauze and mother given a total of 3 c.c. of pituitary extract in 4-minim doses. After twenty-four hours, packing removed and a No. 4 bag introduced. Additional 6 c.c. of pituitary extract given in 0.5 c.c. doses; practically no effect produced on uterine contractions; these had to be stimulated by traction on the bag. Baby delivered by version. Anatomic diagnosis, prematurity; marked hyperemia of the brain; *subdural hemorrhages.*

7. Labor induced two weeks before term because of large placental infarct. Bags and version. Baby died in twenty-four hours. Anatomic diagnosis, marked hyperplasia of the thymus, this gland reaching and adherent to the diaphragm. Marked hyperemia of the brain.

8. Face presentation; version. Anatomic diagnosis, marked postmortem autolysis (death in utero); hyperemia of the brain, kidneys, suprarenals and pancreas; hemothorax, atelectasis; hemoperitoneum, patent foramen ovale; traumatic fracture of femurs, traumatic rupture of the abdomen.

9. Premature baby; labor induced because of maternal nephritis; bags and version. Baby lived four hours. Anatomic diagnosis, marked hyperemia of the brain; external hydrocephalus.

16. Telfair, J. H.: Am. J. Obst. **73**: 655 (April) 1916.
17. Marcondes, V.: J. A. M. A. **67**: 717 (Sept. 2) 1916.
18. Marchand, D. P.: Bol. de la Asoc. Med. de Puerto Rico **14** (March) 1918; abstr., J. A. M. A. **70**: 1509 (May 18) 1918.
19. Wilkerson, F. W.: South. M. J. **7**: 614, 1914.
20. Sheffield, Herman B.: Am. J. Obst. **69**: 379, 1914.
21. Spencer, Herbert: Trans. Obst. Sec., London, **33**: 203, 1892.
22. Archibald, Edward: American Practice of Surgery **5**: 209.
23. Warwick, M.: Am. J. M. Sc. **158**: 95 (July) 1919.
24. Bailey, H.: Am. J. Obst. **1**: 52 (Oct.) 1920.
25. Osler, William: Principles and Practice of Medicine **8**: 987.

10. Mother eclamptic; delivered by low forceps; double cleidotomy. Anatomic diagnosis, trauma of neck; petechial hemorrhages of the heart; hemopericardium; hemoperitoneum; hyperemia of the brain, marked postmortem degeneration.

11. Shoulder presentation; version and extraction after twenty-four hours' labor. Child died on fifth day. Anatomic diagnosis, bronchopneumonia; no intracranial changes.

Though the number of cases is small, it is indeed significant that subdural hemorrhage occurred in none of the nine cases in which the mother had not received pituitary extract, and that subdural hemorrhage occurred in both of the cases in which pituitary extract had been given to the mother; once in the small dose of 0.5 c.c.

If we are right in the assumption that the possibility of intracranial hemorrhage is increased by the use of pituitary extract, the death of the child is not the only catastrophe to be feared. Heard [26] reports three cases of diffuse nervous lesions due to cerebral hemorrhage in infancy and resulting in terrible afflictions; in one case at 9 months; in the second at 13 months, and in the third at 19 months. In each case the parents were healthy and the mother was a multipara with a history of previous normal births. There was no history of prolonged or difficult labor, but in each instance pituitary extract was administered early in labor, and delivery was precipitated shortly afterward.

INEFFICIENCY OF STANDARDIZATION

Commercial preparations of the extract of the pituitary gland probably contain at least two active principles. The manufacturers emphasize the fact that their preparations have been "physiologically standardized," but the accepted method for this assay is based on the uterine action of the preparation, and may furnish no indication of the action on other structures. Indeed, as judged by the examination of some of the commercial preparations, one is led to the belief that even the uterine action of these different samples may vary considerably. Therefore, at the outset it may be said that in using pituitary extract as at present obtainable, the physician is dealing with a substance that is likely to show qualitative and quantitative differences in action, regardless of peculiarities of the individual patient. Therapy is difficult enough when we deal with drugs of constant composition; it is rendered doubly so when an added uncertainty is introduced by the use of those which cannot be accurately standardized.

ACTION OF PITUITARY EXTRACT

Considered as a whole, the action of pituitary extract is characterized by a stimulant action on the smooth muscle. In most cases this is believed to result from the influence that the drug exerts on the muscle itself, though it has been suggested that, in case of the intestinal muscle, nervous elements may be involved also. For the purpose of the present discussion, it is necessary to consider the manifestations of this action only as it concerns the circulation and the uterine contractions.

Unlike epinephrin, pituitary extract constricts blood vessels, regardless of their nerve supply. Thus, it is found that the pulmonary, cerebral and coronary vessels are apparently as markedly influenced as are the vessels in the splanchnic region. The renal vessels are not constricted; indeed, dilatation from the rise in blood pressure is seen here. The heart muscle is not acted on in the same way as the smooth muscle; instead of the stimulation that is seen in the case of the latter, the action of pituitary extract on the cardiac muscle is one of depression. In the intact animal, this direct depressant action on the cardiac muscle is reinforced by the stimulation of the cardiac-inhibitory center. Indeed, with some samples the inhibition of the heart from the stimulation of the center may be the more important factor in the production of the cardiac weakening. It is usually stated that the cardio-inhibitory center is stimulated by the rise of pressure; but this is inadequate to explain the action in all cases. In analyzing the various effects on the circulation, it is apparent that the efficiency of the heart is lessened in three ways:

First, there is the direct depression of the muscle; second, the rise of the blood pressure throws an additional load on the heart, and, third, the constriction of the coronary vessels will lessen the flow of blood to the heart muscle and in this way tend to interfere with its proper nutrition. It is possible that conditions may be encountered in which there is a circulatory disturbance resulting simply from a loss in the tone of the vascular muscle. More often, however, there is a coincident depression of the heart, if indeed this is not the more important factor. Pituitary extract may be beneficial in the cases in which there is only undue vascular relaxation; when there is likewise cardiac weakening, it would seem to be distinctly contraindicated. While this is a consideration more applicable to the use of pituitary extract in surgical conditions, it may be of importance from the obstetric standpoint also. Vogt has emphasized the danger of maternal collapse from the influence that pituitary extract exerted when used obstetrically. The uterus is particularly susceptible to the stimulant action of pituitary extract. A peculiarity of the action here is that the functional state of the organ influences the intensity of the action of the drug, this becoming more powerful with the progress of the pregnancy. The lack of efficiency of pituitary extract early in pregnancy is illustrated in one of our cases, in which a total of 9 c.c. was administered with apparently no effect on the uterine contractions. It is stated not infrequently, and apparently is widely accepted, that the action of pituitary extract differs essentially from that of ergot. Ergot, as is well known, may cause a tetanic contraction of the uterus, with disastrous results. Pituitary extract, on the contrary, it is asserted, tends simply to accentuate the normal movements of the organ. The sequence of contraction and relaxation continues undisturbed, and the danger of tetanus is never encountered with any reasonable dose. Attempts to demonstrate this action of pituitary extract by means of animal experiments have, in our experience, invariably proved unsuccessful, both ergot and pituitary extract causing an increase in the tonus which was sustained, and leading to the development of small contractions superimposed on the tonic rise.

A search of the literature has failed to reveal any positive evidence in support of this claimed freedom from a tetanizing action manifested by pituitary extract in its action on the uterus. Lieb [27] believes that there is no tendency to tetanus, but Sollmann [28] states that these results "must be viewed with some suspicion."

In addition, we have been able to secure evidence that a similar tetanizing action is produced on the human uterus in situ. By introducing a Voorhees bag into the cervical canal and connecting its interior with a mercury manometer, the changes in pressure due to the uterine contractions were graphically recorded

26. Cited by Mundell (Footnote 12).

27. Lieb, Charles C.: Am. J. Obst. **71**: 209, 1915.

28. Sollmann, Torald: Manual of Pharmacology, Philadelphia, W. B. Saunders Company, 1918, p. 343.

on the smoked surface of a kymograph. Even doses of pituitary extract as small as 2 minims cause a persistent increase in the tone of the uterus. As is the case with the uteri of lower animals, there are smaller contractions superimposed on the tonic increase in pressure, but the base line does not return to its original level for some time, as long as twenty-eight minutes elapsing after one dose of 2 minims; while after the injection of 0.5 c.c., the increased tonus persisted thirty-five minutes. In two tracings, the level of this new base line was above that of the height of the individual contractions occurring before the administration of the drug; in other words, there was a constantly maintained intra-uterine pressure decidedly higher than that existing at *the height of the individual contractions* before the drug was injected.

COMMENT

Our observations are not unique. Kosmak [8] reports tetanus of the uterus resulting from the administration of 1 c.c. of pituitary extract before an extraperitoneal cesarean section; and both Mosher [29] and McNeil [30] have observed similar manifestations of the action of the drug on the human uterus when resistance was encountered to the passage of the fetus.

The Memorial Hospital of Richmond offers a favorable opportunity for a clinical study of the results of the use of pituitary extract. A number of obstetricians are on the staff of this institution, and a variety of obstetric procedures are employed. Miss Mary C. Allen has collected for us the records of all the full-term deliveries that have occurred during the last six months in the Memorial Hospital, the cases being divided into two groups, determined by whether pituitary extract had or had not been employed before delivery. The results obtained are given in Table 2.

TABLE 2.—COMPARATIVE RESULTS WITH AND WITHOUT PITUITARY EXTRACT

	Number of Cases	Infant Deaths		Free from Lacerations		Lacerations—1st Degree		Lacerations—2d Degree	
		No.	%	No.	%	No.	%	No.	%
With pituitary extract	34	3	8.8	11	32.3	12	35.3	11	32.3
Without pituitary extract	59	2	3.4	36	61	16	27.1	7	11.8

It might be argued that these figures are unfair, as it is probable that the pituitary extract was employed in only the more difficult cases. This is not the case. The pituitary extract was given in most instances as a routine measure; in the nonpituitary series are included cases in which delivery was effected by version and forceps as well as the normal cases, constituting a more unfavorable group than the first (aside from the use of pituitary).

CONCLUSIONS

The clinical evidence indicates that the use of pituitary extract is accompanied by danger to the mother and to the child. The injurious action on the mother is manifested by an increase in the frequency of perineal lacerations and the occasional occurrence of uterine rupture, *in cases in which all the indications for the use of the extract are present.*

The dangers to the child consist in the greater tendency toward the production of asphyxia and toward the occurrence of intracranial hemorrhage.

From the experimental evidence, it is apparent that the circulatory action of the drug is undesirable, and that it tends to cause tetanus of the uterus in lower animals and also in human beings.

We do not wish to convey the impression that the use of pituitary extract always results in a catastrophe; the vast number of cases in which there was no apparent injury renders this attitude absurd. We do believe, however, that there is always the possibility of harm resulting even from the so-called "safe" doses, a danger so real that it is scarcely justifiable to risk it for the sake of the few added hours of rest or those left free to be devoted to other tasks by the "obstetrician."

MASSIVE DOSES OF ALKALI IN TWO CASES OF IMPENDING DIABETIC COMA

WILLIAM E. CARY, Ph.D., M.D.
CHICAGO

Earlier writers on the clinical management of acid intoxication in diabetes, beginning with Naunyn [1] and his associates, advocated the use of massive doses of alkali and recorded strikingly beneficial results in many cases as a result of this treatment. The observed amelioration by alkali of the symptoms which attend the development of the picture of true dyspneic coma in diabetes had its parallel in the laboratory, since as early as 1877 Walter,[2] in his report concerning the effect of acid on the animal body, had shown that symptoms of acid poisoning, following a specified dose of acid, could be prevented from occurring, or be markedly affected after they had occurred, by a suitable administration of alkali. In fact, the observed beneficial effects of alkali on the symptoms of developing dyspneic coma formed, and they still form, one of the fundamental stones on which the conception is based—that true diabetic coma is the picture of acid poisoning.

This conception has become generally accepted. In recent years, however, certain writers have taken the position that the use of alkali, and specifically sodium bicarbonate, in diabetic acidosis is of no particular value; that on the contrary it may be harmful; that its employment has been greatly abused, and that the administration of alkali in diabetic acidosis should be discouraged.

My purpose in the present paper is to report two cases, with extreme alkali deficits and symptoms of severe acid intoxication, in which massive doses of sodium bicarbonate were followed by striking clinical improvement. At the time when treatment by alkali was begun, the patient in each case was apparently in imminent danger of passing into an irretrievable comatose state. In both instances it seemed fair to assume that all the benefit which could be obtained by rest in bed, the application of warmth, gentle relaxation of the bowels and fasting had already been attained, and that further adherence to the employment of these measures alone would result in coma and death. In fact, so far as can be learned from the literature, it would appear that no patients untreated with alkali have been observed to recover with alkali deficits as great as were found in these.

29. Mosher: Surg., Gynec. & Obst. **22**: 108.
30. McNeil: Am. J. Obst. **74**: 432.

1. Naunyn: Der diabetes mellitus, 1906.
2. Walter: Arch. f. exper. Path. u. Pharmakol. **7**: 148, 1877.

PRINCIPLE OF TREATMENT

The administration of alkali was carried out with the view of introducing into the body in the shortest possible space of time a total quantity of sodium bicarbonate sufficient to diminish the alkali deficit until this deficit should be less than that which commonly occurs with beginning symptoms of acid poisoning in diabetes. Thus, the objective was to administer a dose of alkali sufficient to raise the volume percentage of the plasma carbon dioxid to at least 40, and to introduce the dose in the shortest time possible without injury to the patient, to the end that further toxic action of the acid on the protoplasm of the cells might be stopped without the loss of an unnecessary hour. Otherwise, the destructive effect of the acid might progress beyond the point of possible repair.

METHODS OF TREATMENT

On the supposition that, with normal individuals, the volume percentage of plasma carbon dioxid averages about 65 (in accordance with the observations of Fitz, Cullen and Van Slyke, and with my own experience with the method which they introduced), the finding of an index of 15 would imply that the alkali reserve had sunk roughly to 23 per cent. of the normal. A plasma carbon dioxid of 40 in the same case would imply the existence of an alkali reserve amounting, roughly, to 61 per cent. of the normal. The difference is 38 per cent. Taking the total alkali reserve for a man of average weight as in the neighborhood of 225 gm. (from the observations of Sellards and others), then the dosage of alkali necessary to bring the plasma carbon dioxid index from 15 to 40 would be 38 per cent. of 225 gm., or 85.5 gm. The effort would therefore be to give the patient 85 gm. of soda as quickly as permissible. Setting six hours as the time within which the dose should be given, and four hours if possible, three routes of administration are available: (1) mouth or stomach tube; (2) bowel, or (3) vein. These will be discussed in the reverse order.

Intravenous administration is to be considered only in cases in which administration by other routes proves insufficient. As is well known, a sodium bicarbonate solution cannot be boiled without partial conversion of the bicarbonate to the carbonate; and for the preparation of a sterile solution, special precautions are necessary. One may follow the plan used by Sellards, or the powdered bicarbonate may be sterilized in sealed tubes and then added to sterile water, making a 4 to 5 per cent. solution. When all is ready, 400 c.c. of this solution per hour is about as much as one should attempt to give; and unless the material has been prepared beforehand, its preparation is liable to cause a loss of valuable time and further delay may be caused by assembling the paraphernalia necessary for the intravenous injection itself.

By the bowel, one may employ a 3 per cent. solution and succeed in giving it at the rate of 300 c.c. per hour by the drip method. If occasionally a larger dose is successfully given, more often it will not be possible continuously to administer as much as this. If we succeed in giving 9 gm. of the soda per hour by this route for three or more hours, it is as much as can be anticipated.

Administration by mouth is the most satisfactory method in diabetic cases. Although some diabetic patients with high acid intoxication vomit during the early stages, they will usually retain sodium bicarbonate surprisingly well. They differ in this respect from many cases of acidosis with nephritis. I have usually found it possible to give as much as 20 gm. of sodium bicarbonate by mouth per hour without vomiting, and feel that this is the method of first choice in every case. In comatose cases, the alkali may be given if necessary through the stomach tube. However, a case in which the patient has sunk completely into coma is usually hopeless; and unless a patient is actually comatose, it will commonly be found possible to nurse the alkali solution in by mouth, a spoonful at a time, if the effort is faithfully made. If the rate of administration by mouth falls behind 15 gm. per hour for one or two hours, accessory methods should be called on early to make up this deficiency: first, the rectal drip, and then the intravenous injection, if the latter is unavoidable. The introduction of massive doses of soda necessarily increases the osmotic concentration of the body as a whole. Increased thirst is therefore to be expected, and great care should be taken to provide for an adequate intake of water along with the soda. For the purpose of supplying water, the bowel may well be used, thus reducing the volume of liquid given by stomach. To this end the oral administration of the bicarbonate may be supplemented by the rectal administration of physiologic sodium chlorid solution at the rate of from 400 to 500 c.c. per hour.

The degree of alkali deficiency was measured by the Van Slyke method,[3] the readings all being made in duplicate by the same observer immediately after the withdrawal of the blood. A further check on the degree of alkali deficiency was obtained by testing the urine with indicators, although it was not to be expected that the urine would become alkaline. In neither of the cases was the urine alkalized at any time, although very large amounts of sodium bicarbonate were given.

REPORT OF CASES

Both of the patients were admitted to Dr. R. T. Woodyatt's service in the Presbyterian Hospital, and the treatment was undertaken under his supervision.

Case 1.—L. W. S., a man, aged 23, had been well instructed in diabetic management at a previous admission. In fact, he had been employed by the hospital and the Otho S. A. Sprague Institute to do many of the more time-consuming, chemical, laboratory tests, and especially those concerned with diabetes. He had been keeping sugar free on about 3,000 calories for four years. He contracted a severe "cold" two weeks before entering the hospital, and had virtually starved himself for one week before admission. On admission, Dec. 4, 1920, he was markedly emaciated and in poor condition after an all night's journey. At 11 a. m., when admitted, the respirations were 26 per minute, excessively deep and painfully labored, the pulse 130, of only fair quality, and the leukocyte count 23,200. The face was definitely flushed and the patient highly irritable, and the mentality confused and retarded. He felt sleepy, and in answer to questions was unable to remember words he wished to use. The urine contained large amounts of sugar, acetone and diacetic acid. At 1 p. m. the respirations were 25, pulse 120 and the plasma carbon dioxid reserve, 13.63 per cent. by volume. At 3 p. m., 8 gm. of sodium bicarbonate, with 75 gm. of glucose, were given by mouth, and a rectal drip of 3 per cent. sodium bicarbonate was started. The latter could not be retained, and was discontinued. The objective of giving the patient at least 20 gm. of the bicarbonate per hour was kept constantly in mind. By the time he had received 25 gm. of soda, he was feeling better and said he breathed easier than he had for a week previously. After 50 gm. had been given, the patient was found resting on one elbow reading a magazine. The respirations were then

3. Van Slyke, Cullen and Stillman: Proc. Soc. Exper. Biol. & Med. 12: 184, 1915.

ly 20 and the pulse 96, while the alkali reserve had risen to .09 per cent. by volume. The urine was still strongly acid. oda by mouth was continued at the rate of about 10 gm. ery half hour until a total of 80 gm. had been given. The xt morning, Dec. 5, the respirations were 16, pulse 84, and e alkali reserve 31.52 per cent. by volume. The patient was pt on absolute starvation at this time, more alkali was then ven, and after a total of 106 gm. had been reached, the kali reserve was 32.17 per cent. by volume. The alkali was en stopped for eighteen hours, as it was felt that the patient as out of immediate danger of coma; but it was again arted, on December 6, simply to determine by Sellards' test e amount of alkali deficiency. After a total of 198 gm. had en given, the reserve was 41.45 per cent. by volume and the rine still strongly acid. December 7, after a total of 350 gm. ad been given, the alkali reserve was 64.61 per cent. by olume; but still the urine was acid. The patient had devel- ped a mild diarrhea and was tired of taking soda, so it as discontinued. He had received 350 gm. of sodium bicar- onate in seventy-two hours, raising the alkali reserve from 3.63 to 64.61 per cent. by volume without rendering the urine lkaline at any time. Naturally, this figure does not repre- nt the actual deficiency, since the tendency to depletion of lkali had been going on continuously during the period of eatment. He did not desugarize after four days of absolute arvation, and was then fed for eight days and then desugar- ed. The diet was now built up gradually to 610 calories, hen sugar appeared. The diacetic acid disappeared on the ighth day, and the acetone on the twelfth day after admission.

Case 2.—A. C., a boy, aged 15 years, had left the hospital, uly 20, 1920, unusually well educated in diabetic manage- ent, with a tolerance of 2,400 calories. He remained sugar ree on his diet until he "caught cold" one month before the econd admission. He attempted desugarization at home with- ut success. The day before admission his throat became sore, nd on the morning of admission he developed hyperpnea, lushed face, vomiting and great drowsiness. He was admitted o the hospital at 1 p. m., Dec. 27, 1920, with deep, unlabored reathing, 36 per minute, and with a pulse of 136. The face vas flushed without any evidence of cyanosis, he was drowsy, nd the eyelids were half closed as he lay in bed. His speech vas thick and slow, and he seemed confused in what he tried o say. The urine contained much sugar, acetone and dia- etic acid, and the breath was heavy with acetone. The eukocyte count was 25,300, and the plasma carbon dioxid vas 14.31 per cent. by volume. He was immediately given sodium bicarbonate by mouth; and, as this was well tolerated, o attempt was made to give it by proctoclysis. By 6 p. m., 40 gm. had been given and the patient was breathing much easier, 30 times to the minute. At 10 p. m., 80 gm. had been given; the respirations were 28, the pulse 116, and the plasma carbon dioxid reserve 31.86 per cent. by volume. The alkali was discontinued and started at 7 the next morning, when he respirations were 22 and the pulse 100 per minute. At 4 p. m., December 28, after the patient had received 160 gm. of soda, the respirations were 20, the pulse 96, and the plasma carbon dioxid 45.83 per cent. by volume. The soda was con- tinued until 240 gm. had been given in forty-three hours, with a drop in the respiration from 36 to 20, and a decline of the pulse rate from 136 to 96. The patient was on an absolute fast for four days without becoming sugar free. He did not become completely acetone free at any time. He became demoralized and was finally permitted to go home, Jan. 15, 1921, while we were still unsatisfied that the greatest possible improvement from diet had been reached.

COMMENT

It is not my purpose to advocate the unrestricted use of alkali in diabetic acidosis. In harmony with others, I have seen cases with alkali reserves of 30 and under rise to a normal level without the administration of any alkali. Nor is it thought to be necessary to give enough alkali, as a routine, to bring the reserve to normal and alkalize the urine even in cases of severe acid intoxication. My experience indicates, however, that in cases of precoma in diabetes with low reserve of alkali, the symptoms of acid intoxication can be promptly eliminated by immediate recourse to alkali—preferably by mouth but, if absolutely necessary, by other routes in addition—when, as in cases such as those described above, no other precedure alone will avert death. The importance of getting from 25 to 50 gm. of the alkali into the body within the first two hours is emphasized. The reaction of the urine should be carefully observed, and frequent tests of the urine or blood made to prevent overalkalization. In severe cases, the immediate danger of coma passes when the reserve is brought to 30, and conservatism in going above 40 may possibly be wise, although I have never seen any harmful results that could be attributed to the use of alkali in these cases. The outlook for such cases as I have described is exceedingly grave unless something radical is done and done without further loss of time. Each of our cases had a fairly high tolerance before the acid intoxication was precipitated by infections.

Presbyterian Hospital.

Clinical Notes, Suggestions, and New Instruments

BILATERAL PULSE OBLITERATION IN THORACIC ANEURYSM

J. Ramser Crawford, M.D., Brooklyn

It is known that aneurysmal involvement of the thoracic aorta has been recognized for centuries. Textbooks dealing with the subject give numerous signs and symptoms encountered, any or all of which may be absent. According to Hirschfelder, Harvey was first to report alteration of the pulse in this disease. Subsequently, throughout the literature, inequality and retardation of the pulse are frequently referred to, while obliteration is seldom mentioned. The case here reported is unique in that bilateral obliteration of a discernible pulsation in the radials occurred.

REPORT OF CASE

History.—J. S. B., a white man, aged 52, salesman, seen, Oct. 27, 1920 (and twice following week), complained of severe occipital headache, pain in the back of the neck and shortness of breath, all of which began one and one-half years before. Headache had been almost constant since the onset except for a short time following the extraction of infected teeth. After a few months, more teeth were extracted, without result. There had been dizziness and cough for the last twelve months, and tingling in the left thumb for three months. During a "weak spell," six weeks before, his wife (a trained nurse) could not obtain the pulse. The patient had lost 20 pounds recently. He had had gonorrhea at 27. Syphilis was denied. His wife had had five miscarriages. The patient was actively engaged in business. He drove his car an average of 60 miles daily. The family history had no bearing on the present condition.

Physical Examination.—The patient was well nourished. The skin of the face and neck was dusky, and the eyes were sunken. There was a slight cyanosis of the lips and the lobules of the ears. The superficial veins of the face, neck and chest were visible, while those of the forearms were prominent. Very definite clubbing of the fingers, with slight cyanosis, was present. The arteries (radial and brachial) were easily palpated and compressible. No pulsation whatsoever was found in the radials, brachials or external carotids. There was visible pulsation in the sixth intercostal space to the outer side of the left nipple, and at the ensiform

cartilage. The angle of Ludwig was quite prominent. The apical impulse was fairly strong, and the heart rate increased. Over the upper two or three intercostal spaces, and more pronounced to the right of the sternum, there was a diffuse and slightly expansile impulse. There was no palpable impulse posteriorly. Tracheal tug was present. The apex of the heart was located in the sixth intercostal space, 4½ inches to the left of the midsternal line. The right border of the heart was difficult to map out. Auscultation over the mitral area revealed normal sounds. The heart rate was 120 a minute, but regular. Over the second and third interspaces and on each side of the sternum could be heard a soft systolic murmur followed by a muffled second sound. This murmur was audible in a degree over the greater part of the precordium. The impulse of the abdominal aorta was forcible. The external iliacs and femorals showed normal pulsation. There was inequality of the pupils, but they reacted readily to light and accommodation. The retinal veins were engorged. Pyorrhea alveolaris was present. Hearing was slightly impaired. The patellar reflexes were markedly exaggerated, but equal. Slight tremor of the extended fingers and definite facial tremor were noted. A sphygmomanometer cuff was placed about the left thigh, and by palpating the popliteal artery the systolic blood pressure was found to be 125 mm. of mercury. Physical examination otherwise was negative. The findings suggested aneurysm. This diagnosis was immediately confirmed by the fluoroscope, which revealed involvement of the greater part of the arch and descending thoracic aorta. The heart was displaced downward and to the left, but was not enlarged. Large calcareous deposits were found in the upper lobe of each lung which, as later suggested by Dr. Harlow Brooks, probably represented old infarcts. Examination of the blood gave a strongly positive Wassermann reaction.

COMMENT

This case seems of unusual interest because of the absence of pulsation in the superficial arteries of the upper extremities and neck. Osler[1] once saw a case of thoracic aneurysm in which there was obliteration of the pulse in the abdominal aorta, and the femoral and peripheral arteries of the leg, yet the circulation was apparently unimpaired. Dieulafoy,[2] in writing of aneurysm, says, "In some cases total suppression of the radial pulse has been noted," but he does not say that pulsation in both radials was absent. Many causes have been given to explain suppression of the pulse in aneurysm. Strumpell[3] says, in part: "Either the trunk of the efferent vessel is compressed by the aneurysm, or the lumen of the exit of the vessel is itself involved in the aneurysm and hence the opening of the vessel is distorted or contracted, or partly occluded by coagulum."

1605 Eleventh Avenue.

COMPLETE INVERSION OF THE UTERUS

Farquhard Campbell, M.D., Kansas City, Kan.

Mrs. P. M., white, aged 15, housewife, whose personal and family histories were negative, went into labor at 11 p. m., Nov. 2, 1920. There were slight pains during the night which became severe and regular about 10 a. m., November 3, and she was delivered at 11:15 a. m. Labor was normal and very easy, and there were no lacerations of the perineum. The baby, when dressed, weighed 3½ pounds, which would account, at least partially, for the easy labor.

Half an hour after the termination of labor, as she seemed to be flowing slightly to excess, her physician gave a dram of fluidextract of ergot by mouth. Half an hour later she had severe and continuous uterine contractions. Because of the persistence of these, I was called in consultation, seeing her about two hours after the termination of labor, at which time the pain had almost ceased. The uterus was firmly contracted, and because of thin muscles could be seen bulging the abdominal wall. It was easily outlined by the hand. Her pulse was 110, but she was in good condition. I attributed the condition to her susceptibility to the ergot. Convalescence was uneventful, and the patient was in bed until November 14.

November 20, seventeen days after confinement, she got up about 8 a. m., and, while walking across the room, fainted and fell with her abdomen across the seat of a chair. She was placed in bed, regained consciousness quickly, and while not in pain felt somewhat uneasy. About 2 o'clock in the afternoon, thinking that her bowels would act, while sitting on a slop jar, she felt something give way and she fainted. She was placed in bed, and Dr. W. H. Stillwagon found the uterus inverted, outside the labia and bleeding profusely. The bleeding was controlled by pressure with gauze.

I saw her within half an hour. The uterus, about the size of a large orange, was inverted and outside the labia. Bleeding was checked to an ooze and there was evidence of slight shock. I placed the uterus in the vagina as high up as possible and sent her to the Bethany Methodist Hospital.

She was given gas-ether anesthesia, prepared in the usual manner, and the uterus was cleansed with sterile water. The cervix showed a bilateral laceration, deeper on the right side, and a very short cervix, this possibly being exaggerated by the completeness of the inversion.

METHOD OF REDUCTION

The cervical ring was dilated with the index fingers, grasped with three double tenaculum forceps, and placed so as to divide the cervical circumferance into three equal parts. The corpus uteri was gently compressed with the hand and reduction started, by the fingers, of that part closest to the cervix. As the reduction progressed, the fundus came within reach of the thumbs, which were placed on it, causing it to indent. As the fundus of the body went inside the external os, ovum forceps were placed in the indentation, and with gentle pressure the body of the uterus was carried upward in normal position.

The right laceration, which was the deeper of the two, was excised and repaired with twenty day catgut. After the repair the cervical canal was large enough to admit the index finger, thus assuring sufficient drainage. The uterus was packed lightly with iodoform gauze.

Convalescence was rapid and uneventful.

1. Osler: Principles and Practice of Medicine, Ed. 8, p. 853.
2. Dieulafoy: Text Book of Medicine **1**: 495.
3. Strumpell: Text Book of Medicine **1**: 462.

A SAFE AND EFFICIENT TUBERCULIN TEST

Herbert F. Gammons, M.D., Dallas, Texas

In order to test out the value of the intradermal tuberculin test, seventy patients were given this test at the Woodlawn Sanatorium. In half of the patients 0.001 mg. of old tuberculin was used, and in the remainder, 0.0005 mg. The results with the two strengths were practically the same.

Fifty patients had a very good reaction locally, and two had a slight general reaction which rapidly subsided. Fourteen had a slight reaction locally, three of which reactions were delayed. Six showed no reaction, and all but one of these were clinically not tuberculous, the one having a positive sputum.

All but eight of those showing a good reaction had a positive sputum, and one of these had had a tuberculous kidney removed, while another one had tuberculosis of the bone. The remaining six were clinically tuberculous.

Those showing slight or delayed reaction were either without apparent activity, or else their resistance was very low.

This method of using the tuberculin test seems to be safe and handy; and while in a recent publication I did not favor the use of tuberculin in diagnosis by the general practitioner, still in the light of these results it would appear that $\frac{1}{2000}$ mg. of old tuberculin injected intradermally in those suspicious cases would not be harmful in establishing a positive diagnosis.

The dosage for children from 6 to 14 should be $\frac{1}{6000}$ mg., and under 6 the von Pirquet test is best.

The results with the intradermal test are so marked that there can be no excuse, as a rule, for making a positive diagnosis in the suspects.

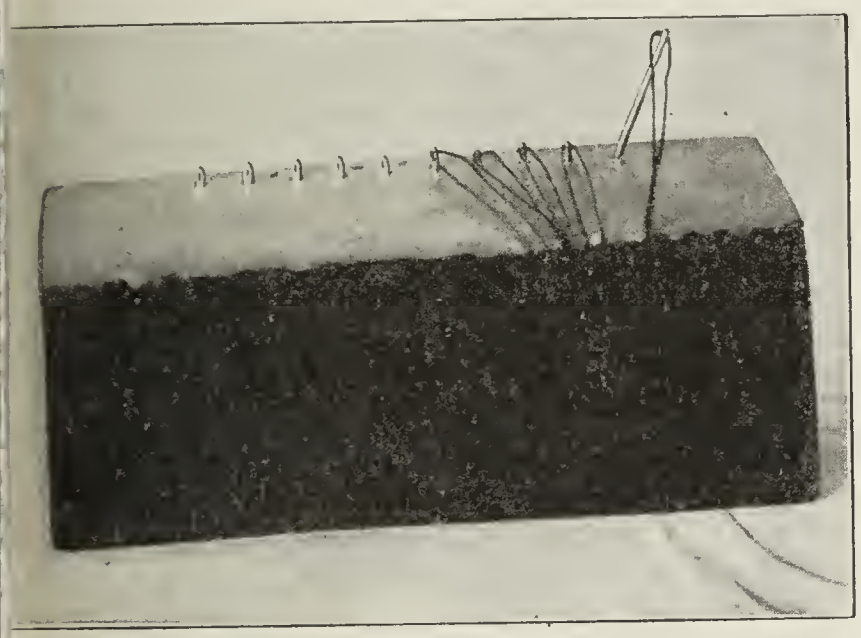
LEAD BLOCK FOR HOLDING RADIUM NEEDLES

CHARLES F. BOWEN, M.D., COLUMBUS, OHIO

Physicians using radium needles appreciate the difficulties threading them. My trouble has been to hold the needles perly while they are being threaded. It is not a question the mechanical difficulty of holding them so much as it is protecting one's fingers while the needles are being eaded.

The accompanying illustration presents a device that has en of the greatest mechanical help and at the same time ers protection from the rays given off by the radium. It nsists of a block of lead about 2 inches wide and 4 inches ng into which have been made ten holes for holding 100 mg. radium, distributed in ten needles.

The holes are of sufficient depth so that when the needles e placed in them just the eyes project above the surface of e lead block. The row of holes is placed along the one side as to give greater thickness of lead between the needles d the operator. If the end of the thread is properly pre-red, it can be held in a pair of long forceps and the needles readed without difficulty. The surface of the block of lead n be used to steady the forceps holding the thread.



Lead block for holding radium needles

After the needles are properly threaded, they can be emoved from the lead block and sterilized before being nserted. It is even possible to place the entire block of lead, ontaining the threaded needles, in a receptacle containing ne sterilizing fluid; but in this case the holes in the lead ught to be of sufficient size so that the antiseptic can readily nter and surround the needles. Such an apparatus com-letely protects the operator and makes the threading of the eedles much easier.

344 East State Street.

Professional Radium Injuries.—A communication from the ondon Radium Institute reports the death of two of the ttendants, a woman of 36 and man of 33. Each returned rom a two months' or one month vacation with signs of nemia, which proved to be of the pernicious type, with death n two or three months. In a third case, in a man of 50, the atal anemia ran a still shorter course. They had been mployed in the institute for eight, three and ten years; eukopenia was pronounced in all. The anemia was of the ype produced by toxic gases, such as nitrotoluene, and rats xposed to the action of radium showed analogous changes n the bone marrow, a total lack of regeneration. Mottram eported these fatalities in the *Archives of Radiology,* Decem-er, 1920, and Bordier commenting on them in the *Presse édicale,* just received, warns that other persons in the room vith those taking radium treatment are exposed to as many oci of rays as there are radium tubes in use at the time. He dds that tubes for roentgen-ray work are being made to pro-luce rays with constantly greater penetrating power, which nhances their danger for radiologists.

Special Article

SEVEN YEARS OF NATIONAL HEALTH INSURANCE IN ENGLAND

A RETROSPECT

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(Concluded from page 1353)

QUESTIONS CONCERNING THE EFFECT OF THE SYSTEM

Having now given a sketch of the difficulties surrounding the introduction of the system, and a slight and rather desultory account of how the medical part of the system is worked, I will pass on to a consideration of the points to which I have been asked to devote special attention, so far as they have not already been dealt with.

1. *What effect has the system had on the practice of the average physician: has it increased or decreased the amount of his professional work?*

If by the average physician is meant the average doctor in an industrial area who has accepted service under the Act, I should say it has increased his work, more particularly the work at his surgery (or office, as I believe you call it). Persons who formerly did not go to the doctor until they were really ill now go for more trifling ailments. They go to him for complaints which formerly were either left untreated or were prescribed for by the chemist. These consultations are encouraged by the far-seeing doctor, who realizes that under a capitation system it pays him to get the patient early. The doctor also has more clerical work to do. The insured patient requires certificates in a form prescribed by the Ministry, and there are records that must be kept and communications of various kinds with the Insurance Committee. Most doctors dislike this clerical work intensely, but some of it is probably having a useful disciplinary effect on many doctors who were very unbusinesslike in their practices and kept no records of their cases. The younger generation will take to it more kindly, but there is no doubt that up to the present time the clerical duties inseparable from any state service have been a great bugbear to the profession.

2. *What effect has the system had on the income of the average physician?*

It has undoubtedly increased the income of the profession as a whole, and especially of those doctors who practice in industrial areas and who formerly did underpaid contract practice (a very large number). Some doctors who formerly made a fair amount of money from the domestic servants of their better class patients complain that they have lost money, because the capitation fees paid on account of servants who are now insured persons are less than the money they used to get in bills from this class, or rather from their employers. I doubt very much that the system has diminished the income of a single doctor in this country. Those who were in industrial areas, and who declined to accept service under the system and have continued to decline, undoubtedly lost money at the beginning. But my belief is that even these doctors have recovered their position. There is and always will be a section of the public who do not believe that they will get effective service unless they pay for it at the time or

by a bill. They do not realize, any more than many doctors yet realize, that capitation fees received from a considerable number, many of whom do not require attendance during any given year, may on the year prove to pay the doctor quite as well as the fee system. A certain, or rather an uncertain, proportion of insured persons, though entitled to the services of a doctor on the panel, go to a private doctor and pay him. This number in most areas is, I believe, comparatively small, particularly where all or nearly all the doctors are insurance practitioners. It is larger in those towns, comparatively few, where a sort of class distinction among the doctors was caused by the split over the Insurance Act and where the idea that the "panel doctor" is an inferior order of practitioner has been fostered. It is necessary to speak plainly on this subject. In the bitterness of spirit caused by the reaction in 1913 when some thousands of doctors who have been "swearing they would ne'er consent, consented" to take service, many things were said which would have been much better left unsaid. The service was declared to be "derogatory"—though nearly 13,000 doctors are working it—a most damaging admisssion often quoted against them. The "yellow press" sedulously quoted every attack on the system, especially when it came from a doctor. Many such attacks were made and are indeed still made, but mainly by men (some of them eminent in the profession) who have never done any industrial practice and do not understand it. The result is that the system is still talked about by some as if it were a very cheap and inferior service, given by unwilling and badly paid doctors to persons who get it as a kind of charity. This kind of thing has rebounded with great severity on the medical profession. It gives a handle still to our "yellow press" and to persons like your Mr. ————, who came over here with the intention of finding out what a bad service it is and had no difficulty in finding plenty of people to fill him up with the kind of thing he was looking for. Let it be clearly understood that there is no charity about this service.

The doctors who are doing National Insurance work in the industrial areas have undoubtedly had their incomes increased. The doctors in the rural areas have also had their incomes raised, first because they are now paid a comparatively respectable capitation fee for many people they formerly attended for nothing or for a wretched club fee; secondly, they have recently gained a good deal in payment for mileage, of which more anon. But the country doctor has not gained as much by the Insurance system as the town doctor, simply because the latter has the chance of a much bigger list.

The doctor in this country is feeling the pinch of present conditions—heavy taxation and inflated prices—as is every other middle class and professional man. But, leaving on one side war conditions, I am bound to say that financially the Insurance Act has been a blessing to the medical profession, who badly needed the stimulus it gave. It practically doubled the amount they were getting from all the people who were formerly attended on a contract basis, which I believe more than compensated for the fact that a smaller number of people who formerly paid bills and paid them well and regularly are now insured persons. The increased income gained from this class and, still more, the certainty and regularity of this income, has had a marked reflex effect on private fees and the remuneration for all other forms of contract medical work. Many a doctor who does no insurance work is today getting better fees for the work he does, simply because the Insurance Act has raised the standard for all medical remuneration.

3. *What proportion of his time does the average doctor devote to insurance work?*

This, of course, depends on the proportion the insurance work bears to the whole work of any doctor. The best answer to this question is an extract from the case presented last year to the Board of Arbitration appointed to decide what the proper capitation fee should be in the new circumstances—revision of regulations, high prices and increased practice expenses. We suggested that the work arising out of a list of 1,000 insured persons would give the doctor about fourteen items of work in a day, if it be assumed that 300 days only will be worked. If Sundays and holidays be included and work spread over all the 365 days, the number will of course be less than fourteen. The visits in this number of fourteen would be rather less than four, and there would be about nine or ten attendances at the surgery. To this must be added the time necessary for making notes and records and for professional correspondence. A list of 1,000 *potential patients* is, of course, a very different thing from a list of 1,000 *patients*. Yet ignorant or malicious people in this country, and also I find in yours, often make a great play with "doctors with 3,000 patients," etc., seeking to make the public believe that a doctor with a list of 3,000 (and there are not many of them, for, as I said before, the average list is less than 1,000) would be absolutely overwhelmed with work. As a matter of fact, a doctor with 3,000 persons on his list would have an average of 3.8 attendances per insured person in a year, that is, a total of 11,400 attendances in a year. If we leave out the Sundays, he would have about thirty-seven attendances a day, of which ten would be visits at the homes of his patients, and twenty-seven attendances at the surgery. For this work he would have £1,650 a year. As he would almost certainly have private work in addition, he would be well able to employ assistance.

4. *What is the average fee per call received by the doctor, and does mileage enter into this?*

The payment per call should vary with the nature of the call. The majority of the calls are attendance at the surgery, and a number of these are simply attendance for the purpose of getting a certificate; there may be special or night visits (the doctor being of course obliged to go to these just as in private practice); dislocations, fractures, minor operations and attendance at miscarriages on insured women are all included. There are no figures to show what proportion these special items bear to the ordinary items except those of the payment per attendance areas. The following are the Manchester figures for 1915:

Attendances at surgery	1,041,148
Visits	198,726
Special visits (i. e., a visit paid in response to a call received after the doctor has gone out on his rounds)	5,075
Night visits (8 p. m. to 9 a. m.)	488
Operations (minor surgery)	230
Fractures	116
Dislocations	17
(It must be remembered that many cases included in the last three items go to the hospitals for treatment)	

The average attendances being 3.8 per insured person (*not* per patient), and the capitation fee being now 11s., it will be seen that the average fee per item is about 2s. 10d., and that by far the greatest number of items are attendances at the surgery. The capitation fee includes any visiting within 2 miles of the doctor's

sidence or surgery. Any attendance beyond this dius is paid for out of a special Central Mileage Fund, hich was £44,000 for the whole of the country (Engnd, Scotland and Wales) from 1913 to 1918 (addions in the way of war bonus being made for 1919-)20), but was raised to £300,000 for England and Vales, with £65,000 for Scotland in 1920. This great crease was brought about by the persistent fighting by ie British Medical Association instigated by the)untry insurance practitioners, who realized that they ere at a great disadvantage as compared with the)wn man. Their lists were small, and the early Central Mileage Fund was distributed only among the doctors ho practiced in specially difficult or very sparsely opulated areas. The rural doctors insisted that the me which they spent on paying their visits to patients ho resided over the normal 2 mile limit should be aid for as well as the actual expenses incurred in ravelling.

Their claim was admitted by the government, and the ıethod of satisfying it was submitted to a Government ommittee on which representative rural doctors nomıated by the British Medical Association sat, with the esult I have mentioned. The distribution of the money dealt with by the central Committee, a permanent body ealing with the distribution of the whole Central Fund) the Insurance Committees, as well as the Central Mileage Fund. This Committee settles annually what roportion of the total shall be allotted to each insurance rea, and the amounts depend on the information proided by the Panel and Insurance Committees, and the xperience of the past year. The money allotted to ach area is distributed locally by the Insurance Comıittee to the individual doctors who have earned it, on scheme based on the number of patients on the lists f the local doctors, drawn up by the Panel and Insurnce Committees in consultation, and approved centrally y the Ministry. It is too early yet to say whether he amount now allotted for mileage will be deemed ufficient by the country doctors, but it is obviously a reat advance on previous remuneration, and the exisence and composition of the Distribution Committee is guarantee that the claims of the country doctor will e dealt with by men who thoroughly understand the osition.

5. *What effect has the system had on the professional norale of doctors?*

This is a most difficult question to answer, and eaves room for very different opinions. I will give ou my opinion in the firm belief that it represents that f a very large number of doctors who have experience f the system.

I do not think the time has arrived for a very definite nswer. Violent changes in the habits and customs of a profession, particularly when accompanied by bitter olitical feeling, are likely to cause violent reactions. I lo not think we have settled down yet. There are still persons of some influence, and some newspapers in this country, who seem to think the Insurance Act fair game for attack, and a sure draw when other political material is scanty. I do not believe you will find one serious politician or one member of the medical profession who studies the political horizon who does not think that the Insurance system has come to stay—subject, of course, to the evolutionary process through which all political and economic systems have to go. A section of the Labor Party wants a whole-time salaried medical service, but to my mind this is not at present a question of practical politics. It would cost a great deal of money and we have not the money. It would mean a great increase in bureaucracy, and the country is beginning to hate bureaucracy like poison. And I do not believe the working classes would stand a whole-time government medical service.

During the two years' campaign preceding the operation of the Act and the seven years which have since elapsed, the medical profession came collectively into the public eye a good deal more than it had ever been. Its traditions and internal economy were exposed to the public gaze in a manner which seemed almost indecent. The profession, which people had vaguely thought lived mainly on its reputation as a "noble profession" and the gratitude of the people who could not pay, was discovered to be as amenable to ordinary economic laws as anybody else. Its income and demands for remuneration were discussed in every newspaper and at political meetings all over the country. When we got over that we found that we were now to be in close relation, on the method of conducting our practices and on money matters, centrally with a Government Department and locally with the Insurance Committees. Besides that we had the Approved Societies watching us jealously, for on the vigilance and honesty of the doctors depended the financial success or bankruptcy of their part of the business. Every doctor's certificate was virtually a cheque on their sickness benefit funds, and they were irritated to feel that they depended so much on what we might or might not do, while they had no control over us, or only a very indirect control, exercised through the Insurance Committees. Gone were the days of patronage when a few members of each Society could decide what doctor would attend (or at any rate draw the money for) all their members. Every doctor now had a right to be on the list, and the individual selected his own doctor from that list. The doctor could no longer be got rid of at a few months' notice. No wonder that for the first two or three years the position was very uncomfortable.

Incidentally, I may say that the valuations of the funds of the Approved Societies, now being completed by the government, shows that financially the system is a great success. Most of the Approved Societies have handsome balances which will be devoted to extra benefits, among which nursing, dental treatment and hospital treatment seem to be the favorites in the discussion now going on as to how the money shall be spent. The people in this country who were telling us a year or so ago that the Act was bankrupt are "lying low and saying nuffin" at present. They must be thinking quite hard.

The new restrictions on the doctor caused by the certification rules (much stricter than those of the old Friendly Societies) and the necessary (sometimes, as we all thought, the unnecessary) rules and regulations, made many of the doctors very restive and there was a good deal of friction and bad feeling which had its effect on the morale of the profession and sometimes a very bad effect. I am amazed that things have settled down as well as they have in nearly every area. The present good relations between the Insurance Committees and doctors which exist in nearly every area are a wonderful testimony to the British habit of "worrying through," and to the wisdom and tact of those individuals on each side who gradually evolved order and good feeling out of chaos and bad temper.

Undoubtedly the system has had the effect of making doctors talk more *in public* about money, and this has

had a bad effect on their status in the public eye, though I think only a temporary one. The methods of payment were at first very defective. Nobody had ever had to work a system which called for the payment of 13,000 doctors in 200 areas of a sum based on counting the heads of some 14,000,000 people, constantly moving about. It was not made clear at first that a doctor could not expect to get a full year's payment for every person who got on his list—it might be only for a few weeks—and many doctors were puzzled and wroth when they could not square their receipts with the number of names on their lists. The lists were most defective. Insured persons could not be traced. The administrative work of some Insurance Committees was much more efficient than others, and the result was that for six years, until experience had shown the defects of the old system and pointed the way to a better, we were constantly complaining, in public, that we did not get the money to which we were entitled. We got the reputation of always thinking and talking about money, and there is no doubt that the necessity of doing this (and it *was* necessary, for we could not have got an improved system, as we have done, without it) did not improve our public status, and I do not think it had a wholesome effect on that large section of the profession which had to indulge in it.

But this factor is a temporary one. The money question is not as acute as it was, and if I am right in thinking that it will not occupy such a prominent position in future I am inclined to think that the influence of the system on the morale of the profession will be on the whole to the good, for:

1. A secure income has a beneficial effect on most people. The Insurance system gives doctors the certainty of a quarterly cheque, without eliminating enterprise and competition. Patients can change their doctor, and there is also a large field left for private practice.

2. The system has compelled doctors to work together more. In Panel Committees and at meetings of insurance practitioners they have to discuss administrative affairs: they have, under their agreements, to deputize for one another in emergencies; all those who work the system feel they have interests (and grievances) in common, and I am convinced that there is more solidarity in that section of the profession than there ever was before in any considerable section of the profession. Against this must be offset the class division which was set up in some areas between the doctors who did and those who did not accept service. But this was never pronounced except in a few areas, and is fast disappearing in most, if not all. Moreover, doctors who are able to see further politically than the end of their nose are convinced that there will be further developments of medical service under the aegis of the government, in which every member of the profession will be involved—consultants as well as general practitioners. Therefore, I believe that within measureable distance the improved solidarity of the profession, already noticeable among those working the insurance system, will invade all other sections.

I hope that my American readers will remember what some of the critics of the system have forgotten: that the doctor who does National Insurance work is a general practitioner first, with all of the instincts and all of the interests of a general practitioner. He happens to be doing this kind of work; but to nine men out of ten it is the lesser part of their practice.

6. What effect has the National Health Insurance system had on scientific research?

It cannot be said that it has had any direct effect, but it must be put down to the credit of our Insurance Act that it was the means of setting up the first real state endowment of medical research. Section 16 (2) (b) of the Act of 1911 provided that 1d. for each insured person should be retained by the Commissioners for purposes of research. In 1914 a sum of about £55,000 was available for this purpose. The Insurance Commissioners of England, Scotland, Wales and Ireland jointly set up a Medical Research Committee, which included Lord Moulton, F.R.S.; Dr. Christopher Addison (now Minister of Health); Mr. Waldorf Astor, M.P. (now Lord Astor); Sir T. Clifford Allbutt, M.D., F.R.S., Regius Professor of Physic, University of Cambridge, and President of the British Medical Association; Mr. C. J. Bond, F.R.C.S., of Leicester; Dr. William Bulloch, Professor of Bacteriology, the University of London; Dr. Matthew Hay, Professor of Public Health, Aberdeen University; Prof. F. G. Hopkins, Reader in Chemical Physiology, University of Cambridge, and Sir W. B. Leishman, F.R.S., Professor of Pathology, Royal Army Medical College. With this Committee was associated an Advisory Council for Research, containing the names of many men eminent in the medical world. On the strength of this money and out of this beginning has arisen the Medical Research Council, which now has no direct connection with the National Insurance system or with the Ministry of Health but is under the Privy Council and is regarded as the body for conducting all kinds of medical research on behalf of the government as a whole, or any department of it. The work of this body during the war has been recognized as being brilliantly successful.

7. What effect has it had on the public health?

I do not know of any statistical evidence bearing on this point: probably it is too early yet to expect any. But I am as certain as I can be of anything that the existence of a plan of medical attendance which covers 14,000,000 workers, which makes it pay the doctor not to have the patient ill at all, and pays him to prevent a slight ailment developing into a greater, is bound to be reflected sooner or later in the death rate and the incidence of sickness. It will not tell heavily for some time yet, for many of the older doctors have not yet got used to the new system sufficiently to change their outlook, and the war has prevented a sufficient influx of the younger men to make any material difference yet. We as a profession have always urged that patients should be encouraged to go early to the doctor so that their ailments may be diagnosed early. We in Britain have got our wish as regards a considerable section of our population. Our professional instincts and training would alone lead to advantage being taken of this opportunity; and when professional instinct and self-interest coincide, I have no doubt as to the result.

One of the obligations put on the doctor by his agreement is that he shall keep such records of the diseases of his patients as are required by the Ministry of Health. When the Act first came into operation, a form of record was introduced which showed the number of attendances given to the patient and the nature of his disease. But in order that professional secrecy might not be violated, when the doctor returned his records, as he did at the end of the year, he separated the two parts of the record so that the part which gave the nature of the disease did not give the name of the

patient, and one part went to the Insurance Committee and the other to the Ministry of Health. The record was therefore useless for clinical purposes, as it was lost to the doctor at the end of the year. It was, in fact, quickly discovered to be of very little use for any purpose, so that when it was dropped during the war in an attempt to relieve the doctor of as much work as possible, it disappeared "unwept, unhonored and unsung." The Ministry did not attempt to revive it, but last year appointed a very strong Committee, consisting of statisticians, administrative experts, and doctors experienced in National Health work, to try to devise a new form of record which should be useful clinically, administratively and statistically with a special regard for its clinical value. The Chairman of the Committee was Sir Humphry Rolleston, F.R.C.P., whom many of you in the States know. A new record was produced and came into use, Jan. 1, 1921. It is designed to serve as a continuous record of the health of the patient, and it will remain in the hands of the doctor unless the patient removes (in which case it goes to the new doctor) or dies (in which case it goes to the headquarters of the Ministry). The doctor is under an obligation to keep a record of the attendances and visits given, and of any first and final certificates given. He must put down any clinical notes and diagnoses that he thinks will be of service either to himself or to any succeeding doctor into whose hands the record may come. This record is new and is being subjected to pretty severe criticism at the hands of some of the doctors who will have to keep it, and of certain newspapers which have attacked it. The Conference of representatives of Panel Committees, which meets yearly or oftener under the auspices of the British Medical Association and is directly elected by the Panel Committees of the country, resolved last October to pass no opinion, either favorable or unfavorable, until the record had had a trial. During that trial we shall all be criticizing the new form and possibly we may find that some of the work entailed by it is useless—in which case I have little doubt the form will be modified. But we shall have for insured persons what we have never had before for any section of the public and what the profession has often wished for, namely, a continuous record of the incidence of sickness for each insured person so far as the doctor, at his discretion, thinks a clinical record necessary. This may prove invaluable. On the use to the doctor and the patient of a record of diagnoses and clinical notes there can be no serious division of opinion in the profession. To know the previous medical record of the patient who comes to him as a stranger is a great asset to the doctor and also to the patient, whose memory and intelligence cannot be relied upon to give the doctor that information as to the past which is often invaluable.

I said that some newspapers had attacked this new record; and though I don't want to trouble our colleagues in the States with our political affairs, this incident is so important that I must dwell on it, for it illustrates one of the greatest disadvantages that a National Health Insurance system has brought to the British medical profession and will bring to the profession in any other country where it is tried. *It renders the profession much more liable to be used as a pawn in a political game.* All through the Insurance Act fight the enemies of the author of the scheme, Mr. Lloyd George (and they were much more numerous then than now), used the medical profession as much as they could to defeat him. It was not clearly seen then that this kind of thing was likely to be permanent. Recently a certain section of our press which wants to get rid of Mr. Lloyd George came to the conclusion that one of the weakest spots in his armor was the Ministry of Health. It is a new Ministry, it has a large number of officials, some of its work entails the issue of numbers of regulations, many of its schemes would need much public money. A section of the press seized hold of the growing public horror of bureaucracy and its desire for public economy, and commenced a series of venomous attacks on the Minister of Health and his officials. It ranged through an attack on (1) the number of charwomen employed at the Ministry; (2) a number of new medical officers appointed (these appointments had been hung up since 1914); (3) a miscellaneous bill the Minister brought in dealing with a number of things, some small, some important; but finally fastened on (4) the new record. This was accused of being a gross violation of the secrecy which should prevail between doctor and patient, and first in one paper and then in another, this section of the press did its best to rouse the public against the Minister of Health and thus get at the Prime Minister. Up to the moment the press agitation started there had not been a murmur from the profession, but it was not long before individual doctors fell into the trap and began writing to the papers or giving interviews in which they supported the agitation. The profession as a whole refused to be moved, and after a few weeks' agitation the matter, so far as its political usefulness is concerned, is as dead as a doornail. But it was sufficient to show the "yellow press," if it needed any showing, that the Insurance Act is still a potent political weapon and that the medical profession may at times prove quite useful in a political stunt. This is a new development for us, but it is a permanent factor to be reckoned with. The more the profession comes into contact with the State, especially when it is being paid by the State, the more likely it is to be used for political purposes and the more likely it is to lose caste with the public. I say deliberately that whenever the profession is dragged into a public controversy in which party politics is involved, it loses professional prestige.

8. *What is the opinion of the profession of National Health Insurance after its experience of it? If the matter were put to a vote would the majority of the profession in Great Britain be in favor of continuing or going back to the conditions which prevailed before the adoption of the system?*

Opinions about the system in the medical profession are very mixed. Many, probably the majority, of the doctors who are not working it and have little more than theoretical knowledge of any form of contract practice will tell you it is bad. Quite a considerable number of doctors think that no form of contract medical practice can be good. They believe that the mere fact of the doctor being paid the same amount whether he sees his potential patients frequently or seldom, or not at all, has a bad effect on his work. I do not think so. If you grant that the terms of the contract, both financial and other, are reasonable, I see no reason why a doctor should not do quite as good work for money earned by contract as for money earned in bills. Moreover, I know many doctors in this country who do *all* their work by contract and do it well; most of the doctors in the colliery districts, for example. They are as good all round practitioners, taking them in the average, as you could wish to see. You will find a small number of

doctors who have had experience of the old club practice who will tell you that they would rather have the old system, because it gave them more liberty. They had no government control, no supervision, no red tape. My own opinion is that not one of these would go back to the old system if the choice became a matter of practical politics which, thank heaven, it never can. Whatever faults there may be in the present system, when I compare it with the old club system at 2s. 6d. to 3s. 6d. per head per year; with doctors tumbling over one another in a horrible dutch auction to get clubs even at that price so as to keep competitors out; with the bribery and corruption that went on in connection with the election of doctors to these clubs; with the fact that the minority in the clubs who didn't like the doctor chosen by the majority had no choice unless they paid private fees—when I compare all this with the present system—every doctor who chooses taking a part and getting those patients who care to select him; the remuneration nearly three times what it used to be before the Act came in (or in prewar money at any rate double); and the real share that the doctors through their Panel Committee have collectively in the administration of the service—I have no hesitation about my verdict. I can confidently say that not one doctor in 1,000 who is doing National Health work would willingly go back to the old system, if the choice were put to him as a practical proposition to which he must give an answer.

That is not to say that the majority of doctors who are working the system are entirely satisfied with it. Satisfaction would be pathologic in connection with such a gigantic experiment as this. You could not change the habits and conditions of practice of 13,000 doctors by an Act of Parliament introduced in circumstances calculated to produce the greatest possible prejudice against the new system, and expect satisfaction. But inasmuch as doctors have a considerable and increasing share in working the administration of the system and in shaping its future, my opinion is that it is probably as good a form of contract medical practice under state control as you could get in the time, never forgetting that we have had a big war which has interfered with normal developments.

I am ending as I began. If you can ensure that all your population can get the medical attendance they need without charity and without an insurance system, my advice would be, Don't encourage a compulsory state medical insurance scheme. If, on the other hand, you have any considerable section of your population that cannot get the medical attendance they need without resort to medical charity (either the organized kind generally known as medical charity or the unorganized kind known as not paying the doctor), then it seems to me the state ought to organize some provision for them and the medical profession should help. I do not believe it is the duty of the medical profession alone to organize and run such a system. Doctors are trained to practice medicine, not to run big insurance schemes, and their time could be better used in their own work than in doing, less well, work for which actuaries, accountants and business men are needed.

Nor would I advise that the organization should be done by insurance companies or other private corporations. Doctors can get, as we here know by experience, a considerable share in the administration of a state scheme, and can exercise a very great influence on its line of development. But they would certainly not get such a position in any scheme run for a profit by an insurance company or a combination of such. Their scheme would be run by their directors, business men who would never dream of leaving the medical side to be run by medical men who were employed under the scheme. I believe that the doctor can exact his proper share in the administration of a big scheme of this kind far more easily from the state than he could from any system of private enterprise.

OBJECTIONS AND DESIRABLE MODIFICATIONS

And now for your Editor's last question:

What are the principal objections made to the plan as at present administered and what modifications in the plan should be adopted?

We must leave aside as impracticable those objections which are raised by those who object altogether on *a priori* grounds to contract work, or by those who have no objection to state money but want it without any state control.

I suppose that if responsible and experienced doctors were given a free hand to alter our system here, they would wish chiefly to make it more comprehensive, that is to say, to provide the insured persons with a really complete medical and auxiliary service—doctors, specialists, nurses, institutional treatment, etc.—to have a service which would be a credit to all concerned.

They would wish to increase the payment to the doctor so as to make it possible for him to make a good income out of a more limited number of potential patients. But they would realize that this would mean more restrictions on the individual doctor. The state could not pay a larger fee for the express purpose of getting a better service without making sure that it got value for its money. This would entail more inspection, and I am not sure that the last state of the doctor (and probably of the patient) would not be worse than the first.

They—the doctors who have been through it all—would desire to have the local administration of the service placed in the hands of a better body than the present Insurance Committees. The Insurance Committee has no real link with the local authority which controls all the other health agencies in the town or county. For example, the Town Council of a County Borough controls all the sanitation of the town, runs the infectious diseases hospital, controls maternity and child welfare schemes, has a special responsibility for the health of schoolchildren, but it has no real link with the Insurance Committee, which controls the domiciliary medical services for these men and women who are insured. One of the pressing problems of our Ministry of Health is how to bring into being one Local Health Authority which shall combine all the health functions of all the existing authorities. Old traditions and vested interests make this one of the toughest jobs any government ever tackled.

Another thing the medical profession wants is to have a still greater share in the administration of medical benefit. As I have previously indicated, this is gradually being granted; but we should long ago have had what we now have, and much more, had the author of the scheme consulted the representatives of the profession at an earlier stage of the proceedings than he did. One would think that it would be the first desire of any government department to gain the cooperation of those who will be mainly responsible for carrying out any such scheme as we are now considering. But, as a matter of fact, government departments learn this lesson very slowly. If there should be any likelihood

n any of your States of the establishment of a state system of health insurance, I would urge our American colleagues to insist on being consulted *before the scheme gets to the stage of crystallization into a bill,* and to make themselves thoroughly unpleasant to any department, party or person who tries to deny what should be an elementary right.

We are of opinion that some of the restrictions placed on those who are working the system are unnecessary, and we feel that only constant vigilance on the part of an organized profession can ward off much more of this kind of thing. For example, a recent change in the doctor's agreement lays it down that if he is going to be away for more than a week he must give notice to the Insurance Committee of the arrangements he has made for getting his work done. Also, the Insurance Committee has power to make inquiries into the accommodation the doctor provides in his waiting room and surgery. These restrictions have no doubt been imposed on all the doctors because a few have been careless or negligent, or have made insufficient provision for their waiting patients. The fact is, of course, that in any large system of this kind the average man who does his duty will have to suffer because a minority do not do the work for which they are paid. But the situation is not quite so bad as it looks. There are hundreds of laws passed for the restraint of wrongdoers of which the average man remains in blissful ignorance, and so it is with some of the restrictions and regulations of our insurance system. For all practical purposes to the great majority of the doctors they don't exist.

Nevertheless, there is nothing more certain than that, unless they are watched and resisted, administrators tend to multiply rules and red tape, not out of malice aforethought but because it is a way they have. One of the chief lessons the Insurance Acts have taught the profession in this country is that a strong and vigilant fighting organization is as essential to the medical profession as to every other calling or trade. As a consequence of our experience of the Insurance Act and its administrators, the British Medical Association is stronger, more representative and more capable of defending the interests of its members than ever it was before.

CONCLUSION

I am conscious that in what I have said I may have missed some of the questions American doctors would like to ask, simply because I do not know their special difficulties or how American conditions would modify any health insurance scheme that might be set up in one of your States. I shall be very glad to answer any questions which these remarks may elicit, and I ask your readers to accept what I have said as the honest attempt of a man with special experience to say what he thinks is the opinion of the average member of the medical profession in England about our National Health system.

Organization of Hospital Social Service.—Social service should be organized as a department of the hospital, dispensary, or other institution. Assistance or participation by outside individuals or agencies in starting a social service department may well be accepted, but the department should be placed from the beginning, or the earliest possible date, under the complete administrative control of the trustees or other governing authority of the institution. No other arrangement can be deemed permanently satisfactory.—*Hospital Social Service* **3**:5, 1921.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

MERCUROCHROME - 220 SOLUBLE. — $NaOOC.C_6H_4.C:C_6H_2Br:O.C_6HBr(ONa)(HgOH).3H_2O$. — The disodium salt of dibromo oxymercury fluorescein, containing 23 to 24 per cent. of mercury.

Actions and Uses.—Mercurochrome-220 soluble is a strong and rapidly acting germicide; it is active in urine, a 1:1000 solution killing *Bacillus coli* and *Staphylococcus aureus* in this medium in one minute. It penetrates the tissues readily. The drug is tolerated in a strength of 1 per cent. by the bladder, renal pelvis and urethra; a 2.5 per cent. solution applied to the anterior urethra causes only temporary discomfort. The toxicity, when tested by intravenous injection into rabbits is rather high, 10 mg. per Kg., invariably causing death within 24 hours and 5 mg. causing a decrease in phenolsulphonephthalein output and an albuminuria which lasts about a week. Dogs are more resistant. No systemic effects have been observed following its local application in the human. Mercurochrome-220 soluble has been used in cystitis and urethritis and in chancroidal ulcerations; also in affections of the eye and ear, such as ophthalmia neonatorum and otitis media.

Dosage.—In the treatment of infections of the kidney pelvis, the ureters are catheterized and the pelvis gently filled with a 1 per cent. solution; the catheter is plugged and the solution retained for five minutes. In the treatment of bladder conditions, one ounce of the 1 per cent. solution is introduced into the bladder and retained for one hour or longer, the treatment being given daily or on alternate days, or at longer intervals according to circumstances. In anterior gonococcus urethritis, the anterior urethra is filled with a 1 per cent. solution and the solution retained for five minutes. If the posterior urethra be involved, the solution is gently retained for an hour or more. In rare cases, considerable irritation is produced, particularly in those with residual urine. Later, in the treatment of acute anterior gonorrhea, a 2.5 per cent. solution is used every three hours. In chancroidal ulcerations, the drug is applied as a moist dressing (1 per cent.) or as a starch paste (5 per cent.) or as an ointment (5 per cent.). The results have been satisfactory and no untoward effects observed. In ophthalmia neonatorum a 2.5 per cent. solution is freely instilled in each eye several times a day.

Mercurochrome-220 soluble is incompatible with acids. The aqueous solution stains the skin red but the discoloration may be removed by a washing in a solution of sodium hypochlorite.

Manufactured by Hynson, Westcott & Dunning, Baltimore, Md. No U. S. patent or trademark.

Mercurochrome-220 soluble occurs as iridescent, green scales or granules; odorless; permanent in the air. It is freely soluble in water; soluble in 65 parts of alcohol; insoluble in chloroform or ether. On incineration mercurochrome-220 soluble yields an ash containing sodium bromide and sodium carbonate.

The aqueous solution (1-10) of mercurochrome-220 soluble is of a deep cherry-red color; on dilution with water it becomes fluorescent. The aqueous solution is stable in the air, does not precipitate proteins and does not respond to the usual tests for mercury ions. Add a few drops of hydrochloric acid to about 10 Cc. of an aqueous solution of mercurochrome-220 soluble (1-100). An orange-red precipitate is given and, if the mixture be filtered, the filtrate is nearly colorless, or only slightly yellow.

Dry about 1 Gm. of mercurochrome-220 soluble, accurately weighed, to constant weight over sulphuric acid. The loss does not exceed 10 per cent. Dissolve about 1 Gm. of mercurochrome-220 soluble, accurately weighed, in about 50 Cc. of water at 50-60 C., filter through a weighed Gooch crucible, wash the residue thoroughly until the washings have only a slight color, dry at 110 C. and weigh. The insoluble matter amounts to not more than 0.2 per cent. of the weight taken. Place about 0.2 Gm. of finely powdered mercurochrome-220 soluble, accurately weighed, in an 800 Cc. Kjeldahl flask and slowly add 10 Cc. of sulphuric acid, in such a way as to wash down any adherent particles. Mix the materials carefully, heat to a temperature of from 60 to 75 C., remove the flame and add, little by little, finely powdered potassium permanganate, mixing thoroughly after each addition, until the presence of a considerable excess of brown manganese compounds is noted. The appearance of a slight flame after the addition of each portion of the oxidizing agent is immaterial. Cool the mixture to room temperature, add 100 Cc. of water, then gradually add powdered oxalic acid with shaking until the solution becomes clear. Filter if necessary, make the volume to about 200 Cc. with water, pass in hydrogen sulphide, collect the precipitate in a Gooch crucible, dry at 100 C. and weigh. The weight of mercuric sulphide corresponds to not less than 23 per cent. of mercury.

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SATURDAY, MAY 21, 1921

THE EXPERIMENTAL PRODUCTION OF CANCER

The period of active experimental research on the problems of cancer growth is now of about twenty years' duration, having received its initial stimulus from the independent observations by Leo Loeb in this country and by Jensen in Denmark, that spontaneous tumors arising in rats and mice, may, at least under certain conditions, be transplanted from animal to animal in series. Investigation of such transplanted tumors has engaged students of cancer ever since that time, and much has been learned concerning the biology of the cancer cell by this means. Less positive information than was expected has been obtained concerning the etiology of cancer. Most of the evidence furnished by study of transplanted mammalian cancers has been interpreted as indicating that they probably are not the result of infection produced by some specific cancer parasite, whereas the transplantable, sarcoma-like growths of fowls, found by Peyton Rous to be transmissible by cell-free filtrates, suggest the existence of just such specific cancer parasites. A fundamental limitation of the usefulness of the transplanted tumors as a source of information lies in the fact that they are far from being identical with spontaneous tumors. They merely represent artificially produced metastases of the tumor of one animal into the tissues of another, and are always growths of cells derived from the cells of the original tumor animal and not the cells of the host. The spontaneous tumor, of course, represents growth of the tissues of the animal that bears it. The inoculated animal, in all probability, would never have had a tumor of its own tissues. Hence the conditions must be quite different from what they are in the animal that suffers malignant transformation of its own tissues. As evidence that there is such an essential difference, a large proportion of implanted tumors may undergo spontaneous disappearance and cure, which apparently never happens with spontaneous malignant tumors.

Of late, more and more attention has been given to the experimental production in animals of spontaneous tumors, which presumably will give more useful information, especially concerning the question of etiology. Several apparent successes have been registered, which stimulate further study and promise valuable addition to our knowledge of this baffling problem. So far the successful experiments have been obtained in two ways: either by imitating conditions that are known to produce cancer in man, or by taking advantage of conditions that have produced cancer in animals. In the first group comes the production of tumors by long continued stimulation of tissues by chemical or physical agents. Among these, perhaps the most striking results have been obtained by Japanese investigators. Applying the recognized fact that cutaneous cancers occur with particular frequency in those much exposed to tar, Yamagiwa [1] and his associates painted coal tar on the inner surface of the ears of rabbits every two or three days for long periods, with the result that great overgrowths of epithelium were produced which sometimes manifested all the histologic and clinical features of malignant cutaneous cancer, even to the production of metastases in the regional lymph glands. These positive results have particular significance from the fact that spontaneous skin cancers have never been observed before to arise on the ears of rabbits, and hence coincidence is out of the question as an explanation for these growths. More recently, Tsutsui [2] has produced cancer in the skin of mice by the same means. Coal tar was painted frequently on the backs of 259 mice, of which only sixty-seven lived more than 100 days, sixteen developing carcinoma and one a sarcoma. As two of the epithelial growths produced lung metastases, the true cancerous nature of at least some of the growths is certain, although proper objection to too ready acceptance of epithelial infiltration alone as sufficient evidence of true malignancy has been raised, especially by Bullock and Rohdenburg.[3] The latter danger is particularly shown by the infiltrative growths of epithelium that are produced by the injection of fat-soluble dyes, such as scarlet red, which often resemble the histologic picture of carcinoma almost perfectly; yet they disappear spontaneously when the exciting agent is removed or exhausted. Despite the extensive epithelial growth produced by fat dyes, the production of true carcinoma by this agent seems not yet to have been accomplished in a conclusive manner. Even repeated injections of scarlet red oil into the mammary glands of rabbits by Takeuchi [4] did not produce carcinoma. A possible exception is furnished by Yamagiwa and Ohno,[5] who injected scarlet

1. Yamagiwa, K., and Ichikawa, K. (J. Cancer Res. **3**: 1 [Jan.] 1918) summarize work reported in Japanese. The Experimental Production of Cancer, editorial, J. A. M. A. **68**: 1818 (June 16) 1917.
2. Tsutsui, Hidejiro: Ueber das künstlich erzeugte Cancroid bei der Maus, Gann **12**: 17 (July) 1918.
3. Bullock, F. D., and Rohdenburg, G. L.: J. Cancer Res. **3**: 227 (July) 1918.
4. Takeuchi, Misao: Ueber die Veränderungen der Milchdrüsen der Mäuse nach Scharlachrotolivenölinjektion, Gann **11**: 47, 1917.
5. Yamagiwa, K., and Ohno, S.: Ueber das Resultat des Experimentes zur künstlichen Erzeugung der Epithelialgeschwülst aus dem Hühner-Eileiter, Gann **12**: 3 (May) 1918. Recently Yamagiwa has produced suggestive growths in the mammary glands of rabbits by injection of tar-lanolin mixtures (Mitt. med. Fak. Univ. Tokio **22**: 1, 1919; Gann **15**: 1 [Jan.] 1921).

ed oil into the uterine walls of forty-one fowls and obtained three with adenocarcinoma. Here the uncertainty lies in the fact that abdominal carcinoma is occasionally observed to arise naturally in fowls. However, since continued mild stimulation of cell growth seems to furnish the most favorable means for inciting cancer formation, it seems probable that such proliferations as result from the fat dyes may develop into true cancer when other circumstances are favorable. As analogy we have the well-established influence of the irritation of the bladder by anilin or its compounds in dye workers, in the production of "dye workers' cancer." [6]

The first striking successful attempt to produce tumors experimentally by reproducing the conditions in which they have been found to arise in animals was reported by Fibiger.[7] Observing that cancer of the stomach occurred frequently in the stomachs of rats that had eaten roaches infected with a parasite (*Spiroptera*), he fed rats such infected material purposely and obtained a certain number of animals with what seemed to be true carcinomas resulting from the irritation caused by the parasites in the stomach. More recently there has been reported from the George Crocker Research Fund of Columbia University the occurrence of growths in the livers of rats infected with tapeworms, the hepatic cysts stimulating the formation in the tissues about them of neoplasms that have all the characteristics of sarcoma. Since these growths develop in a much larger proportion of infected animals than is the case of Fibiger's spiroptera-infected rats, they may be correspondingly more useful in the study of cancer, but suffer the disadvantage of being sarcoma rather than carcinoma.

Another method of producing spontaneous tumors in mice seems to be established by the studies of Maud Slye on the influence of heredity on the incidence of tumors in mice. According to Miss Slye's more recent observations,[8] it is possible not only to produce stocks of mice with a high and fairly constant incidence of tumors, but even to obtain strains of mice with a tendency to produce certain types of tumors, as sarcoma; or tumors of certain organs, such as liver tumors, lung tumors and mammary gland tumors. While the method of selective breeding seems able to produce an abundance of tumors and a choice of type or location of the growth, it involves too many years of breeding and selection to make it readily available at present, although it is possible that in the future it may find wider adoption as a means of producing stocks of animals with a high and calculable incidence of spontaneous tumors of different site and type.

It is to be noted that none of these methods of production of spontaneous tumors depend on the existence of any form of specific cancer parasite. Either inheritance, or the chronic stimulation of cell growth by mild irritation, or the cooperation of both factors, seem to be the determining influences. On the other hand, we are still a long way from finding an agent or method that will produce a cancer in every animal to which it is applied.

6. Dye Workers' Cancer, an Important Industrial Disease, editorial, J. A. M. A. **75**: 321 (July 31) 1920.

7. Fibiger, Johannes: J. Cancer Res. **4**: 367, 1919; review of his methods and results.

8. Slye, Maud: J. Cancer Res. **1**: 479 (Oct.) 1916.

CARRIERS OF THE PATHOGENIC AMEBAS OF DYSENTERY

Until quite recently amebic dysentery was assumed to be almost exclusively a tropical and subtropical disease. It has rarely been epidemic in temperate zones, although outbreaks of moderate size have occurred, notably in the German Army in East Prussia in 1901. It should, perhaps, not be surprising that dependable information on this subject has until lately been so scanty, for the differentiation of a variety of dysentery as amebic in origin is scarcely more than half a century old. It was not until 1875 that Lösch first accurately described the ameba which he found in the dejecta of a patient during life and in the intestinal lesions at necropsy.

The World War created new possibilities for the dissemination of diseases formerly believed to be restricted to comparatively narrow, circumscribed geographic areas. In the intermingling of races, infectious agents are distributed in unexpected, not to say unsuspected ways. While old enemies like typhoid, cholera and even typhus have been mastered where medical science had a free hand, new menaces have crept in under unanticipated circumstances. Besides the dysenteries and diarrheas of bacillary origin, cases attributable to amebic infestation were widely discovered.

It has come as somewhat of a surprise to learn that a large number of our own soldiers returning from service were still harboring pathogenic protozoa in the intestine. Most of these persons were not visibly ill. They may have reported a history of diarrhea or of typical dysenteric attacks, often recurrent, but at the time of their medical examinations dysenteric symptoms have not been discernible. The numerous statistics gathered by the protozoologist Kofoid [1] and his colleagues through examination of both overseas and home service men show an incidence of *Endamoeba dysenteriae* of 20 per cent. in the former and 4 per cent. among the latter. On this basis it has been estimated that several hundred thousands of our approximately 3,000,000 overseas men may have become infested with this protozoon. That the earlier data are not exaggerated seems confirmed by the records subsequently reported by Kofoid [2] at the New Orleans meeting of the American Society of Tropical Medicine in 1920. Among more carefully examined ex-soldier students at the University of California an incidence of *Endamoeba*

1. Kofoid, C. A.; Kornhauser, S. I., and Plate, J. T.: Intestinal Parasites in Overseas and Home Service Troops of the U. S. Army, J. A. M. A. **72**: 1721 (June 14) 1919.

2. Kofoid, C. A., and Swezy, Olive: On the Prevalence of Carriers of Endamoeba Dysenteriae Among Soldiers Returned from Overseas Service, Am. J. Trop. Med. **1**: 41 (Jan.) 1921.

dysenteriae of 67 per cent. was found among the overseas men, in whom the infection was more than twice as common as in home service men.

It is evident from investigations abroad as well as in this country that, as Kofoid and Swezy point out, the war is returning into civil life great numbers of men who are carriers of the endameba of human amebiasis. As the California investigators [2] conclude, the number of carriers of amebiasis in the United States has been greatly increased by the infections in soldiers returning from overseas. A larger number of carriers than has hitherto been suspected exists in the normal population in this country. The dysentery syndrome is not an essential feature of the disease, and the infection is by no means limited to the tropics. The carrier phases are persistent and afford possible foci of contagion. The percentage of carriers relapsing or developing serious sequelae is as yet unknown.

Undue fears may be allayed by the information that the amebas do not multiply outside the body. The chief factor in the spread of amebic dysentery seems to be the encysted forms in the stools of convalescents or the now recognized healthy carriers rather than the motile amebas in the dysenteric stools. Modern methods of sanitation are tending to militate against epidemic amebiasis. Nevertheless, to quote careful students of the subject,[2] it is obvious that the prevalence of carriers of amebiasis in this country demands increased vigilance on the part of the federal, state and municipal health authorities.

NATURAL PROTECTIVE DEVICES FOR THE BRAIN

Whether or not autolysis or the self-digestion of tissues is a normal vital process or a continuation of intravital processes which have a marked physiologic function is still debatable. Ever since Ernst Salkowski, in 1890, recorded the occurrence of the postmortem "autodigestion" of tissues, interest has centered in the phenomenon. At first it was hailed as a ready explanation for a great variety of manifestations of the body alike in health and in disease. Presently, however, tissue autolysis was relegated by investigators to a position of lesser significance with the demonstration that in its most conspicuous forms it is a manifestation confined to postmortem conditions, in which the reaction and oxygen supply of the tissues are profoundly altered. Thus, it has been urged that autolysis cannot possibly be a direct continuation of a vital process because it does not appear immediately when death occurs, but only after a period of latency of several hours.[1] Furthermore, it has been objected that autolytic changes proceed best in an acid reaction, which is not the usual condition of the body fluids and tissues.

Despite these adverse comments, there are undeniably conditions in which autodigestive changes do proceed and have significance. They may come into play whenever tissue structures, cellularized exudates, tumors, fibrin clots and similar masses are dissolved and resorbed in the body. The same sort of change may go on in retrogressive processes, such as characterize the resolution of the uterus. It was evidently with such possibilities in mind that von Fürth [1] exclaimed a few years ago: "With feelings of grateful satisfaction akin to those of a traveler who after the discomfort of a boggy moor finds firmer foothold again beneath his feet, we approach the question of the significance of autolysis in pathology."

Bradley [2] of the University of Wisconsin has recently mentioned the unique behavior of the brain in respect to autolysis. This change proceeds, it is true, in brain tissue in the same way and is subject to the same conditions as in all other tissues thus far examined. Increased acidity leads to increased speed and extent of autolysis. The brain is, however, remarkably protected, according to Bradley, against the possibility of autolytic disintegration, after which repair would become practically impossible because structural regeneration is not a feature of the central nervous substance. An excellent circulation is likely to avert anoxemia, and thus an acid reaction. The total protein of the brain is only about one-half that of liver or other gland tissues, and the neurokeratin and other nonavailable structural proteins make up a considerable fraction of this. The amount of protein that can act as substratum in autolysis is therefore much less than in other glands. As Bradley further summarizes his conception of the mechanism for preventing conditions leading to brain autolysis: The large blood supply insures against asphyxial conditions and abnormal hydrogen-ion concentration. The respiratory center makes available every resource of the organism to combat an abnormal rise in the hydrogen-ion level in the brain. With a normal hydrogen-ion level maintained, autolysis cannot go on, and the protein framework is not altered.

More than half a century ago, Voit [3] showed that during starvation the brain and cord are less likely to lose in substance than are most other tissues. This is often referred to as an illustration of the advantageous sparing of vital organs during times of stress for energy. In consonance with this, Bradley reminds us that the outstanding feature of normal brain tissue is the permanence of its impressions, memory and habit. This permanence, he believes, is achieved by its remarkably perfect mechanism for preventing conditions leading to brain autolysis.

1. Von Fürth, O.: Chemistry of Metabolism, translated by A. J. Smith, Philadelphia, J. B. Lippincott Company, 1916, p. 80.

2. Bradley, H. C.: Brain Autolysis and Memory, J. Biol. Chem. **46**: 37 (March) 1921.

3. Voit, C.: Ztschr. f. Biol. **2**: 353, 1866.

Causes of Failure of Tuberculosis Campaign.—The failures in the tuberculosis campaign are not entirely due to defects from without; they may, at any rate, in part be ascribed to errors from within. And yet such defects are ignored, our diagnosis as to cause of failure is faulty, our resultant treatment for that failure is correspondingly incorrect.—H. Gauvain *Brit. J. Tuberc.* **15**:2, 1921.

Current Comment

FILARIA LOA

The campaign against typhoid carriers has impressed ie public, in part at least, with the seriousness of such ises; but little has been said concerning the signifi- nce of ambulatory cases of parasitic infections which reaten us with hitherto unknown maladies. Begle [1] ecently described another case of infestation with the frican eye worm (*Filaria loa*), of which, incidentally, ore than twenty have already been recorded in North merica. This case is particularly interesting because ie infestation was acquired a dozen or fifteen years go, and even today the patient carries an abundance of ie microfilariae in the blood. From recent studies on fe history it appears clear that the intermediate hosts re biting flies belonging to *Tabanidae*. These insects re distributed generously over this continent, and the ery genera in which the eye parasites are known to evelop breed abundantly in marshy places or regions ell supplied with water from the tropics to the far orth. The tabanids are persistent in their attacks on an, and rank among the most pestiferous of our biting lies. It is true, of course, that *Filaria loa* disease thus ar seems to be confined to the west coast of tropical frica; but yellow fever was once limited to a similar, f not the same, territory. Of course, the danger that he species may become established is undoubtedly less n a territory where clothing is general, houses are pro- ected by screens, and the entire population constantly nanifests fear of insect bites. But the long persistence of the larval stages in the blood increases greatly the iability that biting flies may be infested and the disease ultimately become endemic in some favorable environ- ment. What has been said above applies with equal force to other species of *Filariidae* parasitic in man. Few truly endemic cases are on record, but, on the other hand, few blood examinations have been made in the parts of the United States where these parasites are most likely to occur.

1. Begle, H. L.: Infestation with Filaria Loa, J. A. M. A. **76**: 1301 (May 7) 1921.

SANDWICH CALORIES

Nowadays there is something convincing about cal- ories. The word no longer is veiled in the mysterious uncertainty that formerly seemed to envelop it before the eyes of a student of medicine. The expression calories has become associated, even in the popular mind, with the idea of energy, a beneficent fac- tor in human life. During the war, and long there- after, the cry for calories came from many parts of the world and helped to give concrete character to the problems of food fuel. Thus, it has come about that the "substantial" foods and the important meals of the day furnish a reminder of high calory values. Such items of "extra food" as sweetmeats, the ice cream soda, the bite between meals and the omnipresent box of candy are commonly thought of as incidental and rela- tively insignificant additions to the daily food. This reputation is by no means justified, as appears in numerous studies, particularly those of Benedict. The most recent analyses [1] concern the composition of the American sandwich. Meat sandwiches, such as are commonly sold in this country in public places, average 75 gm. in weight and represent approximately 225 calories in fuel value. The familiar Frankfurt variety usually is even richer in energy-yielding food. Salad sandwiches, with their complement of fat-containing mayonnaise, are usually looked on as mere morsels of food, insignificant in the day's supply of sustenance. Yet some of the purchased specimens exhibited a value equivalent to 485 calories—almost a lunch in itself. Such items are far from negligible in nutrition; and, as Benedict remarks, the sandwich taken as extra food is by no means without significance, particularly in cases of obesity. Verily there is nothing elusive about cal- ories, even between meals.

HYPERSENSITIVENESS TO EPINEPHRIN

Functional tests that require little special training or unusual apparatus for their application and do not involve difficult technic in their performance are always adopted with enthusiasm by the medical profession. All too frequently they fail to maintain the reputation which an early enthusiasm seemed to warrant because of the insufficiency of the data provided. When diag- nostic conclusions are to be based on small quantitative differences, it is highly important that the limitations of the measurements should be known. Above all, there must be an adequate control of the factor inves- tigated in persons of undoubted health and vigor. The observation of the effects of injections of epinephrin, popularly known as the Goetsch test,[2] has been widely employed as a diagnostic procedure for the detection of hyperthyroidism. A "positive" reaction is alleged to be indicated by a rise of systolic blood pressure of at least 10 mm. of mercury or a rise in pulse rate of at least ten beats per minute, together with an increase of such signs as tremor, sweating, vascular pulsation, nervousness and palpitation. Not long ago the diag- nostic value of the epinephrin reaction was thrown into question in THE JOURNAL,[3] because of the reported lack of strict parallelism which might be expected between the changes in blood pressure and pulse rate and the degree of hyperthyroidism. A group of inves- tigators [4] at the Peter Bent Brigham Hospital in Bos- ton have since then further questioned the supposed significance of the positive epinephrin test in the diag- nosis of hyperthyroidism. Their thesis involves the question of specificity, for they have presented records of many persons hypersensitive to the drug who have no indications of hyperthyroidism. In such instances a "positive" reaction may be secured without any corroboratory indication from the more dependable, though far more difficult, measurement of the basal metabolism. It is, of course, true that both types of

1. Benedict, Cornelia G., and Benedict, F. G.: The Energy Content of Extra Foods (Sandwiches), Third Paper, Boston M. & S. J. **184**: 436 (April 28) 1921.
2. Goetsch, E.: New York State M. J. **18**: 259 (July) 1918.
3. The Epinephrin Test in Relation to the Thyroid Gland, editorial, J. A. M. A. **76**: 866 (March 26) 1921.
4. Peabody, F. W.; Sturgis, C. C.; Tompkins, Edna M., and Wearn, J. T.: Epinephrin Hypersensitiveness and Its Relation to Hyperthyroidism, Am. J. M. Sc. **161**: 508 (April) 1921.

evidence may be secured from many patients with the clinical picture of hyperthyroidism; but the hypersensitiveness to epinephrin is by no means constant under these conditions. It is present most often in highly nervous persons. It was found by the Boston clinicians in about 50 per cent. of patients convalescent from acute infections, in nearly the same proportion of soldiers with "effort syndrome," in 14 per cent. of apparently normal young men, such as medical students; and it is still more common among definite "psychoneurotics." In view of the now available critical estimates of a reaction, the fundamental nature of which is unknown, caution in the evaluation of the epinephrin test is, to speak conservatively, eminently indicated.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

ARKANSAS

Baer Memorial Tuberculosis Hospital.—Fort Smith has accepted the $10,000 gift of the B. Baer Charity Fund and has set apart the administrative building at the county hospital for tuberculosis patients. The building will be remodeled, sleeping porches added and other improvements made. According to the terms of the gift the hospital is to be maintained by the county as a memorial to Mr. Baer.

CALIFORNIA

Hospital News.—Whittier's new $200,000 hospital, the gift of Col. Simon J. Murphy, Pasadena, was formally dedicated, April 30. It is to be known as the Murphy Memorial Hospital in honor of Colonel Murphy's parents who were pioneer residents of Whittier.

Legislative News.—The bill requiring medical colleges to have property and equipment valued at $100,000 was laid on the table by the assembly committee on medical and dental laws.——The bill giving osteopaths, on examination, licenses to practice minor surgery and administer drugs was killed in the state senate by a vote of 25 to 14.

The Potter Metabolic Clinic.—At a recent meeting of the board of directors it was voted to change the name of this clinic from that of Memorial Laboratory and Clinic to the Potter Metabolic Clinic in honor of its founder, the late Dr. Nathaniel Bowditch Potter. The clinic is housed in a special wing of the Santa Barbara Cottage Hospital. Dr. William D. Sansum is its present director.

"Golden Jubilee" of Medical Association.—The Medical Society of the State of California held its annual meeting—known as the "Golden Jubilee"—at Hotel del Coronado, San Diego, May 10-12, under the presidency of Dr. John C. Yates, San Diego. The following officers of the society were elected for the ensuing year: president, Dr. John H. Graves, San Francisco; president-elect, Dr. Henry G. Brainerd, Los Angeles; vice presidents, Drs. Alfred C. Reed and Joseph H. Catton, San Francisco, and secretary, Dr. William E. Musgrave, San Francisco. The 1922 meeting will be held at Yosemite Park.

FLORIDA

Bill Recreating Health Board.—The senate has passed the bill designating the governor, secretary of state and attorney-general as a state board of health and giving the governor power to appoint a state health officer at a salary of $4,200 a year.

GEORGIA

State Medical Meeting.—The annual meeting of the state medical association was held at Rome, May 4-6, under the presidency of Dr. Edward T. Coleman, Graymont. The outstanding feature of the convention was the unveiling of the monument to Dr. Battey on the second day. The chief address on this occasion was made by Dr. Howard A. Kelly, Johns Hopkins, Baltimore. Officers of the society elected for the ensuing year are: Dr. Elmore C. Thrash, Atlanta, president; Drs. Henry W. Terrell, La Grange, Robert M. Harbin, Rome, vice presidents; Dr. Allen H. Bunce, Atlanta, secretary-treasurer, reelected. Columbus was chosen as the next convention city.

ILLINOIS

Opposed to Liquor Prescriptions.—The Knox County Medical Society, at Galesburg, recently, adopted resolutions condemning the writing of prescriptions for liquor. The fall meeting will be a tricounty affair at Galesburg with Henry, Warren and Knox counties represented.

Dates Set for Better Baby Conference.—The sixth annual better babies conference, conducted by the state department of public health in connection with the state fair at Springfield, will be held Aug. 19-27, 1921. Each child entered is given a thorough physical and mental examination and the parents are informed of any defects and instructed in the scientific care of their children.

The Illinois Sanatorium Pilgrimage.—For the purpose of permitting members of county tuberculosis sanatorium boards and other interested persons to visit and inspect a group of Illinois sanatoriums now in operation or in process of construction, and to study them in company with recognized experts in every phase of institutional development, the Illinois Tuberculosis Association conducted a pilgrimage, starting at Springfield on Monday, May 9, and ending at Jacksonville on Saturday evening, May 14.

Ophthalmia Neonatorum.—Recent cases of ophthalmia neonatorum under the care of Chicago physicians, which have terminated in loss of sight to the infants, have been called to the attention of the Illinois Society for the Prevention of Blindness. On investigation it was learned that in at least six cases the physicians failed to observe the requirements of the state law governing report of the physicians. The society therefore desires to call the attention of physicians to the Illinois law, in force since July 1, 1915, which requires a report within six hours of any inflammation in the eyes of an infant under two weeks, irrespective of the nature of the infection.

Chicago

Ophthalmological Society.—The regular meeting of the Chicago Ophthalmological Society will be held Thursday evening, May 26, in the Crystal Room of the Sherman House under the presidency of Dr. E. K. Findlay. A dinner preceding the meeting will be given in honor of Lieut.-Col. Henry Smith of London, England, late of India. Those wishing to attend the dinner should communicate with Dr. Michael Goldenberg, secretary.

INDIANA

Beer Not a Medicine.—At the annual conference of Indiana physicians and public health officers held, May 10, at Indianapolis, a resolution was approved declaring that the demand for beer as a medicine had not come from physicians, and urging members of Congress to support the recent Volstead bill, designed to prohibit the sale of beer for medicinal purposes. Dr. John N. Hurty, state health commissioner, presided at the sessions.

MARYLAND

Dr. Arthur J. Lomas Accepts Iowa University Post.—Dr. Arthur J. Lomas, second assistant superintendent of the Johns Hopkins Hospital and director of the dispensary, has been elected director of the hospital of the University of Iowa, at Iowa City, and has accepted the post.

Harvard Chair Offered to Dr. Howland.—Dr. John Howland, professor of pediatrics at the Johns Hopkins Medical School, director of the Harriet Lane Home and pediatrician in chief of the Johns Hopkins Hospital, has received an offer from the Medical School of Harvard University to become professor of children's diseases at that institution.

Punishment for Furnishing Whisky Prescription.—It is reported that Dr. John Turner, Baltimore, pleaded nolo contendere to an indictment charging him with writing prescriptions for whisky without a careful physical examination to determine whether the use of such liquor as a medicine was necessary and would afford relief from a known ailment to the persons obtaining the prescriptions. The judge is reported to have fined him $350 and costs.

Personal.—Dr. John M. T. Finney, who for six weeks has been touring the West, has returned to his home in Baltimore.——Dr. Henry M. Hurd, Baltimore, has resigned as a member of the Lunacy Commission of Maryland, on which board he has served for the past thirteen years.——Dr. Carlos Chagas, director of the Brazilian National Department of Health and head of the Institute Oswaldo Cruz of Rio de Janeiro, will shortly visit Baltimore and will lecture before the physicians at the Johns Hopkins Medical School.

MASSACHUSETTS

Home for Permanently Disabled Soldiers.—Mrs. Horace N. Slater, New York, has given her estate at Readsville to the United States government for fifty years to be used as a home for permanently disabled soldiers. The home, which will accommodate 100 men, will be called the Morris Hunt Memorial Park in memory of Mrs. Slater's father.

Personal.—The governor has appointed Dr. Richard P. Strong, professor of tropical medicine, Harvard Medical School, as a member of the public health council to succeed Prof. William T. Sedgwick, recently deceased.——Dr. Joseph O. Mulhern, formerly of the staff of the Boston City Hospital, has been assigned to the office of the U. S. Public Health Service in Worcester.——Dr. Francis W. Palfrey, Boston, has been appointed by the health commissioner as special expert diagnostician in typhus fever for a temporary emergency period.——Dr. S. F. Lee of the Canton Kun Yee Medical College and Hospital, China, was the guest of honor of the Chinese United Association at the Red Dragon Restaurant, Boston. Dr. Lee is visiting America in hope of securing $200,000 with which to enlarge the Canton hospital and introduce the latest methods of treating diseases. The Chinese United Association pledged $2,000 for this purpose.——Dr. Peter L. McKallagat has been appointed city physician for Lawrence to succeed Dr. William J. Sullivan, resigned.

Cape Cod Health Bureau.—Final arrangements are now being completed for a demonstration in public health organization to be carried out on Cape Cod, with the assistance of the U. S. Public Health Service. It is expected that this demonstration will go into operation, May 16, 1921, and will be carried on for a year. The ten towns listed below have joined forces under the name of the Cape Cod Health Bureau: Barnstable, Bourne, Brewster, Chatham, Eastham, Orleans, Sandwich, Truro, Wellfleet and Yarmouth. The corps of workers will consist of a full-time health officer, a sanitary inspector, a public health nurse and an office assistant. The nurse and her transportation will be provided by the local chapter of the Red Cross. Reports will be made and plans will be subject to approval by the local health boards and the state department of public health, as well as the Public Health Service. The functions of this staff will be similar to those of a full time health officer and his assistants in a municipality and they will range from the physical examination of schoolchildren to the abatement of nuisances, including the control of communicable diseases, inspection of milk and water supplies, the promotion of child welfare and other clinics in cooperation with established agencies, and the inception of maternity and infant hygiene to towns where it is not carried on.

MISSISSIPPI

State Medical Meeting.—The annual meeting of the state medical society was held in Laurel, May 10-11, under the presidency of Dr. John W. Barksdale, Winona. The annual oration was delivered by Dr. Irvin Abell, Louisville, Ky. His subject was the "Cancer Problem." Officers elected for the ensuing year are: president, Dr. Henry Boswell, Sanatorium; first vice president, Dr. John S. Eason, Coldwater; second vice president, Dr. Roland H. Cranford, Laurel; secretary, Dr. Thomas D. Dye, Clarksdale, reelected; treasurer, Dr. James M. Buchanan, Meridian, reelected. It was decided to hold the next convention at Browns Wells.

MISSOURI

Public Health Subdivision of Chamber of Commerce.—To complete the formation of the public health subdivision of the chamber of commerce, a "smoker" was held, May 6, at the University Club, St. Louis. Many enterprises of benefit to the health of this community are undertaken by the municipal authorities and smaller groups of interested citizens, which if given the benefit of the strength and prestige of the chamber of commerce would result in a more perfect understanding and greater cooperation by all concerned. The chamber itself cannot sponsor such movements in the absence of competent authority to guide it. The objective sought is to have in this group public spirited physicians, who will aid by advice and moral support in making St. Louis a better place in which to live, and to hold high the standard of the medical profession. Those eligible for membership in the public health subdivision are members of the American Medical Association, American College of Surgeons, National Dental Association, physicians holding a commission in the U. S. Army, Navy, or Public Health Service, and members of such other organizations as may be approved by the executive committee of the subdivision.

NEW JERSEY

Legislative News.—Senate Bill 149 indorsed by the state medical society, which sets the educational standard of a four-year high school and four-year college course for chiropractors, abolishes the state chiropractic board, and places chiropractors under the jurisdiction of the state board of medical examiners, has been signed by Governor Edwards.

Insignia to Entitle Physicians to Right of Way.—At the May meeting of the Hudson County Medical Society, held at Hoboken, a resolution was adopted and committee appointed to take up with governing bodies of the several municipalities in the county the proposition of placing American Medical Association insignia on the front of automobile radiators to entitle physicians to right of way.

NEW YORK

New York City

Industrial Corporation Cooperates in Public Health Work.—In cooperation with the department of health's measures to prevent smallpox, the Western Union Telegraph Company, in the future will require all applicants for employment to present certificates of recent vaccination.

Imitation Milk and Cream Prohibited.—The New York City Board of Health has amended the Sanitary Code by the addition of Section 179, which prohibits the manufacture, sale and distribution of imitation milk and cream and also prohibits the sale or exchange of any article of food made from such milk or cream, or the manufacture from such milk or cream of any article of food.

Drug Convictions Stand.—It is reported the conviction in the United States District Court of Dr. Daniel J. Hoyt and Dr. Leopold Harris, charged with violation of the Harrison Narcotic Law, has been confirmed in a decision in the United States Circuit Court of Appeals. Both physicians were convicted in May, 1920, of dealing in wholesale commercial prescription of drugs. Dr. Hoyt has been sentenced to serve four years and Dr. Harris two years in the federal penitentiary at Atlanta.

NORTH CAROLINA

Renomination of Physician for Mayor.—Dr. Joseph W. Ring, who for forty-eight years has practiced medicine in Elkin and is the present mayor of the town, has been unanimously renominated for another term.

Malaria Study Station.—The local health department has announced that the International Health Board's malaria-study station will be located at Kinston. It is understood this is to be the only station in the South and that it will replace an experiment plant that has been maintained in Louisiana. When sufficient data have been accumulated the international board will start a drive against malaria and the mosquito which causes it.

OHIO

Guilty of Writing Illegal Prescriptions.—It is reported that Dr. Mark E. Bowles, Cincinnati, pleaded guilty to violation of the Volstead act and was fined $350.

Physician Convicted.—It is reported that Dr. Albert S. Barnes, Columbus, was found guilty of selling drugs unlawfully. Dr. Barnes' attorneys have filed a motion for a new trial.

College Recognized.—Information received shows that the Eclectic Medical College of Cincinnati should have been marked as recognized by the Tennessee Board of Preliminary Examiners in Table D, published in THE JOURNAL of April 30.

Medical Dean of University of Cincinnati.—It has been announced that Col. Henry Page, U. S. Army, Denver, has been selected to become dean of the Medical College of the University of Cincinnati to succeed the late Dr. Christian R. Holmes.

Gift to University of Cincinnati.—The directors of the University of Cincinnati have accepted the gift of Mrs. Bettie Fleischman Holmes, widow of Dr. Christian R. Holmes, of the equipment of the medical college cafeteria, valued at $5,000. Announcement was also made of a contribution of $500 to the department of preventive medicine from Julius Fleischman, former mayor of Cincinnati.

Personal.—Dr. Elmer I. McKesson, Toledo, was elected president of the National Anesthetic Research Society at a recent meeting held in Toledo.——Dr. Frank Warner, Columbus, has been selected to represent the Pennsylvania system in all the conventions and meetings of the medical and surgical section of the American Railway Association.——Dr. Charles T. Nesbitt, health director of Akron for the past three years, has resigned.——Dr. Carl W. Sawyer, Marion, was elected president of Rush Medical College Alumni Association at its annual banquet held, May 4, at Columbus.

Action of State Medical Association.—The house of delegates of the state medical association meeting at Columbus, May 2-5, approved by a vote of 58 to 10 Senate Bill 184, which repeals the law permitting nurses to administer anesthetics. The bill has been passed by the senate and is now pending in the house.——The committee on the president's address reported favorably to the house of delegates on retiring President Lukens' recommendation that the medical profession put aside its conservative policy and utilize the press to the fullest possible extent in teaching the people the things they ought to know about their life and health.——A resolution was adopted which pointed out that since alcohol is no longer a legitimate product it falls in the medical and pharmaceutical classification and should be tax free.

PENNSYLVANIA

Philadelphia

Babies' Hospital Open.—The dedicatory exercises of the Babies' Hospital were held May 9. Dr. Charles A. Fife is president of the institution. The building was erected at a cost of nearly $200,000. The main function of the organization is to prevent as well as cure all ailments of babies free of charge.

Personal.—Dr. Meyer Solis-Cohen has been appointed assistant professor of internal medicine in the Graduate School of Medicine of the University of Pennsylvania.——Lieutenant Colonel Henry Smith, noted surgeon and eye specialist of India, visited this city on May 18 and 19. Dr. Smith was the guest of the Ophthalmological Society.

The College of Physicians of Philadelphia.—A special meeting will be held, May 23. Madame Marie Curie, of Paris, will present to the college a Quartz Piezo Electrique Apparatus, designed and used by her in her earlier research work for measuring the radio-activity of radium. Dr. Robert Abbe, of New York, will present mementoes of Lord Lister and Louis Pasteur, with a custodianship case for their permanent preservation.

Medical Men Approve Merger.—At a dinner in honor of the Advisory Council of the Henry Phipps Institute, given by Dr. Josiah H. Penniman, acting provost of the University of Pennsylvania, at the Bellevue Stratford, May 10, a merger of the Phipps Institute with the new Graduate Medical School of the University of Pennsylvania was spoken of and approved by the research workers and specialists in the study of tuberculosis.

TEXAS

State Board of Health.—The governor has recently announced the following appointments for the state board of health: Drs. Murff F. Bledsoe, Port Arthur; Marcus P. Smartt, Manor; Dickson G. Thompson, Waxahachie; Thomas B. Fisher, Dallas; Marion M. Brown, Mexia, and Nettie Klein, Texarkana.

WASHINGTON

Health Board.—Governor Hart, on May 1, appointed Dr. Herbert C. Leiser, Vancouver, as the fourth member of the state board of health. Physicians previously appointed by the governor are: Dr. James H. Egan, Tacoma; Dr. William W. Brand, Prosser, and Dr. Robert N. Hamblen, Spokane. Dr. Paul A. Turner, Seattle, director of health, completes the board.

WISCONSIN

Substitute Amendment to Senate Bill.—There has been prepared a substitute amendment to Senate Bill 348 of the Medical Practice Act, regulating chiropractics and other new methods of healing which are now in vogue or which may in the future be devised. This substitute amendment has been approved by many of the best qualified members of our profession and is also approved by the osteopaths. It varies from the original bill in that it does not give the chiropractor a place on the board of medical examiners. It regulates chiropractics by providing registration for some of them and licensing for others, provided that they will measure up to the same standards with respect to preliminary and technical education now laid down in the Medical Practice Act for those who desire to enter the field of medicine.

CANADA

Hospital News.—By the will of the late Sir William Gage, Toronto, founder and president of the National Sanitarium Association, large donations are to go to the Toronto Free Hospital for Consumptives, the National Sanitarium Association and the other institutions in which Sir William was interested. Proper salaries to the extent of $10,000 annually are to be provided for the medical superintendents.

Irregular Practitioners in British Columbia.—The legislature of British Columbia has accorded optometrists recognition and a special bill will be framed to meet their requirements. In the case of other irregular practitioners these will be required to conform to the Medical Acts and pass examinations on the subjects and so indicate they have a knowledge of the human body in health and disease.

National Public Health Congress.—The Canadian Public Health Association, Canadian Association for Prevention of Tuberculosis, Ontario Health Officers' Association, and the Canadian National Council for Combating Venereal Diseases held a National Public Health Congress at Toronto, May 16-18. Visiting physicians who delivered addresses were Dr. Charles V. Chapin, Providence, R. I., who spoke on "Quarantine and Isolation in the Control of Communicable Diseases"; Dr. John B. Hawes, Boston, and Dr. Caleb W. Saleeby, London, England, who discussed "Eugenics and Public Health."

Personal.—Among American physicians who will take part in the program of the annual meeting of the Ontario Medical Association, Niagara Falls, Ont., May 31 to June 3, are: Dr. William Charles White, Pittsburgh; Dr. Harvey R. Gaylord, Buffalo; address in medicine, Dr. Frank Billings, Chicago; Dr. Lewis Park, Buffalo; Dr. Charles Graef, New York; Dr. Duncan McPherson, New York; Dr. James S. Pritchard, Battle Creek, Mich.; Dr. John R. Williams, Rochester, N. Y.; Dr. Arthur A. Small, Chicago; Dr. Campbell P. Howard, University of Iowa; Dr. Leonard G. Rowntree, Mayo Clinic; Dr. Irving W. Potter, Buffalo; Dr. Ernest K. Cullen, Detroit, Mich.; Dr. Lothrop, Buffalo; Dr. H. Ryerson Decker, Pittsburgh; Dr. Bertram Sippy, Chicago; Dr. William H. Porter, New York; Dr. Charles W. Webb, Clifton Springs, N. Y.; Dr. Martin E. Rehfuss, Philadelphia; Dr. John B. Deaver, Philadelphia; Dr. John Beemer, New York; Dr. Charles G. Sutherland, Mayo Clinic.

GENERAL

Hookworm Study.—Dr. William Walter Cort and E. L. Augustine, Baltimore, and Dr. J. E. Achert, Kansas State Agricultural School, sailed May 5, for the Island of Trinidad to spend three months studying the hookworm. They are sent by the International Health Board of the Rockefeller Foundation and will take with them a complete set of laboratory apparatus and supplies.

Hearings on New Volstead Bill.—Hearings on the bill introduced by Representative Volstead of Minnesota prohibiting the sale of beer for medicinal purposes are being held before the Committee of the Judiciary of the House. No officials of medical societies have appeared as witnesses to testify to the necessity of beer as a medicine. One physician from New York gave testimony against the measure. The witnesses in the main were representatives of the Anti-Saloon League and the Women's Christian Temperance Union, who insisted that beer should be prohibited as a medicine and that its sale should be stopped on physicians' prescriptions.

Bill for Veterans' Bureaus.—Representative Sweet of Iowa has introduced a bill in Congress providing for the establishment of a Veterans' Bureau in the Treasury Department, which contemplates a transfer of the problem of caring for disabled ex-service men from the Bureau of War Risk Insurance and the U. S. Public Health Service to this new organization. The Veterans' Bureau, according to the proposed measure, will have complete charge of the examination, hospitalization, treatment, medical care, nursing and vocational education of war veterans. Use of the hospitals of the United

States Public Health Service, the War Department, the Navy Department, the Interior Department, the National Homes for Disabled Volunteer Soldiers and all other governmental facilities are made available for the use of the Veterans' Bureau. The bill has been referred to the Committee on Interstate and Foreign Commerce.

Use of Alcohol in Industrial Hospitals.—The Philadelphia Association of Industrial Medicine reports that conflicting replies having been received by their members from letters sent to district prohibition directors regarding the securing of grain alcohol, a letter was sent to the director of prohibition, Hon. J. E. Kramer, at Washington, D. C., who replied as follows:

"Receipt is acknowledged of your letter of February 3, 1921, relative to the purchase and use of alcohol in industrial first aid stations directly supervised by regularly qualified and registered physicians.

"In reply thereto you are advised that if a physician is employed by an industrial concern in its emergency hospital, such physicians may procure liquor for emergency as well as for compounding purposes, as provided in Sections 71 and 71 (a) of Regulations 60."

LATIN AMERICA

New Officers of the Medical School of Medellín.—Dr. J. B. Montoya y Flórez has been appointed to replace Dr. B. Mejía as director of the medical school of Antioquía University, Medellín, Colombia. Dr. P. Nel Cardona is the new secretary. The school offers thirty-one courses and has twenty-eight professors.

New Brazilian Journal.—The first number of the *Revista de Medicina e Hygiene Militar* of Brazil has already appeared. It is edited by General Dr. Ferriera do Amaral, Almirante Dr. C. Búlcão e Professores M. Couto, A. Peixoto e J. Moreira. The new journal is a continuation of the former *Revista Medico-Cirurgica Militar.*

Gallinal Prizes.—The officers of the School of Medicine of Montevideo have approved the rules which will govern the granting of the Alejandro Gallinal prizes. The funds offered by Dr. Gallinal for this purpose, amount to 30,000 pesos which will be distributed annually in assignments from 3,000 to 5,000 pesos. Only Uruguayans are eligible to the prizes.

Personal.—Three French army physicians, Drs. L. Marland and Boisseau and P. Marcel, have signed contracts with the medical department of the Brazilian army and been presented to the minister of war at Rio.——Dr. Piraja da Silva has been placed in charge of the antisnake venom branch at Bahia of the Butantan Institute.——The *Brazil-Medico* states that Dr. Klotz of the chair of pathologic anatomy at the University of Pittsburg has accepted a call to the similar chair at S. Paulo.

FOREIGN

Infroit Prize.—The Academy of Medicine at Paris has received a donation from the widow of Marquis Visconti to found a triennial prize of 3,000 francs in memory of the late radiologist, Infroit.

Memorial to Strambio.—A plate has recently been placed by the city of Milan and others on the house formerly occupied by Dr. Gaetano Strambio with a tribute to his work as physician, writer and pellagrologist.

Memorial to Bozzolo.—A bust of Professor and Senator C. Bozzolo was recently unveiled in the hall of the University of Turin where he had been the incumbent of the chair of clinical medicine for thirty-seven years until his death occurred in 1920.

Fibiger in Paris.—Professor Fibiger of Copenhagen delivered a public lecture at Paris recently on the invitation of the French Cancer Research Association. He described the experimental production of cancer in rats and mice, and his own personal work in this line with experimental gastric cancer.

Tribute to Brocq.—Students and friends of Professor Brocq are collecting funds to present him with a portrait bust on the occasion of his approaching retirement from the Saint-Louis Hospital. The treasurer of the fund is Dr. Clement Simon, 8, rue Anatole-de-la-Forge, Paris. Each subscriber will receive an engraved portrait of Dr. Brocq.

Tribute to Boeckel.—On the occasion of the Congrès de Chirurgie which is to convene at Strasbourg, October 3, with Prof. E. Boeckel in the chair, the organizing committee wishes to present him with a medal as a token of esteem for his efforts during the German occupation. Subscriptions can be sent to M. Mouly, agent of the Association française de chirurgie, 12, rue de Seine, Paris.

Prizes for Marie.—The Bréant prize offered by the Académie des Sciences has been conferred on Drs. A. Marie and Levaditi for their work on the neurotropism of syphilis. At the same time the Académie des Sciences Morales et Politiques has awarded the académie prize to Drs. A. Marie and Legrain for their recent work on the psychologic causes of alcoholism. Still another prize has been conferred on Marie recently, the Pannetier prize given by the Académie de Médecine. It was conferred on Drs. A. Marie and Levaditi for an article on the causes of general paresis.

Psychiatry Week at Paris.—The last week in May witnesses the convening at Paris of most of the societies that have to do with the care of the insane, prophylaxis of insanity, the material interests of alienists, gatherings of asylum interns, etc. It is proposed to combine the whole into a *semaine psychiatrique,* with consultations with the state authorities on certain questions of administration. The psychiatric congress to be held next year is to be a special meeting in honor of the tercentennial of François Bayle, the *grand ancêtre de la psychiatrie française,* as he is called, born in 1622.

Clinics in Vienna.—The dean of the Medical Faculty in Vienna has issued a statement relative to postgraduate work. It is announced that 1,300 beds of the Allegemeines Krankenhaus are available for postgraduate teaching, that the number of necropsies is about 3,000 annually and that living expenses will average $50 to $60 per month. A special announcement has been issued of courses to be given during June and arrangements beyond that date may be made by addressing the editor of the *Wiener medizinische Wochenschrift,* Wien, IX, Porzellangasse 22. Another series of lectures is to be given in September and a final series in December.

International Red Cross Conference.—Resolutions were unanimously adopted by the International Red Cross Conference, held at Geneva in April, inviting the national governments to make additions to the Hague convention absolutely forbidding the use of poison gas, whether as drift gases or in projectiles, and limiting war in the air to strictly military objects, so that the civil population may be as far as possible protected from this new weapon, and useless destruction avoided. A resolution was also adopted asking the governments to take steps to add to the International Convention rules governing the protection of aeroplane ambulances and airships used for the carriage of sick or wounded. A suggestion from the Swedish and Danish Red Cross societies that the rules should permit supplies to pass through a blockade to sick persons, old people and children was adopted although the difficulties of its enforcement were recognized.

Monument to Spanish Physician.—On April there was inaugurated in one of the parks of Madrid, opposite the zoological garden, a monument to the prominent Spanish physician and politician, Dr. C. M. Cortezo, the present editor of the *Siglo Médico.* At the inauguration ceremonies, several speeches were made, praising Dr. Cortezo's long and fruitful activities on behalf of the medical profession and humanity in general. Prominent among those present were fifty boys and fifty girls from the Physicians' Orphans Home, which owes so much to Cortezo. The monument is simple, has a tablet with Cortezo's picture, the staff and the snake as a medical emblem, and a child feeding birds, the latter being allegorical of Cortezo's work on behalf of physicians' orphans. Cortezo, who was present, in expressing his thanks for this tribute, said gracefully that he accepted it only as homage to the medical profession, as otherwise it would have been out of the question for him to accept a monument while living, in view of the fact that none had already been erected for either Cajal or Méndez Alvarez.

Deaths in Other Countries

Dr. **Gino Galeotti,** professor of general pathology at the University of Naples and one of the pioneers in the study of bubonic plague in India.——Dr. **R. Becerro de Bengoa,** professor of gynecology at the University of Madrid, aged 38. ——Dr. **F. K. Hallager,** a leading Danish psychiatrist and neurologist, aged 72.——Dr. **A. Hugelshofer** of Basel succumbed to effects of infection at necropsy, aged 45.——Dr. **P. Klemm,** a well known surgeon in German Baltic region and writer on surgical subjects, aged 59.——Dr. **T. Wechsler,** professor of latin literature in the University of Buenos Aires, at one time on the editorial staff of the *Semana Médica.*—— Dr. **G. Berti,** professor of pediatrics at the University of Bologna.——Dr. **K. Kjellberg,** professor of anatomy at Stockholm and member of the lower house, aged 54.——Dr. **F. Portela,** at one time chief of the municipal health service

at Havana.——Dr. **M. Delfín,** a well known pediatrist of Havana and at one time director of the Departamento de Beneficencia, and president of the board of education.——Dr. **H. Duret,** a surgeon of Lille, honorary dean of the Université libre and president of the society to aid the wounded in war, aged 71.——Dr. **A. Margulies,** professor of psychiatry at the German University at Prague, aged 51.——Dr. **Jorge Tobón C.** of Medellín, Colombia, professor in the medical school and chief of the departmental service for care of the insane. The cable brings word of his death at Paris.——Dr. **E. Rode,** a well known gynecologist of Christiania, Norway, and writer on obstetrics and gynecology, aged 68.——Dr. **Milecky,** killed at Kattowitz, Poland, while dressing the wounded.——Dr. **L. J. Uricoechea,** professor in the medical school of Bogotá and president of the National Academy of Medicine, died recently at Baltimore.——The death is also reported from Colombia of Dr. **Rodríguez** at a very advanced age. He was long professor of surgery in the Bogotá school.

Government Services

Hearings on Public Welfare Bill

The proposed Department of Public Welfare, recommended by President Harding, has been the subject of hearings before the joint meeting of the Senate and House Committees on Education and Labor. Opposition has developed to certain features of the measure, particularly by proponents of the plan to establish a separate department of education. A division of education is contemplated in the Department of Public Welfare, but these advocates of the Department of Education declare that the education of the American people is important enough for a separate department instead of a mere division in the Department of Public Welfare. Up to this time the hearing has not yet taken up any questions nor heard any witnesses with regard to the public health features of the measure. Dr. A. L. Forster of Chicago appeared for the chiropractors and urged that the bill be amended so as to prevent any discrimination against any school of healing.

Reorganization of Government Bureaus

The Smoot-Reavis Joint Congressional Committee, created for the purpose of reorganizing the various departments and bureaus of the federal government, was formally organized on May 13. Walter F. Brown, Toledo, was appointed as the President's personal representative and was elected permanent chairman. Senator Reed Smoot was elected vice chairman. President Harding sat with the committee and outlined his views regarding the problem in hand. The first step will be to make complete surveys of the personnel of the departments and bureaus and the individual work of employees. When these surveys are completed investigation will follow together with hearings.

Vacancies in Naval Medical Corps

The Medical Corps of the Navy is confronted by a discouraging situation. Approximately 600 vacancies have occurred, and to fill these vacancies during the past year only six medical officers have been appointed from civil life and only 100 from the reserve and temporary medical officers. This situation is due largely to the fact that private practice is more remunerative. Officers in the Medical Corps of the Navy who believe that the right kind of material can be secured for the Navy are hopeful that the department will take some steps to attract medical men, so as to influence in a favorable way the existing failure of medical men to enter the Navy.

Hospital Facilities for Tuberculous Veterans

The War Department has ordered that 600 beds at the Fitzsimmons General Hospital, Denver, be prepared for use for the care of tuberculous war veterans. In order to furnish these accommodations it will be necessary to provide additional buildings and facilities. Work on the improvement will be started within the next month. Bids have already been advertised for, the plan being to provide six 100-bed wards and a number of auxiliary buildings.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 19, 1921.

The Lancet

A change in the proprietorship of the *Lancet* is announced. It "has come under the control of Henry Frowde and Hodder and Stoughton (Oxford medical publications); there will be no change in the editor or the policy of the paper." Thus the leading English medical weekly, which is now approaching its centenary, for the first time has passed into the hands of publishers. The journal was founded in 1822 by Thomas Wakley, a medical man of extreme radical views in politics who aroused considerable animosity among the leaders of the profession because he reported their hospital lectures—a thing which, curiously, in those days was thought objectionable. For the greater part of its career the *Lancet* was owned and edited by members of the Wakley family who were all qualified medical men, and of whom one, Mr. Thomas H. Wakley, practiced as a surgeon. The last member of the family who edited the journal was Mr. Thomas Wakley. On his death in 1909 the *Lancet* was purchased by a company which mainly consisted of medical men connected with it.

Deaths of Workers at the Radium Institute

Recently I reported the deaths of three workers at the Radium Institute which were attributed to aplastic anemia due to their occupation. The matter was first published here through a circuitous channel, being derived from a French report. An official report has now been made by the medical superintendent of the Institute, Mr. Hayward Pinch, which considerably modifies the previous one. The first death occurred in December, 1916, in a worker who was seen by several eminent specialists and whose death was ascribed by them to pernicious anemia. The second death occurred in January, 1920, in a nurse, and was due to infective endocarditis; but it is admitted that the radium had unquestionably affected her, though it was not from this alone that she died. The third death occurred in February, 1921, in a man, aged 47, and was due to acute pneumonia. Each case is claimed to have been due to a definite disease apart from the effects of radium, but the institute committee considered it highly probable that the work of these persons weakened the powers of resistance to the diseases from which they suffered. Dr. J. C. Mottram was appointed to make a special investigation of the effects of radium on the staff of the institute. For a year he made examinations of the blood of every worker, from the superintendent down to the hall porters. He found definite changes in the red and white corpuscles due to exposure to radium. He showed that radium workers are subject to widely different amounts of irradiation varying as they work near to or distant from radium and according to the period of exposure. Laboratory workers who prepare and measure applicators containing emanation and radium, and clinical workers who attach screens to the radium applicators and subsequently apply them to patients are especially exposed. Other workers, down to the servants of the institution, are subject to only small quantities of the gamma radiation, which pervades the whole building. The polymorphonuclear, leukocytic, and lymphocytic blood count of radium workers was found decidedly lower than that of normal persons. Even among the less irradiated workers there was no evidence of leukocytosis. This contrasts with the fact that in small animals alternate periods of irradiation and freedom from irradiation will under certain conditions produce profound leukocytosis,

and that the leukopenia following a single dose of roentgen rays is often followed by leukocytosis. The leukopenia of radium workers is manifest after a few weeks' exposure. No association was found between the leukopenia and any ill health. An extremely thorough protective system has been elaborated and has been copied by other institutes. Dr. Mottram has recently reported, after a year's blood examinations of the workers, that their blood condition is slowly returning to normal.

Medical Inspection of Adults

Dr. Christopher Rolleston, health officer for Rutlandshire, makes a plea for routine periodic examination of all adults. An investigation of the ages at which 250 deaths in his county occurred shows that twenty-two occurred under 1 year; four between 2 and 5 years; seven between 5 and 15 years, and twelve between 15 and 25. Thus, from birth to the age of 25 only forty-five persons succumbed. From this period onward the death roll rapidly increased. Between 25 and 45 there were twenty-six deaths; between 45 and 65, 50; and from 65 onward, 129. These figures he regards as showing the futility of the English system, which includes a thorough medical examination for persons at the healthiest period of life, between the ages of 5 and 15 years. Thereafter all routine medical examination and treatment are confined to those insured under an act admitted to be inadequate to the needs of the population and the demands of medical science. Dr. Rolleston urges that routine medical examination of all persons once or twice a year should be a legal enactment. The signs of early disease in the middle-aged could be detected and remedied. Early arterial disease in men could be prevented from proceeding to the lengths at which it is now commonly discovered. Serious uterine disease in women could be detected and remedied.

Digestion of the Esophagus

At the Medico-Chirurgical Society of Glasgow an important communication on this subject was made by Prof. J. H. Teacher, J. H. Pringle and L. T. Stewart. Mr. Pringle had observed some years ago a case of vomiting of brown material with pain behind the sternum after operation and thirty-six hours before death. No cause could be made out except digestion of the esophagus (which had not gone to the length of perforation). In 1919 the authors described in the *British Journal of Surgery* a number of cases in which digestion of the esophagus appeared to have been the cause of hematemesis and sometimes of death. Intra vitam digestion of the esophagus appeared to arise in the following manner: Vomiting of gastric juice occurred, but the esophagus failed to clear itself, and some of the fluid remained, accumulating particularly above the cardiac sphincter, where injury of the tube was usually most advanced. In postoperative hematemesis, the fluid ejected usually was extremely acid, and patients sufficiently conscious frequently complained of the scalding sensation in the throat and lips. The lesions produced before death by the gastric juice were likely to be more or less obliterated by continuation of the digestion after death. But microscopic examination detected unmistakable signs of vital reaction in the form of inflammatory changes—acute ulceration. It was clear that digestion of the esophagus during life did occur, that it might be the cause of death, that it occurred in other than operative cases, and that it might be arrested and healing take place. Its occurrence was shown by hematemesis and in some cases by pain behind the sternum. In most of the cases digestion probably occurred not more than thirty-six hours before death. The lesions showed great variation—from superficial erosion with hemorrhages into the affected tissue, to perforation or extreme maceration of the lower third of the esophagus and digestion of the adjacent surface of the lungs. An important diagnostic feature, available at necropsy, was the relatively slight or absent post-mortem digestion of the stomach, contrasting with advanced digestion of the esophagus above the cardiac ring. Signs of reaction might be unrecognizable or slight in the lower parts, but well marked in sections prepared from the upper part of the damaged esophagus.

PARIS

(From Our Regular Correspondent)

April 22, 1921.

Use of Drugs in the Antituberculosis Dispensaries

Although, up to the present time, no drug has been discovered that will cure pulmonary tuberculosis, nevertheless most of the antituberculosis dispensaries use (and misuse) certain drugs, which are almost always useless and for the most part harmful. The item of drugs is a heavy one in their budget. When any criticism is offered on this state of affairs, the reply is made that if we expect to attract tuberculous subjects to the dispensary and retain their interest we must provide medicinal treatment for them. Now, however, Dr. E. Rist, physician to the Laënnec Hospital and to the Léon Bourgeois dispensary, has come forward to show how unreasoned and inconsistent such statements are. During the year 1920 he gave 1,154 consultations to 601 patients at the Léon Bourgeois Dispensary. During this period only 141 medicinal prescriptions were given, and these to only ninety-two patients. Or, to express it otherwise, of every hundred consultations, twelve resulted in a prescription; and of 100 consulting patients, only fifteen received a drug, which is a small percentage. The question may be asked, Why do the patients return if the dispensary gives so few prescriptions? Simply because they find that they receive efficient social assistance. Most of them are sufficiently intelligent to understand that they are given a thorough examination; that the dispensary takes an interest in them, and that what is procured for them —a bed in a hospital or a sanatorium, gratuitous meals, employment, a sojourn in the country—is worth more than pills, syrups or even hypodermic and intravenous injections. Many of them are also perfectly capable of appreciating the great value of the service that a dispensary properly equipped and directed furnishes them in the way of a precise and correct diagnosis.

Need of Better Protection of Persons in the Vicinity Against the Damaging Effect of Scattering Roentgen Rays

In providing for the protection of operators against the possible damaging effects of scattering roentgen rays, thus far consideration has been given exclusively to lateral protection by surrounding the roentgen-ray apparatus with double lead screens from 5 to 6 mm. thick. But against the vertical radiations no protection has been provided. The fact remains that persons who occupy the floors above and below the apparatus are exposed to intense applications of roentgen rays. Deep roentgen-ray therapy requires for the treatment of cancer a high intensity of the rays, in France a spark gap of 25 cm. and one sitting of from twelve to fifteen hours, and in Germany a spark gap of 12 cm. and one sitting of five hours being employed. The irradiation produced by such intensity possesses an immense power of penetration. Monsieur Contremoulins, who lately called the attention of the Academy of Science to these facts, thinks that such high-powered apparatus cannot be installed in densely populated urban centers without exposing the inhabitants to grave dangers. Special measures of protection must therefore be provided.

The Franco-Anglo-American League Against Cancer

The general annual assembly of the Franco-Anglo-American League Against Cancer met, April 19, at the Medical

School of the University of Paris, under the chairmanship of Monsieur Leredu (minister of hygiene, public charity and social provision), who was assisted by Prof. Mark Baldwin, Professor Hartmann and Professor Roger, dean of the Paris Medical School. It was found that the finances of the league, although in a prosperous condition, would not be adequate for the multiplicity of tasks that the league has set for itself. Numerous gifts have been made to the league of late, but it was decided that a further energetic appeal must be addressed to the public, which has a paramount interest in the success of the undertaking. Professor Hartmann reminded the assembly that cancer is constantly increasing, and stated that it caused every year the death of more than 32,000 in France.

Election of Vice President of the Academy of Medicine

The Academy of Medicine recently took up the election of a vice president for the current year (president for 1922) to fill the vacancy caused by the death of Professor Bourquelot. By seventy-three votes out of seventy-five, Monsieur Béhal, professor in the Paris School of Pharmacy, was chosen. Professor Béhal has been a member of the Academy of Medicine since 1907, and was lately elected a member of the Academy of Science. During the war he was the director of the bureau of chemical and pharmaceutic products, which rendered such excellent service for national defense in keeping up the supply of drugs and in attending to matters of prime importance to the civil population.

Exposition on Child Welfare and Maternity Work

A national exposition on child welfare and maternity work will be held in the Jardin Zoologique d'Acclimatation in Paris, from June 15 to July 25, 1921. Two congresses will convene during the exposition. The first will bring together the members of the fifty-one French leagues on repopulation and amelioration of the birth rate. The second will be attended by the departmental commissions on childbirth, which have been summoned to meet at Paris at the invitation of the superior council. An extensively planned baby show, a gratuitous distribution of toys and baby garments, and the formal bestowal of medals by the Famille française will be the closing features of the exposition.

Death of Prof. Henry Duret

Dr. Henry Duret, formerly surgeon to the hospitals of Paris and honorary dean of the Medical School of the University of Lille, died recently at Lille at the age of 71.

BUENOS AIRES

(From Our Regular Correspondent)

March 14, 1921.

Prevention of Tuberculosis

After a long discussion, the House of Representatives has approved with some changes the bill introduced by the government for an antituberculosis campaign. The necessary funds will be obtained by increasing the tax on the lottery tickets 5 per cent., and decreasing the amount of the prizes 10 per cent. It was considered advisable to obtain these funds from this legalized gambling, which the government exploits under the name of lottery, as otherwise no money would have been forthcoming, as has happened heretofore. There have also been some criticisms of the high percentage (about 40 per cent.) derived by the government from the lottery, although the proceeds are devoted to public charities. Fifty per cent. will be assigned to the construction of modern hospitals and to create new services or extend existing ones. Thirty per cent. will be distributed among federal and provincial public health authorities and charitable organizations to help in the prevention and treatment of tuberculosis, but the amount received by the agencies will not exceed 50 per cent. of the amount spent by themselves. The other 20 per cent. will be assigned to institutions for the prevention of the disease or the support of patients. The national department of public health will have charge of the funds, except the 30 per cent. for subsidies, which will be distributed by the department of foreign affairs. This part of the bill created much opposition, as many representatives were in favor of a special commission to have charge of the appropriation and not any government department. It is estimated that this fund will amount annually to more than 2,000,000 pesos (about $640,000), and perhaps it will even be twice as much.

Plague at Córdoba

As on several previous occasions, there have been some new cases of plague in several places in the province of Córdoba, but they were isolated immediately. The provincial government has pushed vigorously its prophylactic campaign against the disease.

Foreign Professors

Dr. Kottmann, professor of pathologic physiology at Berne, Switzerland, will arrive in a few days.——Dr. R. Ribeyro, professor of parasitology at Lima, has stopped here on his way to Brazil.——Professors Labbé and Brumpt, of the Medical School of Paris, will arrive in August to give lectures. ——Next April will begin the annual interchange of professors between the medical schools of Montevideo and Buenos Aires.

BUDAPEST

(From Our Regular Correspondent)

April 4, 1921.

Prevailing Diseases in Albania, Montenegro and Herzegovina

The Board of Sanitation of the Serbian State has just published its annual report from the year 1919, which was marked by a serious epidemic of smallpox in the Foca and Slatina district (Herzegovina); about 130 deaths occurred in the four months from May to September, and the total of deaths for the year from this cause alone amounted to 350. The majority of victims were agricultural laborers and also better class persons who had neglected vaccination, though every convenience for it was offered by the authorities. Smallpox, it may be stated, is more or less endemic at Beran Foca, Pis-Kopja (Albania) and this year there was an outbreak in Scutari. Though the heat of Valona is often excessive, the climate is salubrious, and to all appearances the yellow fever of former years has been virtually stamped out. This success is due to the exertions of a department organized by Dr. Ivan Petrovici, which for some time has been engaged in scientific sanitary work, including the systematic destruction of mosquitoes of the yellow-fever transmitting variety. The malaria transmitter must continue to be plentiful in the marshy outlying districts for many years to come. Similar measures have been taken in Mostar with beneficial results, the health of both cities having entirely changed during the last few years, and sanitary conditions no longer inspiring the dread which they formerly did. In the case of Mostar it was largely owing to the draining and reclaiming of pestilential land in connection with erecting farm buildings on an extensive line that the health of the town was so greatly improved. Malaria is common along the low lying coast belt. It is also rife wherever there is marsh and along the big, slowly moving rivers. Mosquitoes abound in these parts in myriads, and the mortality is sufficient to produce alarm in the traveler, though it is to be doubted whether the malaria of Albania is of so virulent a type as is found in Africa and Brazil. Much of the mortality is due to bad food in sickness and to improper care. Of other diseases, tuberculosis is the most persistent in its ravages in the cities, being especially prominent in Elbasan, Mostar and Niguesan, where it shows a predilection for the native population. Though much is due

to damp and predisposition, the majority of cases are the result of bad housing, bad food, want of aid and care indoors, and dirty habits inseparable from the conditions of life prevailing among natives and the lower classes generally. Leprosy and goiter are still to be found in Albania, the former sporadic and the latter confined to certain native tribes, owing possibly to the water and the absence of lime which is a feature in the geological formation of the greater part of the coast.

Accidental Infection of a Medical Man with Syphilis; Is it an Accident from the Insurance Point of View?

A country practitioner in the southeastern portion of Hungary has, according to his own statement, been accidentally infected with syphilis through giving a calomel injection to a syphilitic patient. When afterward wiping the needle with a piece of wadding he pricked one of his fingers, but the wound seemed to be so unimportant, being in fact hardly visible, that he did not apply dressing but only washed the finger with a solution of mercuric chlorid. The accident took place in the presence of the patient. Four weeks later the medical man found he was suffering from a skin eruption due to secondary syphilis, and a few days afterward his throat also began to show syphilitic manifestations. He then applied to the accident insurance company in which he was insured, claiming payment for partial disablement on the ground that the knowledge that he had become infected with syphilis interfered with his practice to such an extent that he was not able to earn half so much as formerly. The accident company refused his claim, saying that it was prepared to allow him full pay for as many days as he should be confined to bed, but more than this it would not do. The medical man has accordingly taken the case into court, which is expected to be guided by the opinion of a member of the Forensic Medical Council.

Quack Medicines and the Press

When an attempt was made to place on the statute books of Hungary a bill to regulate the sale of quack medicines, most of the large daily and weekly papers protested against the passage of such a bill on the ground that vested interests were attacked, and pointed to the duty of safeguarding the skill and labor that had been expended on the preparation of these quack medicines. In fact, the attitude of newspapers generally in Hungary is antagonistic to the passage of laws calculated to injure the sale of proprietary medicines or of secret remedies, the proprietors of which are among their most lavish advertisers (mostly foreign ones). The advertising of secret remedies is carried on more freely in the Hungarian journals even than in those of the neighboring countries, for in the most influential of them it is a daily experience to see an advertisement setting forth in flowery pseudoscientific, that is to say, entirely unscientific language, the manifold advantages to be derived from the use of (say) a tuberculosis remedy, wedged in between literary articles on really important subjects.

BERLIN

(From Our Regular Correspondent)

April 15, 1921.

Hereditary Transmission and Natural Selection

In a recent lecture on hereditary transmission and natural selection, delivered before the Eugenics Society of Berlin by Prof. Erwin Baur, director of the Biologic Institute in Potsdam, it was brought out that the peoples of the earth today are made up of many different races. No people is purely of one race. The Germans, besides the Germanic, are composed of many other widely different racial elements. We, as a people, today possess entirely different physical and mental characteristics from the Germans of the early middle ages, for example. It should be considered that, in the crossing of two individuals who present racial differences with respect to only four points, sixteen different combinations or types may be produced in the offspring; in the crossing of two individuals with ten different racial characteristics, 1,024 different types are possible, and with twenty different racial distinctions more than a million different types may result, theoretically. Investigation of the laws of heredity has shown that resulting types of hybrid offspring present a certain definite numerical ratio to one another (Mendel's law). If in a type being produced by cross-breeding a certain definite element is being continually eliminated (for example, when light-colored rabbits are more frequently destroyed by birds of prey than are the dark-colored ones), a change in the otherwise constant numerical relationships of the cross-breed will result to the disadvantage of the element being thus eliminated. Now, while there is a process of natural selection, the rôle of which for the preservation of the species by the elimination of unfit individuals is well known, there is also another kind of selection (counter-selection), by which not the preservation of the species but, on the contrary, its degeneration is brought about. It is extremely probable that herein lies the reason for the rapid downfall of the civilized peoples of ancient times. A second factor that leads to changes in the composition of a mixed race is the operation of mutation. Out of a thousand individuals there may be two or three who suddenly present a disruptive irregularity in the shape of a marked tendency to degeneration. Hereditary malformations and hereditary diseases thus arise without any assignable cause; for example, albinism, deafness, brachydactylia, certain types of myopia, and various skin diseases. The study of these phenomena was rendered difficult until it was recognized that a given phenomenon may be caused by distinctly different hereditary factors. Furthermore, it must be borne in mind that the mendelian law of heredity does not always work out exactly in accordance with a simple formula. There are hereditary characteristics (not the diseases but the disposition to the disease or the malformation, etc., are inherited) which can be demonstrated in every individual who inherits them; that is to say, they are dominant, and then there are other characters that are recessive, that is, they do not appear ordinarily unless the disposition thereto was inherited from both progenitors. The recessive hereditary characters, therefore, present themselves in a much smaller percentage in the offspring but become more pronounced in consanguineous marriages, since here there is a much greater likelihood of like characteristics being found in both parents. Every person probably has within him several such concealed dispositions of a pathologic nature, which date back to the operation of a single so-called mutation. Herein lies (as in the counter-selection) a great danger for the species concerned, whether it be plant, animal or man. Nature helps itself along in radical fashion by means of natural selection. Among species of wild animals the appearance of a mutation does no harm, for the constitution of the individuals concerned is much weaker and incompatible with survival. But the more highly civilized man becomes—the farther removed he is from the animal—the less important is the part played by natural selection. We need to consider only how many people owe their existence to the advanced stage of civilization in which they live. Hygiene, the art of cooking, obstetrics and infant welfare have all contributed much to make them what they are. Great epidemics and famines such as formerly sifted out the chaff from the peoples of the earth are no longer known, and the courts of justice nowadays preserve the lives of many whom, in olden times, the noose would have claimed as its victims. Then, again, we have today the large number of mental inferiors, whose lives are not only preserved, but who are also allowed every oppor-

tunity to propagate. Thus, in the course of time, the relative proportion of healthy individuals to the defective has continually decreased, for the reason that natural selection is more and more thwarted. To show how heavy a load the healthy class takes on itself in this connection, Correns refers to the well known case of the American degenerate woman who in three generations had 834 descendants, the history of 709 of which could be ascertained, with these findings: 196 born outside of wedlock, 142 committed to the poorhouse, 62 with mental disease, 174 prostitutes and 74 arch criminals, among whom were 12 murderers. Within a space of seventy-five years this family cost the state several million dollars for institutional care and court trials. Similar observations have also been made in Europe, to mention only the inquiries of the Swedish investigator Lundborg. The suspension of natural selection, combined with the operation of counter-selection, thus signifies degeneration for any people. The reason for a lowered birth rate among strong and vigorous types are manifold, but late marriages play a very important part. It is evident that strata of the population that always begin to propagate at the age of 20 will, in the course of a hundred years, possess a great numerical advantage over others in which marriage is deferred until the age of 30 is reached, as the generations, being shorter, follow one another in quicker succession. Another factor is that the longer marriage is postponed, the higher is the percentage of venereal diseases, which, in turn, militate against a normal birth rate. It is easy enough to say in theory what should be done in order to ward off the danger of decadence, but from the practical standpoint endless difficulties present themselves. We must with conscious effort support eugenic selection as a substitute for natural selection, which has been lost. We must endeavor to prevent propagation among hereditary inferiors.

Free Choice of Physicians in Connection with Health Insurance

Last month, here in Berlin, by an agreement between representatives of the medical profession and the health insurance societies (krankenkassen), free choice of physicians was introduced, so that every physician who accepts the conditions thus agreed on may be allowed to treat those who are insured in the krankenkassen. The import of this compact may be seen from the fact that at present there are 230 krankenkassen in Berlin with a total membership of 1,400,000. For every member insured the krankenkassen pay an annual medical fee of 30 marks (less than 50 cents at the present low mark value), which amounts to a total of 42,000,000 marks. A similar agreement has been entered into in regard to the so-called free auxiliary societies (hilfskassen) and the societies whose membership is confined to public officials (railway, postal and police services), which number about 100,000 members. The conditions of the agreement provide for the settlement by arbitration of matters of dispute between the krankenkassen and the medical profession. There are also certain special provisions intended for the protection of the krankenkassen. For example, only such physicians are admitted to health insurance practice as have had at least two years' experience in Berlin. Physicians who have not had three years' previous krankenkasse experience must furnish evidence that they have pursued a course in social medicine. For gross errors in the performance of medical duties, or by reason of dishonorable conduct, physicians may be refused admission to health insurance practice. Likewise, disciplinary measures are set up, the application of which may result in the exclusion of a physician from the panel or official list. Committees of control exercise a supervision over the active work of physicians, especially as regards the prescribing of remedies. The duration of the contract agreement covers a term of five years.

Marriages

James Lorne Manion, Lieut., M. C., U. S. Navy, New York, to Miss Waltona Wilkins Burns, at Sarasota, Fla., April 25.

Frank Barthlomey Puskunigis, Westfield, Mass., to Miss Anastasia Pranaitis of Ludlow, May 3.

Deaths

William L. Barker, San Antonio, Texas; University of Louisiana, New Orleans, 1874; aged 68; a member of the State Medical Association of Texas; founder and physician in charge of W. L. Baker's Sanitarium, San Antonio; alderman of San Antonio for six years; for many years superintendent of the Southwestern Insane Asylum, San Antonio; city physician of Waco, 1885-1891; died, May 1.

John Kepke ⊕ Brooklyn; St. Paul Medical College, 1888; Bellevue Hospital Medical College, 1890; aged 60; at one time surgeon to Charity and Lutheran hospitals, Brooklyn, Skin and Cancer Hospital, New York; visiting physician to Good Samaritan and Eastern dispensaries, New York, and Bushwick Hospital, Brooklyn; died, May 1.

Guy W. Williams, Forsyth, Ga.; Atlanta (Ga.) School of Medicine, 1913; aged 32; a member of the Medical Association of Georgia, and president of the Monroe County Medical Society; lieutenant, M. C., Ga. N. G., and discharged June 19, 1919; died, April 21, from heart disease.

Pierre Norbert Bergeron ⊕ Philadelphia; Jefferson Medical College, Philadelphia, 1902; aged 52; physician to St. Joseph's Hospital; died in that institution, May 12, from septicemia following an infected wound of the hand, sustained while performing an operation.

Albert Pickett Dickson, Raeford, N. C.; University of the City of New York, 1878; aged 67; a member of the Medical Society of the State of North Carolina; first president of the Hoke County Medical Association; died, April 14, from cerebral hemorrhage.

Alden E. Smith, Freeport, Ill.; Chicago Homeopathic Medical College, 1884; aged 60; a member of the Illinois State Medical Society; president of the Illinois Homeopathic Medical Association in 1908; a veteran of the Spanish-American War; died, May 3.

Arthur Bennett Morong, Boston; Harvard University Medical School, 1876; aged 71; professor of clinical medicine and physiology in the College of Physicians and Surgeons, Boston; a member of the Massachusetts Medical Society; died, May 3.

Robert Roy Brownfield ⊕ Phoenix, Ariz.; Medico-Chirurgical College of Kansas City, Mo., 1903; aged 40; president of the Maricopa County Medical Society in 1919; died, May 1, from injuries received in an automobile accident.

Julius Carl Bierwirth ⊕ Brooklyn and Long Island, N. Y.; College of Physicians and Surgeons in the City of New York, 1885; aged 64; captain, M. C., U. S. Army, and discharged, Dec. 12, 1918; died, May 2, from heart disease.

Oscar D. Rodney, Mount Calm, Texas; Hospital College of Medicine, Louisville, 1891; aged 56; a member of the State Medical Association of Texas; at one time health officer of Mount Calm; died, April 26, from peritonitis.

Joseph Rial Lancaster, Tillsonburg, Ont.; University of Toronto, Ont., 1895; aged 47; died, April 17, from injuries received March 24, when the automobile in which he was riding was struck by an express train.

John A. Schafmeister, Ossining, N. Y.; New York Homeopathic Medical College and Hospital, New York, 1889; aged 62; health officer of Ossining, and at one time health officer of Westchester County; died, May 2.

William Chambers Powell, Jr. ⊕ Bryn Mawr, Pa.; Hahnemann Medical College and Hospital, Philadelphia, 1911; aged 34; lieutenant, M. C., U. S. Army, during the World War; died, May 5, from typhoid fever.

Frederick J. White, Moncton, N. B.; McGill University, Montreal, Que., 1886; L.R.C.P. (London) and R.C.S. (Eng.), 1888; aged 57; died, April 10, from cerebral hemorrhage.

⊕ Indicates "Fellow" of the American Medical Association.

Daniel Edward Esterly ⊕ Topeka, Kan.; University of Pennsylvania, Philadelphia, 1893; aged 54; a member of the American Academy of Ophthalmology and Oto-Laryngology; died, May 8.

Erastus G. Goodman, Lanvale, N. C.; University of Maryland, Baltimore, 1891; aged 60; a member of the Medical Society of the State of North Carolina; died, April 28, from tuberculosis.

George M. Stites, Williamstown, Pa.; College of Physicians and Surgeons, Baltimore, 1882; aged 60; a member of the Medical Society of the State of Pennsylvania; died, April 29.

John H. Green, Galena, Kan.; Indiana Medical College, Indianapolis, 1878; aged 76; a member of the Eighty-Fourth Indiana Regiment during the Civil War; died, April 24.

Newton B. Morse, Wyoming, Ill. (license, years of practice, Illinois, 1878); aged 83; a member of the Illinois State Medical Society; died, April 27, from cerebral hemorrhage.

Rynear Beach Covert, Seneca Falls, N. Y.; Homeopathic Medical College of the State of New York, New York, 1868; aged 76; a veteran of the Civil War; died, April 15.

Archibald Malcolm MacLean, Leadville, Colo.; University of Michigan, Ann Arbor, 1874; aged 68; a member of the Colorado State Medical Society; died, April 21.

Madison LeGrande Blake, Riverside, R. I.; Tufts College Medical School, Boston, 1894; aged 66; a member of the Massachusetts Medical Society; died, April 22.

Henry F. Held ⊕ Cincinnati; Cincinnati College of Medicine and Surgery, 1889; aged 60; died, April 30, from septicemia, the result of a defective tooth.

Paul Jerome Anderson ⊕ Oakland, Calif.; Cooper Medical College, San Francisco, 1910; aged 35; died in Honolulu, Hawaii, April 20, from pneumonia.

George Lewis Smith ⊕ Jefferson, Wis; Rush Medical College, 1879; aged 65; physician to the Jefferson County Insane Asylum, Jefferson; died, April 15.

Joseph Milford Merchant, Warren, R. I.; Medical School of Maine, Brunswick and Portland, 1858; aged 87; a veteran of the Civil War; died, April 15.

David A. Jackson, Vick, Ark.; University of Louisiana, New Orleans, 1877; a member of the Arkansas Medical Society; died, February 18.

Augustus Bryant Sholars, Little Rock, Ark.; University of Louisiana, New Orleans, 1861; aged 84; a Confederate veteran; died, April 25.

Edward A. Thomas, Wytheville, Va.; University of Virginia, Charlottesville, 1890; aged 52; died, April 26, from heart disease.

Alfred Westland Nixon, Georgetown, Ont.; Trinity Medical College, Toronto, 1891; aged 57; died, April 8, from cerebral hemorrhage.

William W. Walters, Greenback, Tenn.; Kentucky School of Medicine, Louisville, 1891; aged 59; died, April 23, from pneumonia.

James Marion Donald, Marion Junction, Ala.; Medical College of Alabama, Mobile, 1884; aged 57; died in Selma, Ala., April 10.

John Monroe Armstrong ⊕ Alhambra, Calif.; University of Michigan, Ann Arbor, 1885; aged 64; died in Pasadena, Calif.; April 23.

Joseph B. Thomasson, Delight, Ark.; University of Arkansas, Little Rock, 1894; aged 58; died, April 26, from septicemia.

William R. Sparling, Edam, Sask.; University of Manitoba, Winnipeg, 1898; aged about 55; died, April 14, from septicemia.

Charles Howard Lanphaer, Worcester, Mass.; Homeopathic Hospital College, Cleveland, 1880; aged 81; died, April 16.

Louis Bradford Couch, Nyack, N. Y.; New York Homeopathic Medical College, 1874; aged 69; died, April 20.

James Webb Curtis, Hot Springs, Ark.; Howard University, Washington, D. C., 1898; aged 64; died, April 19.

George Upton McComas ⊕ New Canton, Ill. (license, Illinois, 1888); aged 62; died, April 20.

Richard Mowrey Riegle, Hillsboro, Kan. (license, Kansas, 1901); aged 61; died, April 22.

Correction.—The notice of the death of Dr. George E. Ellis, Dunkirk, N. Y., which appeared in THE JOURNAL of April 23, page 1185, is incorrect. Dr. Ellis writes that he is good health.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Murphey's Second Summer Remedy. — Edward Kirkwood, Madisonville, Ky., shipped in August, 1917, a quantity of Murphey's Second Summer Remedy" which was alleged to be manufactured by the Murphey Medicine Co., Inc., Madisonville, Ky. The federal chemists reported that analysis showed this to be an emulsion consisting essentially of a watery mixture containing alcohol, sugar, castor oil, plant material and traces of peppermint oil and morphin. It was falsely and fraudulently represented as an effective treatment for teething and as a cure for "summer complaint" and flux in children. It was also misleadingly described as "The Baby's Friend" and thus represented as a preparation that could be administered to infants with safety when, as a matter of fact, it contained morphin. In November, 1919, Kirkwood pleaded guilty and was fined $25.—[*Notice of Judgment No. 8553; issued April 25, 1921.*]

Ludlum's Paste.—The Williams Mfg. Co., Cleveland, Ohio, shipped in December, 1917, a quantity of this product which the federal authorities declared misbranded. Analysis of the article by the Bureau of Chemistry showed that it consisted of copaiba, cubebs and oil of sassafras in a fatty base. It was falsely and fraudulently represented as a cure for gonorrhea. In June, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8556; issued April 25, 1921.*]

Prickly Ash, Poke Root and Stillingia Compound with Iodids. — This preparation, shipped by the Allan-Pfeiffer Chemical Co., St. Louis, Mo., in July, 1919, was declared misbranded. The Bureau of Chemistry reported that analysis showed it to consist of plant extractives including a laxative drug, potassium iodid, alcohol, sugar and water. It was falsely and fraudulently labeled as a "blood purifier" and a remedy for syphilis, cancer, rheumatism, etc. In November, 1919, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8563; issued April 25, 1921.*]

Gauvin's Cough Syrup.—J. A. E. Gauvin, Lowell, Mass., shipped in October, 1919, a quantity of this product which the federal authorities declared was misbranded. The government chemists reported that analysis showed it to consist essentially of extractives of wild cherry bark, spruce gum, sugar, alcohol and water. It was falsely and fraudulently recommended as an efficient remedy for all throat and pulmonary diseases, coughs, colds, catarrh, asthma, whooping cough, influenza, etc. In June, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8576; issued April 25, 1921.*]

Meyer's Red Diamond Kidney Tablets and Compound Extract of Sarsaparilla with Iodid of Potassium.—The Meyer Drug Company, St. Louis, Mo., shipped in January, 1918, a quantity of these two articles which the federal authorities declared were misbranded. Analysis of the "kidney tablets" by the Bureau of Chemistry showed that they contained salts of benzoic and boric acids, atropin and vegetable extractives among which were those of buchu and hydrangea. The tablets were falsely and fraudulently represented as effective cures for diseases of the kidneys, liver and urinary organs,

lumbago, rheumatism, Bright's disease, diabetes, gravel, catarrh of the bladder and kindred diseases.

The "extract of sarsaparilla" was reported by the federal chemists to consist essentially of a syrup containing caramel, vegetable extractives, among which were those of glycyrrhiza and probably sarsaparilla, small amounts of potassium iodid, ferric chlorid and alcohol. This product was falsely and fraudulently represented as an effective cure for ringworm, tumors, syphilis, chronic rheumatism, etc. In November, 1920, the defendant company entered a plea of *nolo contendere* and was fined $25 and costs.—[*Notice of Judgment No. 8581; issued April 25, 1921.*]

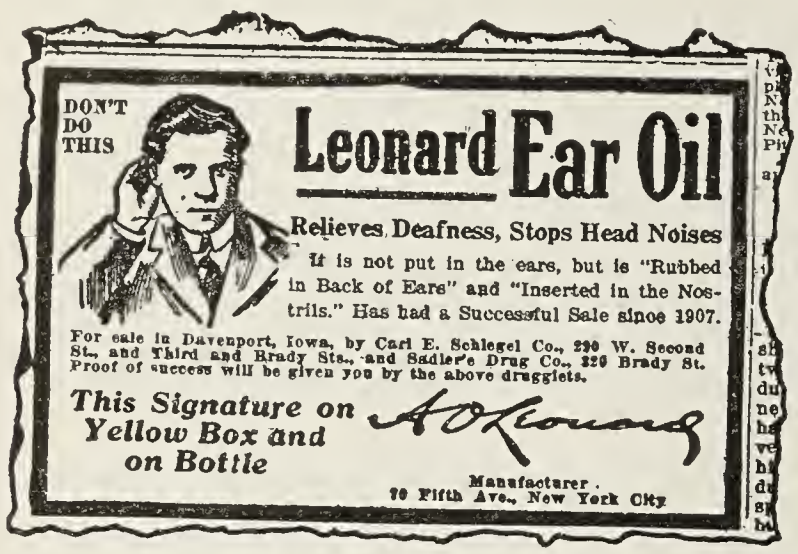
Leonard Ear Oil.—A. O. Leonard, New York City, shipped in August, 1919, a quantity of this nostrum which the federal authorities declared was misbranded. When analyzed by the Bureau of Chemistry it was found to consist essentially of camphor, oil of eucalyptus and traces of alkaloids in a base of mineral oil. The following claims appeared on or in the trade package:

"A Glandular . . . Oil recommended for relief of Deafness, Head Noises, Discharging, Itching, Scaly Ears . . . and Ear Ache . . . Deafness, and Ear Troubles."

". . . dry, itching, aching and discharging ears."

". . . for Relief of Catarrhal Deafness . . . and other kinds of deafness and ear troubles . . ."

"Has relieved the deafness and head noises of more people than any known remedy . . ."



These claims were declared false and fraudulent "since the article contained no ingredient or combination of ingredients capable of producing the effects claimed." In March, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8591; issued April 25, 1921.*]

Correspondence

THE SHEPPARD-TOWNER BILL

To the Editor.—The letter of Mrs. William Lowell Putnam, in The Journal, April 30, deserves more than a passing notice; not only for its quality and sense, but also because she pays her respects to "all-the-women-in-the-country-behind-us" bugaboo.

How legislators, state and national alike, ever allowed that incubus to fasten itself around their necks has always been a mystery to me. The proportion of club women to the female population is so small as to seem negligible. But because of organization of the few, they so far have claimed to represent the whole and *been believed,* which is absurd.

My experience with the Sheppard-Towner bill was, very likely, the experience of the majority of women who have been asked to sign petitions to congressmen and senators advocating its passage. No argument was advanced to convince me, other than that some members of the woman's club said it was all right because it had to do with babies—and they wanted all the names they could get and it really wouldn't take a minute to put your name down, and lots of others would sign if we did—and so on, and so on.

The Women's Voters' League, at the last election, ordered local representatives to get the standing of each nominee for Congress on the bill. They must have been supplied with a stock speech, for I listened to that terrible arraignment of a Congress which cared more for the welfare of pigs than for mothers and babies until I believe I could speak the piece myself.

The statement that the women of America are solidly back of any piece of legislation whatever is untrue. The women who belong to the various organizations which try to influence legislation may be, but even they are not "solid," for many are members and pay dues who never attend meetings or vote. If instead of wiring a congressman that "our club of 300 members" is behind such and such a bill, they wired that fifteen or thirty or forty members who were present at the meeting voted to get behind the bill, it would give a more truthful picture of what really happened.

The bill is absolutely vague about everything but its title and the amount of money to be appropriated. That half of the state members of the advisory committee shall be women explains itself—but why no limit on the number of employees, or expenses for offices, or for travel expenses? To a mere onlooker, the chances of such a bill being merely a political machine seem very great. Women naturally are vitally interested in babies—about to be born, already born, or of school age—and any legislation on these topics will always gain their attention. But because some work for bills which give unlimited opportunity for handing out jobs, without demanding a specific statement of how many employees, and how much expense money, does not say that all of the sex are so unbusiness-like.

Furthermore, it is a question why the rights of the separate states should be invaded by the federal government. Paternalism and centralization of power have always been looked on as socialistic doctrines, and as far back as American history goes, the fight for states' rights has been waged.

If the bill must be law, why is it in the Department of Labor, instead of Health? Medicine is a profession, not an industry, and absolutely distinct from any of the welfare societies. Anything pertaining to maternity, whether the mother or unborn child is under consideration, certainly is in the category of medicine—unless overnight some bill has been passed eliminating the doctor entirely from maternity cases.

The statement of the women opposed to suffrage that the bill as propaganda was carried on by birth control advocates is enlightening, in view of the fact that at the national meeting of the Women's Voters' League at Washington, D. C., some time ago (according to the press dispatches), a woman worked openly for advocacy of the members for birth control.

I am the wife of a physician, but my views are expressed as a woman's, without regard to the attitude of the medical profession toward this bill.

Eve Sherrer, Easton, Pa.

To the Editor:—The opposition to the Sheppard-Towner bill which I heard last week from the National Association Opposed to Woman Suffrage, various medical liberty leagues, the American Drugless Association, which includes chiropractors, naturopaths, mechanotherapists, etc., antivivisection societies, antivaccination societies, and the Citizens' Medical Reference Bureau opposed to Compulsory Medicine, and again Mrs. Putnam's challenge to the medical profession to oppose this bill, which appeared in The Journal, April 30, and was endorsed by the editor, makes me feel that I wish to

lay before the readers of THE JOURNAL another medical point of view.

I believe that the profession should support this measure, for:

1. Its purpose is clearly one to stimulate the states to do work which is properly their duty. It is entirely permissive; no state need accept the offer of the federal government unless it wishes to. Each state may work out its own plan as adapted to its own peculiar needs. The federal government's rôle is merely one of approval of state plans and the making of studies and reports which will be helpful.

2. There is no question in the minds of those who are urging the passage of this bill that the actual care of pregnancy, labor and the puerperium is other than medical. No one, however, can deny that the availability and the intelligent use of medical care in large areas of our country depend on educational, economic and social factors of the greatest importance. And as I understand this bill, its purpose is to make such care available by special attention to these educational, economic and social factors. The doctor will not have his work interfered with, but, as I see it, will have material assistance. A public health nurse and a consultation center in a county can do no other than provide the overworked country doctor with aid and equipment with which to work. Her instructions to mothers in nontechnical language, and practical demonstrations in the home will go far toward lessening the burden of the doctor and toward increasing his usefulness by making it possible for him to serve larger numbers. No one who has worked in child welfare centers in the larger cities, or has seen the work of public health nurses, or made use of social service departments, wishes to return to the old method.

Again, the objection which Mrs. Putnam raises to the administration of this bill by the Children's Bureau is certainly based on insufficient knowledge. The Children's Bureau has a hygiene division, the staff of which is made up of competent physicians and public health nurses. Its chief is Dr. Anna Rude. This division has always had charge of all matters relating to hygiene and medicine, and there is no reason to suppose that it will not continue to direct such matters as come under the jurisdiction of the bureau. Moreover, it has always had the advice and cooperation of the leading medical men and women in the country, among whom at the present time are an advisory committee of pediatricians from the Section on Diseases of Children, of the American Medical Association.

I hope, therefore, that the medical profession will back this bill, as the best expedient thus far suggested to promote the hygiene of maternity and infancy. It seems to me to be an honest effort to give impetus to a movement for improving an obvious need.

ELLA OPPENHEIMER, M.D., Washington, D. C.

UNIVERSAL PHYSICAL TRAINING

To the Editor:—It is difficult for me to discuss in a cold-blooded way a subject which to me has never admitted of discussion. No man is a whole man, or a real citizen, to whom his duty to give his willing service to his country in peace and in war is not a self-evident proposition. As a result of the general postbellum reaction, the words "military" and "compulsory," are not in good odor with the laity, so that I shall use them with care. In fact, that good old word "patriotism" has been so overworked during and since the war that it seems to have lost much of its original significance. In spite of the prevailing apathy, the time is ripe for another national movement to bring again before the country, from a medical standpoint, the vital importance of increasing the physical, as well as mental and moral, standard of the American youth. ....

It is unnecessary to refer to our draft statistics, showing the high percentage of rejection of those unfit for military service, the large proportion of those mentally defective and illiterate, and other figures which are not pleasant reading. The number of recruits that actually reached the fighting line, after the weeding-out process here and abroad, is a striking commentary on our actual man power, however. Every medical officer who had experience in the advance zone can testify as to the poor physical condition of many of the hastily levied organizations, and was thankful that we were called on to take part in a "war of movement." Our boys were good fighters, but they would have been poor stayers, as shown by the general slump in discipline after the armistice.

But we are not yet through with the mental and physical unfit, as shown by the increasing morbidity among ex-service men, especially those who never reached the fighting line. If it is the essential virtue of the good soldier to "endure hardship," we may be thankful that they did not get across the sea. It would seem to be no exaggeration to infer that 40 or 50 per cent. of the 4,000,000 "veterans" of the late war would not have lasted through a campaign of a year.

What are we going to do about it? Talk is cheap. Our people balk at any movement savoring of preparation for war in time of peace. Well, then, let us return to our medical point of view. Let us appeal to them along the line of public welfare, a question which has recently awakened general interest in view of the long-hoped-for prominence which it is receiving under the new administration. Certainly, of all the bureaus under the proposed Department of Public Welfare the educational is one of the most important, and we are assured that universal physical training (not voluntary, but compulsory, we trust) will be earnestly considered. That we should be behind the French, Australians, New Zealanders and Swiss in organizing this system is unthinkable.

A report from the secretary of the Military Training Camps Association, just received, contains this paragraph: "It is clear that we can count on the loyal support of the entire medical profession as favoring universal military training."

They certainly can count on us, especially in the American Medical Association, which was such a powerful agent in recruiting the more than 30,000 medical officers of the Reserve Corps, whose record speaks for itself. The Caduceus Post, American Legion of New York City, numbering over 400 former officers of the Medical Corps, U. S. Army and U. S. Navy, is deeply in earnest about this subject and has requested the House of Delegates to bring it before the Association at the coming session for general discussion.

HENRY C. COE, M.D., New York.

FALL OF BLOOD PRESSURE AFTER INJECTIONS OF NEO-ARSPHENAMIN

To the Editor:—In a number of cases of high blood pressure in which syphilis was the dominating factor, I have found that after an intravenous injection of neo-arsphenamin the blood pressure falls from 10 to 14 mm. I never had a fall less than 10 or more than 14. I have concluded, therefore, that high blood pressure should not militate against intravenous employment of neo-arsphenamin when the high blood pressure is due to syphilis. I have had disagreeable symptoms only once, and that was in a case of syphilis in which the blood pressure was 102; in that case I had a fall of 12 mm. The blood pressure always returns to its former degree within thirty-five minutes after administration of the neo-arsphenamin. The diastolic pressure always falls in proportion to the fall of the systolic pressure. I have found no mention in the literature of the effect on blood pressure following the intravenous use of neo-arsphenamin.

J. PHILLIP KANOKY, M.D., Kansas City, Mo.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

DERMATITIS FROM ARSPHENAMIN

To the Editor:—I have a patient who has developed a general erysipeloid condition of her skin as a result of neo-arsphenamin administration, the eruption coming on after the sixth dose of 0.6 gm. The condition is of about four weeks' standing, and while there is some improvement, the skin is not clearing up very fast. There has been no elevation of temperature; the general condition is good. The eruption covers the limbs, trunk, face and neck, and is accompanied by the most intensive pruritus that I have ever seen any one suffer from. There is a constant exfoliation of the skin, and the skin from the hands has come away in almost complete glovelike casts. I have been unable to find anything in the way of oils or aqueous applications, alkaline or acid in reaction, that has given anything but a temporary relief from the intensive itching. The urine has remained free from any albumin. The patient's appetite and digestion are good, and the skin does not show any abscess or pus formation with the exception of a few places where the patient has torn up the skin in scratching, and these places heal very readily.

O. H., West Virginia.

ANSWER.—This patient evidently has a general exfoliative dermatitis as the result of the administration of arsphenamin. It is a well known result from the use of arsenicals, particularly arsphenamin, and is a danger signal of great importance in its administration. If the drug is persisted in after the dermatitis develops, it is likely to become universal; damage to the kidneys develops, and death has been the result in many cases. Arsphenamin should be discontinued immediately in such a case, and should not be again given except with the greatest caution. In cases like the present one the patients should have their elimination stimulated by the abundant drinking of water, and by measures to keep the bowels freely open. They should have rest from their occupation, and be kept in bed. Ointments are comfortable because they tend to overcome the dryness of the skin and to protect the surface. As good an ointment as any for use in the cases is ointment of rose water. This should be spread on freely at least twice a day, and may be used oftener.

LUMINAL—RELAPSE IN SCARLET FEVER

To the Editor:—1. Please describe the action of Luminal, a narcotic made by the Winthrop Chemical Company of New York. After it has been given over a length of time, will it cause an eruption? Is there any danger of its producing a desire to the extent of habit formation? Does it leave the patient in a depressed state after the effects wear off?

2. Please furnish me with information regarding the relapse of scarlet fever. I have a case that has been under my care for the last thirty days. It began with what looked to be a typical case of scarlet fever, and ran along for about six or eight days. The eruption faded, to reappear again in about one week. It remained for about three days, and reappeared again in about three days. It then gradually disappeared.

WILLIAM HIBBITTS, M.D., Texarkana, Ark.-Texas.

ANSWER.—1. Luminal is not a narcotic, but a product closely related to barbital (New and Nonofficial Remedies, 1921, p. 56). A number of cases of dermatitis from luminal have been reported. The danger of habit formation should be equivalent to that which has been attributed to barbital (veronal), and the depressing effects appear to be similar to those produced by other soporifics. Reports on the action of luminal are given by:

Grinker, Julius: Experiences with Luminal in Epilepsy, THE JOURNAL, Aug. 28, 1920, p. 588.

Reynolds, C. E.: Experiences with Luminal in Epilepsy, Correspondence, THE JOURNAL, Sept. 18, 1920, p. 830.

Sands, I. J.: Luminal Therapy in the Control of Epileptic Seizures, *Arch. Neurol. & Psychiat.* **5**: 305 (March) 1921.

2. It is unusual for an eruption in scarlet fever to reappear with the same intensity as on its first appearance, but the condition is not extraordinary. According to Ker, such rashes make their appearance in severe cases, usually of the type known as "septic scarlatina." He also remarks that relapse, though extremely uncommon, is a well established phenomenon, usually occurring in the fourth or fifth week of the illness and sometimes not to be distinguished from the original attack.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DELAWARE: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover.

FLORIDA: Jacksonville, June 13-14. Sec., Reg. Bd., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.

GEORGIA: Augusta, June 1-3 and Atlanta, June 8-10. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 20-23. Supt. of Registration, Mr. F. C. Dodds, Springfield.

IOWA: Iowa City, June 9-11. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

LOUISIANA: New Orleans, June 9-11. Sec.Treas., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

MAINE: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 140 Pine St., Portland.

MICHIGAN: Ann Arbor, June 14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 7-9. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. W. S. Leathers, University.

MISSOURI: St. Louis, June 13-15. Act. Sec., M. E. Halloway, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEBRASKA: Lincoln, June 8-10. Sec., Dept. of Public Welfare, Mr. H. H. Antles, State House, Lincoln.

NEW JERSEY: Trenton, June 21-22. Sec., Dr. Alexander MacAlister, State House, Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. Kemp P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, May 31-June 3. Sec., Dr. H. M. Platter, State House, Columbus.

OREGON: Portland, July 5-7. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.

RHODE ISLAND: Providence, July 7-8. Dr. Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

TEXAS: Galveston, June 21-23. Sec., Dr. Thomas J. Crowe, 918-919 Dallas Co. Bank Bldg., Dallas.

VIRGINIA: Richmond, June 14-17. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

WISCONSIN: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

WYOMING: Cheyenne, June 6-8. Sec., Dr. J. D. Shingle, Citizens National Bank Bldg., Cheyenne.

North Dakota January Examination

Dr. George M. Williamson, secretary, North Dakota State Board of Medical Examiners, reports the oral, written and practical examination held at Grand Forks, Jan. 4-7, 1921. The examination covered 13 subjects and included 105 questions. An average of 75 per cent. was required to pass. Of the 3 candidates examined, 2 passed and 1 failed. Four candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Minnesota Medical School		(1920)	86.5, 84.8
	FAILED		
Women's Medical College of Pennsylvania		(1908)	62.9

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1915, 2)	Illinois
University of Louisville		(1911)	Kentucky
Harvard University		(1896)	Iowa

Utah January Examination

Dr. C. L. Olsen, corresponding secretary, Utah Board of Medical Examiners, reports the written examination held at Salt Lake City, Jan. 3-4, 1921. The examination covered 15 subjects and included 100 questions. An average of 75 per cent. was required to pass. Two candidates were examined, both of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
St. Louis College of Physicians and Surgeons		(1920)	79.1
Western Reserve University School of Medicine		(1920)	78.3

Book Notices

THE OXFORD MEDICINE. By Various Authors. Edited by Henry A. Christian, A.M., M.D., Hersey Professor of the Theory and Practice of Physic, Harvard University, and Sir James Maekenzie, M.D., F.R.C.P., LL.D., Consulting Physician to the London Hospital. In Six Volumes. Volume III. Diseases of the Digestive System, Kidneys, and Ductless Glands. Cloth. Price, $90 per set. Pp. 828, with illustrations. New York: Oxford University Press, 1921.

This volume is devoted to disease of the gastro-intestinal tract, nephritis and disturbances affecting the suprarenal, pituitary, thyroid and parathyroid glands. The contributors include two English and eleven American physicians. The section on diseases of the esophagus by Frothingham is an excellent presentation of the subject; it would be more valuable if accompanied by reproductions of roentgenograms, which play so large a part in the diagnosis of such conditions. Rehfuss' article covers all the diseases of the stomach with the exception of ulcer. The views expressed are sound and based on careful laboratory and clinical study, most valuable, perhaps, being the sections on the interpretation of the laboratory findings. Sippy covers the subject of ulcer of the stomach and duodenum, and gives his method of treatment in great detail. There are several pages on roentgenologic examination. Charles G. Stockton, in his discussion of the diseases of the intestine, provides numerous excellent reproductions of roentgenograms, a feature noticeable by its absence from the articles previously mentioned. Sir Humphry Rolleston has contributed a well written analysis of the diseases of the liver, gallbladder and bile ducts. No attempt has been made apparently by the American editors to translate the reference to pharmacopeial products used in Great Britain. Like many other European physicians, Sir Humphry Rolleston seems much inclined to recommend visits to famous springs and spas. Joseph A. Pratt contributes the section on the difficult subject of diseases of the pancreas. Pincoffs and Boggs recognize that there is no medical treatment for diseases of the peritoneum, and are practical in their discussion of the necessary therapy, before and after operation. The discussion of nephritis by one of the chief editors, Henry A. Christian, is an example of good English writing and of the teaching of medicine by the case method. The suggestions for treatment, including good illustrative diets, are especially valuable. The emphasis laid on methods of treatment without drugs is an important feature of this section of the book. Sir John Rose Bradford has a short article on war nephritis, which goes, however, little if any beyond his article on the same subject in the *Quarterly Journal of Medicine* several years ago. The sections of the book on diseases of the glands of internal secretion, by Riesman and Horrax, are a welcome addition to a rapidly developing field of medical science. The article by Horrax is illustrated, and is thereby a distinct improvement over the articles containing no illustrations. On the whole, this volume measures up well with the previous volumes of the series.

THE DISEASES OF THE NEWBORN. By Dr. August Ritter von Reuss, Director of the Department for the Newborn at the First University Women's Clinic in Vienna. Cloth. Price, $12.50. Pp. 626, with 90 illustrations. New York: William Wood & Co., 1921.

It appears that Schauta, at the suggestion of Escherich, established a department for the new-born in the clinic for diseases of women in Vienna, and this department was placed under the charge of an assistant in the children's clinic. The author of this book took charge of the clinic for the new-born in 1911, and soon afterward he also began to give instruction to midwives in the case of the new-born as well as of children in general. From the date of the preface the book appears to have been ready in January, 1914; but there is no statement on the title page or any other place telling whether the book is written in English or translated. Be that as it may, the language and style are quite satisfactory. There are nine parts: (1) physiology; (2) feeding; (3) the premature child; (4) constitutional weakness and constitutional diseases; (5) birth injuries; (6) diseases of individual organs and systems (the largest part); (7) hemorrhages and hemorrhagic diseases; (8) general diseases of obscure etiology, and (9) infectious and septic diseases. There is an extensive bibliography arranged alphabetically according to authors' names cited in the text, and here one misses many names of American authors of substantial contributions in this field. The author has done his work well and thoroughly. An earnest attempt is made to present the present knowledge of the physiology and pathology of the new-born. After a fairly exhaustive search, we can record only one omission of a definite disease of the new-born, and that is diphtheria of the navel. There is an immense amount of useful information and discussion in this book which should be studied carefully by all physicians who have to attend the new-born—the obstetrician, the pediatrician and, last but by no means least, the general practitioner.

LA LITIASIS BILIAR EN LA REPÚBLICA ARGENTINA. Por Luis Agote, Professor Titular de Clinica Médica de la Universidad de Buenos Aires. Paper. Pp. 305, with 54 illustrations. Buenos Aires: L. J. Rosso y Cia. 1920.

To American readers Dr. Agote is chiefly known as the inventor of the citrate method of blood transfusion. He has now collected in a volume the lectures on gallbladder disease given by him during the last two years in his new capacity as director of the Model Institute of Clinical Medicine, so highly praised in THE JOURNAL recently by Dr. W. J. Mayo. In his studies he takes up successively the different phases of the subject, pathogenesis, symptomatology, diagnosis, prognosis and treatment. He invites attention to the enormous frequency of gallstones among married women, which he attributes to the inflammatory changes caused by conception. He takes issue with Chauffard's views on the cholesterol etiology of gallstones. These, according to him, are connected instead with a physicochemical condition of the bile. He is most decided as to the superiority of surgical treatment. Medical measures, in his opinion, at best are only palliative. Three chapters are devoted to calculus migration, and one to Charcot's hepatalgic fever. Valuable as are his considerations on cholelithiasis, perhaps the most interesting, if not the most important chapter of the book, is the first. This is a lecture delivered in 1915, which attracted much attention, setting out in lofty words the rôle of the physician as regards pain. The book is well illustrated.

A SYNOPSIS OF MEDICINE. By Henry Letheby Tidy, M.A., M.D., B.Ch., Assistant Physician to St. Thomas's Hospital. Cloth. Price, $6.50. Pp. 952. New York: William Wood and Company, 1921.

This is an outline of Sir William Osler's textbook on medicine similar to the outline prepared by Mr. Hey Groves in his Synopsis of Surgery. Dr. Tidy, in addition, however, has added to various sections material taken from periodical literature and books on some special subjects. The section on "Diseases of the Nervous System" has been rearranged. There can be no doubt of the value of such an outline for purposes of review or for preparation in taking various licensing or competitive medical examinations. In certain medical schools, special classes are held for such purposes in which the students prepare outlines and train for examination through repeated trials as to how much the individual student can get down on paper in a minimum amount of time. Of course, the greatest benefit comes to the student who prepares his own outline; but for the lazy man who is disinclined to do this and who is cramming purely for examination purposes, Tidy's book affords an agreeable substitute.

INNERE SEKRETION UND DEMENTIA PRAECOX, EINE STUDIE. Von Oscar Lessing. Boards. Price, 4 marks. Pp. 63. Berlin: S. Karger, 1921.

When we consider so ill defined and mysterious a syndrome as dementia praecox from the standpoint of our inexact and rather speculative understanding of endocrinology, the opportunity for premature enthusiasm, false leads and mistakes reaches a high point. This small monograph, however, seems to be written by one who has kept his feet while treading the maze, and he provides a concise analysis of the main points in this important field. There seems to be no doubt that the balance or regulation of internal secretion is demonstrably upset in dementia praecox, since both hyperfunction and hypofunction are manifest; but whether this is of etiologic importance is not by any means established.

Medicolegal

Questions in Malpractice Case—What the Law Implies

(Osnes v. Scanlon (Iowa), 179 N. W. R. 869)

The Supreme Court of Iowa, in reversing a judgment for $500 damages that was rendered in favor of the plaintiff for alleged malpractice in the treatment of a fracture above the ankle of the bones of one of his legs, says that he did not contend that the defendant did not possess the requisite skill and learning, but his allegations were that the defendant failed to exercise the proper degree of skill. On the trial the defendant was asked whether or not in his treatment of the plaintiff he gave him the benefit of his judgment and best skill. An objection to the question was sustained on the ground that it involved matter for the jury to decide; that the witness could tell what he did, and let the jury judge whether that was the best. That was followed by a question as to whether, in his treatment of the plaintiff, the defendant had at all times given him his best attention, to which an objection was sustained; as also with regard to the questions whether or not he gave him his best skill, and gave him his best judgment. The plaintiff afterward conceded that the ruling was erroneous, under the decision in *Ingwersen* v. *Carr & Brannon,* 180 Iowa 988, 164 N. W. 217, but he argued that it should not be made the ground of a reversal of the judgment because the mere asking of the question or questions indicated what the answer would be; so that the exclusion of the evidence was not prejudicial. But the supreme court thinks otherwise. The nub of it was that the jury did not have the evidence before it which the plaintiff conceded it was entitled to. The mere fact that the question indicated that the defendant would have answered Yes to the question did not cure the error. A question is not evidence. The fact that the court sustained the objection, said to the jury, in effect, that it should not be considered. The supreme court cannot assent to the proposition that the exclusion of the evidence was nonprejudicial. The very essence of the charge against the defendant was, in effect, that he did not use the proper degree of skill—that he did not exercise the degree of skill possessed by him—that he did not use his best judgment.

Without attempting now to state accurately, or at length, the rule as to the defendant's duty, it is sufficient, in the consideration of the point under review, to say that the rule is given in the books substantially thus: In the absence of a special contract, the law implies that a surgeon employed to treat an injury contracts with his patient: First, that he possesses that reasonable degree of learning and skill which is ordinarily possessed by others of the profession; second, that he will use reasonable and ordinary care and diligence in the exercise of skill, and the application of his knowledge to accomplish the purpose for which he is employed; and, third, that he will use his best judgment in the application of his skill in deciding on the nature of the injury, and the best mode of treatment. In the instant case the trial court instructed the jury substantially to that effect, a part of the instruction being that if "the defendant possessed and used such skill, care and diligence, he was not guilty of negligence." The defendant was asked whether he used his best judgment. No one else could testify as well as he whether he did or not. Of course, if he said he did, it would not be binding on the jury necessarily, but it was entitled to the evidence.

The plaintiff claimed that the spints and cast were so loosely put on as to allow the foot to lie over on the bed, and move at the seat of fracture. Assuming that to be true, a medical witness testified that the effect on the foot would be very painful. He was then asked whether the patient could endure that pain without a sedative, and without the loss of any weight. The supreme court thinks that the question was objectionable, but that possibly the defendant could have elicited the information sought by framing the question somewhat differently; that is, for instance, how severe the pain would be, and whether the effect of that would be to cause the loss of weight, etc. However, the court says that it is not suggesting the form of the question, and that perhaps it would not, on the ground alone of the objectionableness of the question as asked, reverse the judgment which the plaintiff obtained.

No Liability for Damages in Requiring Vaccination

(Zucht v. King et al. (Texas), 225 S. W. R. 267)

The Court of Civil Appeals of Texas, in affirming a judgment for the defendants, says that the plaintiff sought both an injunction and $10,000 damages on account of the alleged unlawful discrimination of the defendants against her in expelling her from the public schools of the San Antonio independent school district because she had not been vaccinated and was unwilling to be vaccinated. The ordinance attacked was not invalid. There is nothing known to the law broader than the long arm of police power to protect the inhabitants of a city in its health. There is no greater authority or responsibility placed on a city than to establish rules and regulations to protect the health and morals of the city. This power did not suddenly come up, but it followed the growth of civilization, in the wake of necessity, progress and science, and the spread of disease; and, as conditions arose and necessity demanded, the inherent power to grapple with it sprang into life and action. Furthermore, there is a very broad distinction between an ordinance requiring children attending schools to be vaccinated and an ordinance, general in its scope, requiring barbers to be vaccinated. In the former case, the children are the wards of the city, to whom the parents intrust them, in a limited sense, for the time being. Coming from various sections, and being kept together in close schoolrooms, a different principle applies to them. And when the court reaches the conclusion, as it does, that the ordinance in question was enacted in pursuance of a grant of wise and valid power, which the legislature expressly delegated to the city council through its charter, "to enforce vaccination," the court pronounces its validity without reference to the actual existence of smallpox or not, although the plaintiff conceded that it existed among certain Mexicans all of the time. If the test of the city's broad power to "enforce vaccination" were that it could be enforced only during a time of epidemic, after many had been consigned to the grave for want of it, it would indeed be a farce. But the test is, Is it a reasonable regulation, such as can be enforced as a preventive at all times in advance of an epidemic?

The board of health is the public agency through which the city council acts to determine the necessity for putting the ordinance into effect; and that is no delegation of legislative power. It lays down the event in which the public health requires the action, and is valid. That there are violations of the act by the officers whose duty it is to enforce it cannot be regarded as a reason to declare the law invalid. Its validity is a shield to those acting within its scope. If officers charged with a public duty were not protected in its enforcement from damages to those who openly defied it, and in turn through anger or resentment seek to subject those charged with its administration to heavy penalties, it would be difficult to secure substantial persons, financially responsible, willing at such a hazard to serve the public. That other pupils not vaccinated were permitted to attend school under similar circumstances, if true, would only show that the officers were not performing a public duty, but could not affect the validity of the law. Having determined the validity of such ordinances, the court must also hold that no cause of action was presented against the defendants, or any of them. This law stands as a shield to protect them from damages in performing a lawful act.

In overruling a motion made by the plaintiff for a rehearing, on the ground that it presented nothing new and was without merit, the court says that the plaintiff complained of its statement, which it considers was justified, that the plaintiff conceded the existence of smallpox in certain localities; but the court is willing to let that go, as such admission, contention or denial has nothing to do with the result of this case, and for that reason the denied concession may be eliminated.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.

American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Climatological and Clinical Association, Lenox, Mass., June 3-4.
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston, June 3-6.
American Psychopathological Association, Atlantic City, June 11.
American Radium Society, Boston, June 6-7.
American Surgical Association, Toronto, Canada, June 14-16.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
Conference of State and Provincial Health Authoritics, Boston, June 3-4.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Maine Medical Association, Bangor, June 28-29.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Missouri State Medical Association, St. Joseph, May 24-26.
Montana, Medical Association of, Billings, July 13-14.
National Tuberculosis Association, New York, June 13-17.
Nevada State Medical Association, Elko, June 24-25.
New Hampshire Medical Society, Concord, May 25-26.
North Dakota State Medical Association, Fargo, May 26-27.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
South Dakota State Medical Association, Aberdeen, May 24-26.
Southern Minnesota Medical Association, Winona, June 27-28.
Tri-State Meeting (Oregon, Washington and Idaho), Portland, Ore., June 30-July 2.
West Virginia State Medical Association, Charleston, May 24-26.

TENNESSEE STATE MEDICAL ASSOCIATION

The President, Dr. L. L. Sheddan, Knoxville, in the Chair

Eighty-Eighth Annual Meeting, held at Nashville, April 12-14, 1921

SYMPOSIUM ON SYPHILIS

Recognition of Syphilis and the Syphilitic

Dr. John A. Witherspoon, Nashville: Correct and careful history taking, and examination of each physiologic system is of importance to determine whether the subject is a syphilitic and whether the lesion is producing the symptoms or is complicating some other disease. Laboratory findings are important adjuncts to the diagnosis but not the controlling ones. In syphilis of abdominal organs, the liver is most frequently affected. In localized syphilis of the liver the left lobe is most frequently involved. I have been impressed with the intermittent attacks of perihepatitis with slight rises of temperature and slight jaundice lasting for only one or two weeks.

The Initial Lesion and Its Differential Diagnosis

Dr. Tom R. Barry, Knoxville: The prevalence of syphilis is about one to every six or seven adults. All venereal ulcers should be regarded as syphilitic until otherwise proved. The history, clinical signs and appearance are to be considered only as presumptive evidence. Without the aid of the laboratory, diagnosis of primary lesion is impossible.

Reaction of Syphilis in New-Born and Growing Child

Dr. Edward Clay Mitchell, Memphis: In the infant, the developing structures are affected profoundly. As the child grows older and development is completed, the symptoms resemble those of the adult type. Syphilis is a familial disease. If a child shows hereditary syphilis, the parents and the other children are syphilitic, unless the disease was acquired by the parents in later life. This fact should be of value in both diagnosis and eradication of the condition. While not infallible, routine Wassermann tests in all pregnant mothers would greatly aid in early diagnosis, especially of the latent type.

DISCUSSION

Dr. Joseph Smith, Memphis: Treatment should not be undertaken for the local removal of a lesion until it is proved that it is not syphilitic in origin. Since the discovery of *Spirochaeta pallida* and the Wassermann test, there has been no greater improvement in the diagnosis of the primary lesion than the use of the dark field.

Dr. Hazle Padgett, Nashville: I have been impressed with the great frequency with which I have found in my necropsy work early degenerative changes in the medium sized blood vessels of the brain in individuals between the ages of 25 and 35 who were syphilitic.

Dr. William Litterer, Nashville: The Hecht-Gradwohl method will give positive results in cases in which the Wassermann test is found negative. I have been using the colloidal gold chlorid test with gratifying results, as it helps to differentiate tabes in the paretic stage from neurosyphilis or cerebrospinal syphilis.

Dr. W. K. Sheddan, Columbia: I fully agree with Dr. Witherspoon, but would make his statement stronger, that every case of aortic lesion in persons under 50 is syphilitic in origin. Cardiovascular diseases of the type described are much more frequent than was formerly suspected.

Dr. W. G. Somerville, Memphis: In the diagnosis of neurosyphilis the most important and early signs are the pupillary changes. Many cases of beginning neurosyphilis present no symptoms except the so-called Argyll Robertson pupil.

Dr. Otis S. Warr, Memphis: The cases of syphilis that come under the observation of the internist are mostly seen in the tertiary stage. I should like to ask Dr. Derivaux to state what he thinks of the significance of a persistently positive Wassermann reaction in those cases subjected to very vigorous antisyphilitic treatment.

Dr. John A. Witherspoon, Nashville: The manifestations of visceral syphilis are not necessarily late in appearing. In some of these cases of aortitis and in cardiac cases the manifestations appeared as early as six months after the primary sore. In nearly all cases of gastric syphilis I have seen lesions in the central portion of the stomach and some in the cardiac portion, which simulated gastric cancer.

Dr. Robert C. Derivaux, Nashville: We do not know enough about syphilis to say positively that a persistent positive Wassermann means persistent syphilis.

Gastric and Duodenal Ulcer

Dr. J. T. Moore, Algood: Very extravagant claims have been made for gastro-enterostomy. Surgeons have reported as high as from 75 to 95 per cent. cures from this operation; but later review of the cases will not substantiate such claims. In many of these cases jejunal ulcer develops, to the emptying of the acid gastric contents on the new field. It would seem that excision of the ulcer and pyloroplasty by the method of Finney should and does produce more satisfactory results. In the treatment of gastric ulcer it is necessary for the surgeon and general practitioner to cooperate. Proper medicinal treatment will effect apparent cure in 75 or 80 per cent. of the cases.

Diverticula and Diverticulitis of the Sigmoid

Dr. David R. Pickens, Nashville: The possibility of causing trouble depends on three factors: First, being formed by pressure from within, they tend to enlarge; second, they tend to harbor fecal or other harmful content, and third, they tend to undergo various secondary pathologic changes. The chief secondary pathologic changes are: (1) infection of the general peritoneal cavity from thinning of the sac walls without perforation; (2) acute or gangrenous inflammation of the sac—diverticulitis; (3) chronic proliferative inflammation with thickening of the intestinal wall and subsequent stenosis of the bowel—peridiverticulitis; (4) the formation of adhesions between the sigmoid loop and other viscera, especially the small intestine and the bladder; (5) perforation of the diverticula, giving rise to acute general peritonitis, local abscess, submucous fistula of the intestinal wall and fistulous communication with other viscera; (6) the lodgment of foreign bodies in the diverticula; (7) chronic mesenteritis of the sigmoid loop; (8) local chronic peritonitis; (9) metastatic suppuration; (10) secondary development of carcinoma, and (11) perforation into a hernial sac.

Pyothorax

DR. CASA COLLIER, Memphis: The primary causes of empyema may be grouped under three heads: (1) pneumonia; (2) rupturing into the pleura of neighboring abscesses, and here pulmonary abscess is by far the most frequent, or the introduction of infectious material through trauma; (3) metastasis from a distant focus of infection. In the diagnosis of pyothorax, in addition to physical findings, I rely on two procedures—exploratory aspiration and roentgen-ray examination. I frequently combine the two, aspirating under the fluoroscope. The technic of operation consists of the introduction of a No. 14 French catheter, with several small perforations near the end, through a specially constructed trocar into the most dependent portion of the cavity under local anesthesia. The pus is allowed to flow out and is aspirated a little at a time, care being taken to allow no air to enter. The postoperative treatment consists of the maintenance of the negative pressure and the periodic flushing of the cavity with surgical solution of chlorinated soda.

Blood Transfusion and Its Therapeutic Uses

DR. H. QUIGG FLETCHER, Chattanooga: Transfusions in pernicious anemia give immediate benefit when the disease is not too far advanced. In the advanced cases it is of very doubtful value. Secondary anemia calls for transfusion. Transfusion increases the ability of the patient to withstand the operation and to have a rapid postoperative convalescence; it also increases the ability to withstand infection. In surgical cases, when the hemoglobin is 40 per cent. or below, transfusions should be performed until the percentage rises.

Use of Radium in Nonmalignant Uterine Bleeding

DR. WILLIAM SAILER ANDERSON, Memphis: Radium has a definite field in gynecology. In young women with menorrhagia it should be used in small amounts for the initial dose. Abdominal myomectomy is preferable to radium in the treatment of patients under 35 who have definite fibroids with bleeding. Radium is an ideal form of treatment for patients over 35 with a fibrous uterus, or when the fibroid is small with bleeding. Hysterectomy should be done when the fibroid is large, unless contraindicated because of the possibility of degeneration or malignancy. In all cases of suspected malignancy of the fundus, surgery should be the method of choice, even though uterine scrapings are negative.

Radium in Gynecology

DR. SHIELDS ABERNATHY, Memphis: I have seen very extensive inoperable cancers of the cervix undergo most rapid retrogression, the hemorrhage and foul discharge cease entirely, the patients gain in weight and color and experience a sense of such well being and comfort that they know they are cured. Of forty patients, all but four showed marked and rapid improvement. Two of these were cases of primary growths, and two were recurrences following hysterectomy. All were in such an advanced stage that they were not acceptable as radium cases, except for the fact that occasionally the most unbelievable response to radium is seen. Of the two cases of primary growth, one patient died about two months after treatment was terminated, from septic infection which was present when I first saw her. The other three patients mentioned do not seem to have been benefited. In the uncomplicated fibroid of moderate size, it is easier and safer to use radium.

Conservation of Menstrual Function

DR. JOHN B. HASKINS, Chattanooga: Conservation of the reproductive function is of first importance. Conservation of the ovary for the continuance of its internal secretion and its effect on the production of menstruation is second, and even if reproduction is impossible, is of the greatest importance.

Preoperative and Postoperative Management of Abdominal Operations

DR. EUGENE J. JOHNSON, Memphis: In those patients who have been purged prior to operation, it is quite common to see a rise of temperature to 100 or 101 F. the day after operation, and a return to normal on the afternoon of the third day or the morning of the fourth day following a laxative or enema. When patients are not purged prior to operation, disagreeable symptoms are absent and the temperature remains normal. Under no circumstances should a purgative be given in the first postoperative week, because of the likelihood of thrombosis and paresis. When tympanites is very great, any attempt to lessen the condition hurriedly by purgation or other drugs only increases it and makes the patient sicker and more uncomfortable, and for this reason I never resort to the use of pituitary extract, physostigmin, salicylates or other carminatives. Gastric lavage and low enemas, along with insertion of the colon tube, give very satisfactory results. I do nothing else to promote expulsion of gas. In peritonitis I employ morphin to the point of holding the bowel in a splint. The Fowler position, rectal drip of physiologic sodium chlorid solution, 8 per cent. solution of glucose and solution of sodium bicarbonate are routine measures. For renal deficiency, manifested by complete or partial suppression of urine, I have been using the intravenous injection of Fisher's solution with most gratifying results.

SYMPOSIUM ON GALLBLADDER SURGERY

Clinical and Surgical Study of Forty Cases of Cholecystitis

DR. OTIS S. WARR and DR. L. CARL SANDERS, Memphis: Twenty-eight patients complained of a definite qualitative food dyspepsia; thirty gave a history of attacks of epigastric colic; jaundice followed the attack of colic in ten cases. At operation, impacted stones were found in the common duct in three cases. In the remaining thirty cases there was no history of jaundice at any time. In twenty cases, gallstones were found at operation. Thus there were 25 per cent. who gave a history of attacks of colic, and yet no stones were found. Thirty-three of our patients were females. The average age was 45 years. The average duration of symptoms was twelve years. In one there was carcinoma of the gallbladder with metastases into the liver. In four cases the gallbladder had perforated into the liver substance. In four cases the symptoms were acute. In one of these, tuberculosis of the gallbladder and duodenal ulcer were found. In the remaining three a large distended gallbladder filled with pus and stones was removed. In two of the acute cases the gallbladder was easily palpable, but in none of the chronic cases were we able to palpate it. Tenderness over the gallbladder zone was elicited in twenty-nine chronic cases. Cutaneous hyperesthesia was too inconstant to be of any diagnostic value. In two cases, drainage had been previously employed; in both there was a reformation of stones and recurrence of symptoms. Routine fractional gastric analysis was made in twenty cases. Of these, thirteen showed a normal acid curve. The remaining seven cases showed a hypo-acidity. In no case was there a hyperacidity. Chronic appendicitis was present in thirty-four cases. In the four acute cases, the appendix was not examined. Duodenal ulcer was diagnosed and demonstrated at operation in five cases. In all these the gallbladder symptoms antedated the ulcer symptoms by several years. Gastric ulcer was found in one case.

Some Observations on Gallbladder Surgery

DR. CLAUDE P. FOX, SR., Greeneville: The indications for cholecystectomy are: (1) contracted and useless gallbladders; (2) impacted stone in cystic duct; (3) stricture of cystic duct; (4) empyema of gallbladder; (5) gangrenous gallbladder; (6) calcareous gallbladder; (7) cancer or other new growth. When statistics are finally published to show ultimate results of operations, the indications are that they will be decidedly in favor of cholecystostomy.

Surgery of Gallbladder

DR. J. A. CRISLER, Memphis: I lean to the idea of strict conservatism when I am confronted by the problem of whether to perform a cholecystectomy or a cholecystostomy. Cholecystectomy as a routine surgical procedure, without regard to the future usefulness of the gallbladder, is unwise. I have practiced antiseptic irrigation for about five years in selected cases, cases in which the muscular structure of the gallbladder was intact and the infection confined to the mucous membrane, whether they contained stones or not.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Ophthalmology, Chicago

April, 1921, **4**, No. 4

Congenital Anomalics of Fundus of Eye. M. Danis, Brussels, Belgium. —p. 233.
Prolonged Monocular Occlusion as Test for Muscle Balance. F. W. Marlow, Syracusc, N. Y.—p. 238.
Carcinoma of Orbit; Report of Case. W. C. Finnoff, Denver.—p. 251.
Focal Adjustment in Aphakial Eye. F. P. Lewis, Buffalo.—p. 258.
Why We Accommodate. C. Loeb, Chicago.—p. 265.
Cranial Development Following Enucleation in Early Youth—Possible Effects in Adult Years. G. Dickinson, Syracuse, N. Y.—p. 270.
Blepharcochalasis with Ptosis; Report of Case. E. B. Heckel, Pittsburgh.—p. 273.
Aphakia, Near Vision with Distance Glasses. W. R. Fringer, Rockford, Ill.—p. 276.
Paralysis of Accommodation Following a Peritonsillar Abscess. J. W. Whitc, Norfolk, Va.—p. 276.
Blindness from Methyl Alcohol Poisoning. V. R. Hurst, Longview, Texas.—p. 277.
Papillitis; Glioma of Brain. G. N. Brazeau, Milwaukee.—p. 277.

American Journal of Roentgenology, New York

April, 1921, **8**, No. 4

Intralaryngeal Application of Radium for Chronic Papilloma. P. M. Hickey, Detroit.—p. 155.
*Behavior of Normal Pyloric Sphincter in Man. C. W. McClure and L. Reynolds, Boston.—p. 158.
Leather-Bottle Stomach (Linitis Plastica). Five Cases; Relationship to Syphilis and Cancer of Stomach. L. T. LeWald, New York.—p. 163.
Selective Organ Stimulation by Roentgen Rays: Enzyme Mobilization. W. F. Petersen and C. C. Saelhof, Chicago.—p. 175.
Influence of Roentgen Ray Organ Stimulation on Coagulation Mechanism. C. C. Saelhof, Chicago.—p. 179.
Roentgen-Ray Burn of Third Degree Followed by Rapid Healing. E. S. Blaine, Chicago.—p. 183.
Hirschsprung's Disease. Report of Case. J. G. Ware, Santa Barbara, Calif.—p. 186.
Diagnosis of Brain Tumor by Pneumoventriculography. A. S. Merrill, Boston.—p. 188.
Foreign Body (Coin) in Bronchus for Fifteen Years. I. S. Hirsch, New York.—p. 191.
Roentgen-Ray Findings in Chronic Gas Cases. H. C. Pillsbury, Washington, D. C.—p. 193.
Practical Application of Sphere Gap to Roentgenotherapy. H. J. Ullmann, Chicago.—p. 195.
Value of Prophylactic Roentgen-Ray Treatments. S. Stern, New York. —p. 199.

Behavior of Normal Pyloric Sphincter in Man.—By means of fluoroscopy McClure and Reynolds were able to determine that finely divided carbohydrate protein or fatty foodstuffs begin to leave the normal human stomach within from three to ten minutes after their initial ingestion. Under normal conditions the human pyloric sphincter opens regularly at the approach of each antral peristaltic wave, allows chyme to pass through into the duodenum during an appreciable length of time, and closes when the antral peristaltic wave has spent itself. The introduction of fortieth, twentieth and tenth normal hydrochloric acid solutions into the first, second or third portions of the normal human duodenum either produced no effect on the opening of the pyloric sphincter as observed by means of the fluoroscope, or produced effects which were interpreted as the result of abnormal irritation of the duodenal mucosa. Neutralization of the contents of the first portion of the duodenum did not prevent the closing of the pyloric sphincter. The experimental results obtained offer evidence that acid is not the principal factor controlling opening and closing of the pyloric sphincter in man.

Archives of Dermatology and Syphilology, Chicago

May, 1921, **3**, No. 5

*Etiology of Eczema; with a Preliminary Report of Experimental Studies. F. G. Harris, Chicago.—p. 579.
*Rôle of Endocrine Glands in Etiology and Treatment of Acne. L. Hollander, Pittsburgh.—p. 593.
Specificity of Cholesterinized Antigens in Serologic Diagnosis of Syphilis. R. A. Kilduffe, Pittsburgh.—p. 598.
Multiple Lymphangiomatous Tumors of Skin. E. A. Oliver, Chicago. —p. 608.
Chancre of Gum: Report of Case. J. V. Klauder, Philadelphia.—p. 615.
Susceptibility to Dermatitis from Rhus Diversiloba. J. B. McNair, Washington, D. C.—p. 625.
Acute Syphilitic Nephritis; Report of Case. J. A. Elliott and L. C. Todd, Charlotte, N. C.—p. 634.
*Curve of One Thousand Four Hundred Wassermann Reactions after Treatment by Neo-Arsphenamin and Mercury Salicylate. K. M. B. Simon, Belize, British Honduras.—p. 639.
Scheme for Presenting Subject of Inflammatory Dermatoses to Students in Terms of Fundamental Cutaneous Reaction Signs. J. H. Stokes. Rochester, Minn.—p. 641.
Further Indications for Pepsin-Hydrochloric Acid Treatment. E. H. Ahlswede, Hamburg, Germany.—p. 648.

Etiology of Eczema.—This paper was read by the late Dr. Harris in 1916 as his president's address before the Chicago Dermatological Society and was prepared for publication by Dr. John H. Stokes. Harris expresses his belief that the important factor in the production of an eczema is an increased irritability of the skin or of some structure in it, this abnormal irritability resulting in a reaction of the skin to irritants of varying degrees of intensity. Thus a skin in this state of unstable equilibrium would react to an irritant of any type, be it ever so mild. A skin in a state of normal equilibrium would require an irritant of great intensity, the reaction in this case being called an artificial dermatitis. A skin in a highly irritable state could react to a stimulant so mild as to be considered physiologic. Many facts, clinical and experimental, Harris thought substantiate this view of the etiology of eczema. It is conceded that eczema is an inflammatory reaction of the skin. The normal skin of eczema patients is especially sensitive to external irritation, be it mechanical, chemical or thermal. The sensation of itching is inherent in the epidermis, is a prominent symptom of eczema and can be prevented and counteracted by epinephrin. Inflammation of the conjunctiva and skin, usually resulting from the use of strong irritants, can be prevented by paralyzing the reflex arc in various ways, among which is the local or subcutaneous use of epinephrin. Since the vasomotor changes in eczema are so intimately associated with itching, and it has been shown that epinephrin prevents them both and is a normal constituent of the blood, it requires no great imagination to suppose that a deficiency of the active epinephrin in the blood could account for the increased sensitiveness of the skin on the one hand and the itching on the other. The epinephrin might act on the cutaneous reflex arc. The rather frequent association of eczema, low blood pressure and asthma, all conditions counteracted by epinephrin, in Harris' opinion, is suggestive, to say the least. On the other hand some toxic substance, or substances, which, entering the blood from time to time might, in spite of a normal epinephrin content, act as an irritant to the vasomotor system and especially to the cutaneous reflex arc or neutralize the normal epinephrin action at this point. The rather intimate association between eczema on the one hand and various metabolic and nervous disturbances on the other hand suggested such a possibility. The influence of diet and the gastro-intestinal tract, the action and formation of histamin, indican and antitrypsin as possible factors in the causation of eczema were also considered by Harris.

Rôle of Endocrine Glands in Acne.—In cases presenting increase in metabolic activities, Hollander prescribes, in addition to regulating the patient's habits, enforcing dietetic and hygienic measures, cleansing of the skin with hot fomations at night and frequent washings during the day, aseptic removal of comedones and opening pustules, and suprarenal gland substance, 5 grains, three times a day. In cases of the opposite type—lazy, plethoric, overnourished, closely bordering on lowered thyroid gland activity the patient is instructed to carry out the measures mentioned and he receives thyroid gland substance, one-fourth grain, three times a day. Hollander is impressed with the correctness of the conception that the underlying etiologic factor in acne is somewhere in the domain of the endocrine glands—probably in the gonads. In a good many instances the endocrine administration described is supplemented with ovarian or testicular extract administration. The administration of dry gonad extracts has proved unsuccessful.

Wassermann Reaction After Treatment.—The treatment employed by Simon consisted of at least seven weekly intravenous injections of neo-arsphenamin, beginning with a dose of 0.45 gm., and increasing it to 0.9 gm., and nine weekly injections of mercury salicylate (1 grain) in paraffin. The injection of neo-arsphenamin was omitted on the fourth and

eighth weeks of treatment; on these dates the patient received only mercury salicylate injections. There never was a case of faiting, vomiting or severe reaction while using this hyperconcentrated solution. It took from two to eleven injections to obtain a negative Wassermann reaction in primary cases; secondary cases required from seven to twenty-two. The minimum number of injections for a primary case was two, for a secondary, seven; the maximum number of injections for primary cases was fourteen, and for secondary twenty-two. Tertiary cases never gave a negative reaction while under treatment, but a diminution of fixation was invariably noted.

Archives of Ophthalmology, New Rochelle, N. Y.

March, 1921, **1**, No. 2

Ocular Manifestations of Epidemic Encephalitis. W. A. Holden, New York.—p. 101.
Backing Out of Cataract Operations. H. Gifford, Omaha.—p. 109.
Methods of Dealing with Capsule in Cataract Extraction. A. Knapp, New York.—p. 115.
Treatment of Cataract Patient Before and After Operation. W. H. Snyder, Toledo, Ohio.—p. 120.
Metastasis of Carcinoma into Endothelioma of Optic Sheath. M. Cohen and W. J. MacNeal, New York.—p. 128.
Ocular Manifestations of Disease of Paranasal Sinuses. J. Bordley, Jr., Baltimore.—p. 137.
Total Keratoplasty. J. W. Burke, Washington, D. C.—p. 147.
Closure of Traumatic Subconjunctival Corneoscleral Fistula. H. S. Gradle, Chicago.—p. 154.
Minor Palpebral and Conjunctival Affections Associated with Refractive and Muscular Errors. J. Green, Jr., St. Louis.—p. 158.
Ophthalmology from Viewpoint of Clinician. H. E. Smith, New York.—p. 165.

Arkansas Medical Society Journal, Little Rock

April, 1921, **17**, No. 11

*Orthomelic. H. D. Wood, Fayetteville.—p. 205.
Care and Treatment of Club Feet. F. W. Carruthers, Little Rock.—p. 206.

Orthomelic.—Under this title Wood describes an apparatus designed by himself to be used as a splint in the treatment of fractures. It is in reality a modification of the Hodgen splint.

Boston Medical and Surgical Journal

April 21, 1921, **184**, No. 16

Rationalé of Forcing Fluids. G. G. Smith, Boston.—p. 401.
Strangulated Hernia in Aged. Local Anesthesia. Case Reports. M. T. Field, Salem.—p. 404.
*Significant Reactions of Arterial Tension, Manifestations of Angiokinetic Energy, Clinically Observed and Interpreted. C. J. Enebuske, Boston.—p. 407.
Fecal Units and Intestinal Rate, Basis for Study of Health and Intestinal Indigestion. F. L. Burnett, Boston.—p. 415.

Arterial Tension.—The normal arterial tension, formulated in the continuously spontaneously stable vasotonus at a radialis maximum tension value exceeding 140 mm., but not exceeding 150 mm. Hg., Enebuske says may be characterized as a state of arterial tension in which the automatic and reflex excitability of the cardiovascular, neuromuscular mechanism possesses a high grade of coordination and adaptability to variable demands within wide limits, by force of which the basic radialis maximum value is balanced and retained undisturbed even though the reflex excitability is exposed to the influence of various pressor and depressor excitation. The state of arterial tension which expresses itself through a spontaneously stable radialis maximum value exceeding 140 mm. Hg, but not exceeding 150 mm., coincides with nonexistence of certain diseases, or, in other words, that this same state of arterial tension coincides with a high grade of natural immunity in relation to those certain diseases. It follows that a high grade of coordination and adaptability of the vascular automatic and reflex excitability to a wide range of variable demands resulting in a spontaneously stable vasotonus of normal radialis maximum tension value enters into the characteristics of a high degree of natural immunity.

April 28, 1921, **184**, No. 17

Dental Infections and Their Relation to Disease. I. Viewpoint of Roentgenologist. F. W. O'Brien, Boston.—p. 427.
II. Viewpoint of Dentist. F. A. Keyes, Boston.—p. 430.
III. Viewpoint of Bacteriologist. P. Howe, Boston.—p. 433.
IV. Viewpoint of Oral Surgeon. K. H. Thoma, Boston.—p. 434.
Energy Content of Extra Foods. (Sandwiches). C. G. Benedict and F. G. Benedict, Boston.—p. 436.
Stem-length and Trunk-length. H. Gray and H. F. Root, Boston.—p. 439.
Impressions Concerning Etiology of Rickets Among Italians. B. T. Strongman and H. I. Bowditch, Boston.—p. 443.

Colorado Medicine, Denver

April, 1921, **18**, No. 4

*Studies in Artificial Pneumothorax on Rabbit. S. Simon, Denver.—p. 69.
Impressions Gained from Use of Radium During 1920. C. B. Ingraham, Denver.—p. 72.
Intrathoracic Movements. W. W. Wasson, Denver.—p. 76.
Chemotherapy of Tuberculosis. H. Gauss, Denver.—p. 79.

Effect of Artificial Pneumothorax on Tubercles.—A large series of rabbits in which a good collapse of the right lung was initiated shortly after the intravenous injection of tubercle bacilli and maintained for a period of one month by means of the intrapleural injection of air every second or third day throughout the experimental period, revealed no appreciable effect of this procedure on the size or number of macroscopic tubercles found in the lungs of the treated animals as compared to the untreated, or in the compressed right lung as compared to the noncollapsed left lung.

Iowa State Medical Society Journal, Des Moines

April 15, 1921, **11**, No. 4

Group Diagnosis and Group Therapy. L. F. Barker, Baltimore.—p. 113.
Use of Thomas Splint and Balkan Frame. C. E. Ruth, Des Moines.—p. 121.
Local Medical Societies. D. S. Fairchild, Clinton.—p. 127.
Treatment of Uterine Cervicitis. L. M. Scruby, Des Moines.—p. 139.

Journal of Laboratory and Clinical Medicine, St. Louis

April, 1921, **6**, No. 7

*Bacteriology of Chronic Nontuberculous Lung Disease. H. Greeley and M. Brereton, Brooklyn.—p. 349.
Preparation of Metal Salts of Thioglycollic Acid. C. N. Myers, Washington, D. C.—p. 359.
Relation Between Blood-Coagulating and Smooth Muscle-Contracting Properties of Tissue Extracts. C. A. Mills, G. Raap and D. E. Jackson, Cincinnati.—p. 374.
*Pharmacology of Some Benzyl Esters. C. Nielsen and J. A. Higgins, Chicago.—p. 388.
Ice Water-Bath in Complement Fixation for Wassermann Reaction. A Shortened Technic. W. W. Duke, Kansas City.—p. 392.
Hemostatic Agents. H. C. Hamilton, Detroit.—p. 398.

Bacteriology of Chronic Nontuberculous Lung Diseases.—The sputum of thirty-one tuberculosis patients whose sputum was persistently negative to tubercle bacilli was examined by Greeley and Brereton both by smears and culture. They found *Penicillium glaucus, Mucor corymbifer* and *Aspergillus fumigatus.* Evident is adduced that such organisms are extremely numerous in such sputums and that they probably are potent in the disease process, acting alone in some cases, and in cooperation with the tubercle bacillus in a few others. As of assistance in the eventual complete identification and classification of the organisms to be found in sputum, important evidence is adduced of the extreme pleomorphism of certain fungi, probably common therein under forms morphologically representing yeasts, cocci, and bacilli.

Pharmacology of Benzyl Esters.—Using a method described by Jackson, Nielsen and Higgins have been able to obtain marked intestinal relaxation following injections of relatively small amount of benzyl benzoate and benzyl cinnamate. Benzyl cinnamate produced a greater intestinal relaxation than benzyl benzoate in equal amounts. Benzyl cinnamate lowers the blood pressure less than benzyl benzoate. Benzyl cinnamate is a solid compound at ordinary temperature but readily melts at body temperature. Similar to benzyl benzoate it is virtually nontoxic when administered orally. Another feature noted by the authors is that, after repeated injections of large doses of benzyl esters into the blood stream, the arterial blood becomes very venous in appearance. There is no difference in the coagulation period of such blood as compared with normal arterial blood from the same animal.

Journal of Nervous and Mental Diseases, New York

April, 1921, **53**, No. 4

Influenza and Melancholia. K. A. Menninger, Topeka, Kan.—p. 257.
*Reduction of Nervous Irritability and Excitement by Progressive Relaxation. E. Jacobson, Chicago.—p. 282.

Reduction of Nervous Irritability and Excitement by Progressive Relaxation.—Jacobson's method consists of voluntary continued reduction of contraction or tonus of muscle groups and the motor or associated portions of the nervous system. The relaxation is progressive. For instance, the patient relaxes a group, the biceps-brachial of the right arm further and further each minute; he learns consecutively to relax the upper muscle groups of his body. With each new group he simultaneously relaxes such parts as have previously received practice. From day to day he progresses toward the habit of repose, tending toward a state in which quiet is automatically maintained.

Journal of Orthopaedic Surgery, Lincoln, Neb.

April, 1921, **3**, No. 4

Nonoperative Treatment of Scoliosis. W. Truslow, Brooklyn.—p. 121.
Chronic Circumscribed Osteomyelitis. W. G. Stern, Cleveland.—p. 132.
Osteomyelitis Following War Injuries. R. Stephens, New York.—p. 138.
Protractor for Measuring Rotation of Joints. W. A. Clark, Pasadena, Calif.—p. 154.
Giant-Cell Tumor in Knee Joint: Report of Case. P. Blanco.—p. 156.

Protractor for Measuring Joint Rotation.—The instrument used by Clark is a half circle cut out of zinc, aluminum or other rigid material, marked with the degrees of the half circle arc from 0 to 180 degrees and mounted on two upright pieces so that it is vertically adjustable. It is made large enough to go over the knee which is the largest part it is required to arch over. By means of the vertical adjustment it is set at the desired height above the flat surface on which the limb rests so that the diameter from 0 to 180 degrees passes at right angles through the axis of rotation. The zero end of the arc is placed toward the median body line so that inward rotation is always toward 0 and outward rotation toward 180. In stating the amount of rotation it is not necessary to specify internal or external but merely to state the two limits, e. g., rotation from 40 to 160 degrees. The reading is taken by sighting along the radiating lines on the wide surface of the protractor, the observer's head being placed so that the eye comes almost in the same plane as the protractor and at sufficient distance to lend perspective. By moving the head a radiating line will be found which coincides with the plane of the rotated limb. For the forearm this plane is that which passes through the radial and ulnar styloids. For all other parts it is the anteroposterior plane.

Tumor in Knee Joint.—The tumor in the case cited by Blanco was lying in the capsule of the joint and was intimately associated with the infrapatellar pad. An area of discoloration in the tumor suggested the presence of a fairly recent hemorrhage. Microscopic study of the tissue revealed giant-cell tumor of the xanthic type. The patient's convalescence was uneventful.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

April, 1921, **17**, No. 3

Influence of Sedatives on Animals. I. Method for Measuring Influence of Stimulating Drugs and of Sedatives on Activity of Animals (Activitymeter). W. S. Van Leeuwen, Leiden.—p. 169.
*Duration of Constriction of Blood Vessels by Epinephrin. S. J. Meltzer and J. Auer, New York.—p. 177.
Chronic Intoxications on Albino Rats. IV. Fluorid, Chlorid and Calcium (Including Sodium Fluorid, Sodium Chlorid, "Phosphate Rock," Calcium Phosphate (Precipitated) and Calcium Carbonate (Precipitated). T. Sollmann, O. H. Schettler and N. C. Wetzel, Cleveland.—p. 197.
*Action of Drugs on Output of Epinephrin from Suprarenals. VII. Physostigmin. G. N. Stewart and J. M. Rogoff, Cleveland.—p. 227.
Effect of Ipecac in Treatment of Infectious Enterohepatitis (Blackhead) in Turkeys. H. M. Wegeforth and P. Wegeforth, San Diego.—p. 249.

Constriction of Blood Vessels by Epinephrin.—The experiments reported on by Meltzer and Auer showed conclusively that a subcutaneous injection of epinephrin in the ear of rabbits causes a constriction of all the vessels of that ear. The constriction is quite intense; but the outstanding feature is its very considerable duration—from three to eight hours. The rise of blood pressure from an intravascular injection of epinephrin is at the utmost seven minutes. The latent period which passes between the time of the injection and the onset of the constriction is the longer the further away the injection is made from the central artery. When the constriction passes off the blood vessels which were subjected to this effect show later a tendency to the opposite effect, to vasodilatation.

Effect of Physostigmin on Output of Epinephrin.—After the administration of physostigmin, either intravenously or subcutaneously, in cats, the epinephrin output of the suprarenals was found by Stewart and Rogoff to be augmented (to as much as from ten to fifteen times the initial output). The stage of augmentation is prolonged and is preceded by a transient diminution. No evidence was obtained that after section of the splanchnics and other nerves going to the adrenals, physostigmin can increase the epinephrin output by peripheral action.

Journal of Urology, Baltimore

February, 1921, **5**, No. 2

*Testes and Certain Vasomotor Reactions of Penis. A. C. Crawford and J. M. George, Philadelphia.—p. 89.
*Giant Vesical Calculus. A. Randall, Philadelphia.—p. 119.
*Clinical Investigation of Phenolsulphonephthalein Test. W. F. Braasch and E. C. Kendall, Rochester, Minn.—p. 127.

Testes and Vasomotor Reactions of Penis.—The experimental work done by Crawford and George showed that there seems to be in the testes a specific dilator for the penis. Agents which dilate the blood vessels of the hind limb increase to some extent the volume of the penis.

Largest Vesical Calculus.—Randall claims that his case represents the largest vesical calculus authentically reported to have been found antemortem and in all probably the largest in medical literature. The patient was 61. Twelve years ago, the patient passed by urethra three very small calculi. This was followed by frequency of urination, a symptom that has persisted with but slight variation. He noticed that urine on standing would form a crystalline deposit on the vessel wall. Hematuria was noticed several years ago but none recently. In July, 1919, the patient discontinued his work because of his suffering from hemorrhoids and his inability to properly support an inguinal hernia. He was likewise losing strength. On examining the abdomen, a hard tumor was found extending from the symphysis pubes almost to the umbilicus. It was fixed solidly in place and perfectly immovable, apparently a part of, or firmly attached to, the pelvis. On passing a silver catheter no obstruction was found in the urethra and it entered without difficulty a short distance into the bladder. About 1½ ounces of clear urine were withdrawn, examination of which showed no albumin, no sugar and no microscopic evidence of blood. On entering the bladder, the catheter grated on a hard surface which was believed to be a calculus. Roentgenologic examination showed an immense shadow filling the entire true pelvis and extending three finger breadths above the line of the sacral promontory. The bladder was opened. A calculus weighing in its moist state exactly 64 ounces, or 4 pounds, was removed. Its longitudinal circumference measured 48 cm., and its greatest horizontal circumference (that above the brim of the pelvis) 40 cm. The mark of the superior straight was very evident, while the portion opposed to the symphysis had formed an overlapping ledge and was quite ebonized. Posteriorly could be seen the imprint of the outline of the sacrum, grooved on the left by a shallow depression showing the course of the rectum. Below on the right was a teatlike projection under which in pulley-like fashion could be seen the curve of the course of the right ureter. The surface was generally quite smooth, of dark brown color and in spots appearing polished. Where this surface had cracked off there was exposed the soft white, granular material characteristic of calcium phosphate deposit. On the portion under the projecting ledge that was approximated to the symphysis the surface was of especially high polish resembling ebonized bone. The calculus was not sectioned.

Acidosis and Phenolsulphonephthalein Test.—The extent to which phenolsulphonephthalein is retained in the tissues Braasch and Kendall state is influenced by the degree of acidosis. If rendered alkaline the tissues will readily liberate it. Following alkalization of the urine the phenolsulphonephthalein output with intramuscular injection is apparently higher. With nephritis alkalization of the urine has but little

effect on the output. In the presence of cardiac insufficiency accurate estimation of the renal function is obtained best by intravenous injection. The difference between the intramuscular and intravenous output offers a fair index of the comparative degree of cardiac and renal impairment.

Kansas Medical Society Journal, Topeka

April, 1921, **21**, No. 4

Transfusion. P. M. Krall, Kansas City.—p. 113.
What Not to Do in Bone Surgery. H. L. Regier, Kansas City.—p. 117.
Gallbladder Diseases. H. L. Snyder and H. H. Jones, Winfield.—p. 118.
Law for the Doctor. L. Childs.—p. 121.

Maine Medical Association Journal, Portland

April, 1921, **11**, No. 9

Oral Infection. H. D. Smith, Portland.—p. 273.
Cancer Problem. E. H. Risley.—p. 284.

Medical Record, New York

April 30, 1921, **99**, No. 18

Specialization in Medical and Surgical Treatment of Ulcers of Stomach and Duodenum. A. L. Soresi, New York.—p. 727.
*Technic of Intramuscular (Epifascial) Injection. J. H. Stokes, Rochester, Minn.—p. 730.
Backache: Low Back Pain of Mild Type. S. Epstein, New York.—p. 734.
*Case of Syphilitic Dactylitis, with Roentgen-Ray Findings. J. Seilin, Chicago.—p. 736.
*Physical Therapeutics in New York Hospitals. A. B. Hirsh, New York.—p. 737.
How May We Reduce Mortality in Appendicitis? M. Kahn, Los Angeles.—p. 741.
Concept of Roentgen-Ray Pathology. XII. Gastropathy. A. J. Pacini, Washington, D. C.—p. 742.
*Treatment of Incoercible Vomiting of Pregnancy. G. G. Van Schaick, New York.—p. 746.

Technic of Epifascial Injection.—In order to obtain better absorption and freedom from local irritation even on the injection into the buttock of a highly irritating drug, Stokes follows a certain technic. The patient lies prone on a table. Relaxation should be complete. The patient should drop his arms over the side of the table. His legs should be placed in a position of moderate internal rotation "toed in." Injections into the buttock should, in general, be given into the upper outer quadrant near its inner angle. If the injection is given into the upper part of the outer quadrant or into the inner quadrant near the sacrum, even a short needle is likely to strike bone, or the injection of the irritant substance above the periosteum or about the roots of the sacral plexus will give rise to induration and pain, and may induce an obstinate sciatica. Injections given into either of the lower quadrants are subject to pressure on sitting, and are correspondingly painful. If administered near the great sciatic nerve a neuritis may result. Such injections, moreover, cannot be deposited on the fascia with the exactitude possible in the upper outer quadrant, and for this reason are likely to give rise either to superficial nodule formation, abscesses, or deep firm indurations. The left hand is placed flat on the buttock and with moderate pressure is drawn firmly downward toward the patient's heel, thus flattening and fixing the tissues. The syringe is introduced to its full length by a quick stroke at an angle of approximately 20 degrees from the vertical in a stagittal plane, with a slight inclination inward. The removal of the left hand slightly increases the slant of the syringe. It is not necessary in this technic to use a sign, such as Wechselmann's torsion sign, for demonstrating that the needle point is near or on the fascia. The site of the injection, the length of the needle when properly adapted to the type of buttock, the fixation of the tissue with the left hand, and the position of the syringe when introduced soon become matters of habit and seem to place the injected material in such a way that induration is a very unusual occurrence.

Syphilitic Dactylitis.—A woman complained of pain and swelling in the right thumb of about a week's standing. She admitted the possibility of venereal infection. She also had had nocturnal headaches, tibial bone pains, and shortness of breath, with oppressive sensations beneath the sternum on exertion. The roentgenogram showed a proliferative periostitis on the volar aspect of the interphalangeal joint. The bony nodules seemed to be deposited in the synovial sheaths and tendons besides the periosteum itself. She was put on ascending doses of potassium iodid and mercury protiodid by mouth. The pain and tenderness disappeared in about five days, and the swelling gradually went away in the course of a month.

Physical Therapeutics.—The chief obstacle now preventing a more rapid spread of knowledge on physiotherapy here Hirsch says is the insufficient number of teaching courses available, either for the undergraduate or the full-fledged practitioner. Abroad, in addition to the lectureship at Oxford, professorships of physical therapeutics have been founded in the Universities of Ghent, Bordeaux and Madrid. In Canada courses on the subject are given at Hart House, Toronto, and at McGill University. In the United States, instruction is given in physical methods in Boston at City Hospital, at Harvard and at the Children's Hospital; and similar courses are given to New York undergraduates at the Montefiore Home; also, at the Jefferson and the university medical schools in Philadelphia. It is announced that physiotherapy is to be regularly included in the medical curriculum at the University of Indiana. Hirsch urges that undergraduate instruction on the subject must soon be included in the curriculum of all medical schools. Postgraduate courses, now given only by private individuals, should become part of the work of hospitals everywhere. Hospitals lacking physical treatment facilities, in charge of full-time medical directors, fail to give proper service to patients and can no longer be considered as modern. Active propaganda may be needed to make medical staffs and directorates in general realize the urgent need for introducing these indispensable measures.

Treatment of Intractable Vomiting of Pregnancy.—Colonic washings and proctoclysis were the measures employed successfully by Van Schaick in the treatment of several cases of intractable vomiting of pregnancy.

Mental Hygiene, Albany, N. Y.

April, 1921, **5**, No. 2

Malbehavior Viewed as an Outpatient Mental and Nervous Clinic Problem. F. A. Strecker, Philadelphia.—p. 225.
Psychiatry and "Scientific Psychology." J. T. MacCurdy, New York.—p. 239.
Case of Emotional Crisis. A Description and Analysis of an Episode that Occurred Among Psychopathic Women. E. R. Spaulding, New York.—p. 266.
Mental Hygiene and College Student. F. E. Williams.—p. 283.
Experiment to Determine Possibilities of Subnormal Girls in Factory Work. E. B. Bigelow, New Haven, Conn.—p. 302.
Vocational Probation for Subnormal Youth. A. Gesell, New Haven, Conn.—p. 321.
Maladjusted Children. L. Blumgart, New York.—p. 327.
Possibilities of State Society for Mental Hygiene. H. D. Singer, Springfield, Ill.—p. 342.
Mental Diseases in Twelve States, 1919. H. M. Pollock and E. M. Furbush, New York.—p. 353.

Military Surgeon, Washington, D. C.

April, 1921, **40**, No. 4

Physical Examination with Special Reference to Chest and to Military Practice. A. L. Benedict, Buffalo.—p. 373.
Food at Front Lines. C. C. Mason and A. T. Shohi, Baltimore.—p. 386.
Typhoid Fevers and Paratyphoids. A. Martinet.—p. 402.
Acute Empyema. E. F. Butler and A. D. Haverstock, M. C., U. S. Army.—p. 412.
Report of New Type of Helmet. S. H. Wadhams, M. C., U. S. Army.—p. 424.
Etiology of Ocular Wounds Caused by War Projectiles. V. Morax and F. Moreau.—p. 424.
Notes, Experiences and Suggestions on Automobile Ambulance Service of a Modern Army in Field. S. Thorn.—p. 431.
Being a Military Observer. J. R. Church, M. C., U. S. Army.—p. 469.

National Research Council Bulletin, Washington, D. C.

February, 1921, **1**, No. 8

Intellectual and Educational Status of Medical Profession as Represented in U. S. Army. M. V. Cobb and R. M. Yerkes.—p. 457.

New Jersey Medical Society Journal, Orange

April, 1921, **18**, No. 4

Neurologic Manifestations of Puberty. A. Gordon, Philadelphia.—p. 111.
Twenty-Nine Years of Obstetrical Practice. J. L. Lund, Perth Amboy.—p. 112.
End Results of 442 Fractures Caused by Industrial Accidents. J. N. Bassin, Newark.—p. 115.
Protest Against Thoughtless Radicalism in Surgery of Nose, Throat and Mouth. H. A. Knox, Bayonne.—p. 117.
Nine Cases of Foreign Bodies in Upper Air and Food Passages. H. B. Orton, Newark.—p. 118.

New Orleans Medical and Surgical Journal

May, 1921, **73**, No. 11

pecific and Nonspecific Immunities. G. H. Sherman, Detroit.—p. 461.
atulous Appendix—Toxic Focus. W. A. Love, New Orleans.—p. 464.
wo Cases of Leprosy in New Orleans. J. M. Perret, New Orleans. —p. 473.
Iercurosal. J. L. Marchand, New Orleans.—p. 476.

Leprosy in New Orleans.—The two patients whose cases e reported by Perret were native Louisianians, who had ver left the United States. One had never been outside of ouisiana. In both cases smears made from the nasal secre- ons showed the bacilli of leprosy.

New York Medical Journal

April 20, 1921, **113**, No. 12

Modern Commentaries on Hippocrates. J. Wright, Pleasantville, N. Y. —p. 569.
Albumin, Lymphocytic Cells and Tubercle Bacilli in Sputum. K. Takeuchi, Tokyo, Japan.—p. 574.
General Postdiphtheritic Paralysis in an Adult. D. H. Hallock, Southampton, N. Y.—p. 577.
Preliminary Report on Immunity of Bovine Udder to Carcinoma. D. C. A. Butts, Philadelphia.—p. 578.
Colonel Henry Smith. C. B. Meding, New York.—p. 582.
Two Cases of Concretion of Lacrymal Canaliculus. E. A. Shumway, Philadelphia.—p. 584.
Case of Gaucher's Disease. L. H. Levy, New Haven, Conn.—p. 586.
Case of Splenomegaly (Gaucher's Disease?). H. B. Mills, E. J. Asnis and W. W. Babcock, Philadelphia.—p. 589.
Review of Carbohydrate Metabolism as Related to Diabetes. F. P. Knowlton, Syracuse.—p. 591.
Endocrinology and Its Practical Application. D. M. Kaplan, New York.—p. 593.
Biologic or More Inclusive Sense of Therapy. J. J. McNulty, New York.—p. 602.
Retropharyngeal Abscess; Report of Sixty Cases. J. Friedman and S. D. Greenfield, Brooklyn.—p. 604.
Who is Responsible for Sponge Count? J. W. Kennedy, Philadelphia. —p. 607.
Educational Campaign Against Tuberculosis in Pennsylvania. A. M. Dewes, Philadelphia.—p. 608.
Fractures. H. B. Pritchard, Syracuse.—p. 610.

Postdiphtheritic Paralysis.—The first sequel to appear in Hallock's case occurring in a man, aged 50, did so promptly, and consisted of a paralysis of the pharyngeal muscles which persisted for a week. Weight and strength gradually returned and in one month the patient was able to do light work about the farm. Three months after the acute illness it was first noticed that the wrists and ankles were becoming weak. This weakness gradually involved the arms and legs until the patient was again rendered helpless, being unable to help himself in any way. There was a complete loss of use of the flexor and extensor muscles of the fingers and toes, wrists and ankles, with partial loss of voluntary motion at the elbows and knees. All of the muscles moving the shoulders and hips functioned, but weakly. There was a beginning atrophy of the muscles most extensively involved, especially the dorsal interossei of the hands. The abdominal muscles of the left side were flaccid and could not voluntarily be tightened, while those of the right side were definitely weakened. The anal sphincter functioned normally, while the vesical sphincter was slightly involved. All tendon reflexes usually elicited from the extremities were unobtainable, even by reinforcement. The left abdominal reflex was absent; the right, weak. The cremasteric was present bilaterally. Neither a positive nor a negative Babinski was obtained. Three nose and throat cultures and smears at three day intervals were negative for the diphtheria bacillus. Strychnin was at once started by hypodermic injection and continued to beginning toxicity and maintained just below the danger point. Massage and passive motion were employed daily. No diphtheria antitoxin was administered at any time. In ten days the patient was able to sit up in bed and make coarse movements of the arms and legs, but the hands and feet were useless. Sixteen days from admission, the patient was first able to grasp a fork in his hand and bear weight on his feet without toppling over. On the twenty-third day symptoms of strychnin poisoning appeared. On the twenty-ninth day crutches were used for the first time. On the thirty-fourth day the patient first walked without crutches. Five months after admission the patient was in excellent condition.

Immunity of Bovine Udder to Carcinoma.—The evidence collected by Butts leads to the conclusion that carcinoma of the bovine udder has not been demonstrated. Hence the bovine udder is immune to carcinoma. Butts suggests that certain udder cells, udder fluids other than the external secretion (milk), the milk or some one or more of its constituents, a ferment, a selective lysin, or an internal secretion, furnished by certain portions of the stroma of the gland, or conveyed to the udder from a gland of internal secretion situated elsewhere, may determine this freedom from carcinoma.

New York State Journal of Medicine, New York

April, 1921, **21**, No. 4

Use of Bronchoscope in Diagnosis of Tumors of Mediastinum. J. D. Kernan, Jr., New York.—p. 115.
Treatment of Intranasal Suppuration. E. R. Faulkner, New York.—p. 118.
Effect of Intranasal Conditions on Ocular Muscles. E. S. Ingersoll, Rochester.—p. 121.
Chronic Tonsillar Infection. T. A. Rogers, Plattsburg.—p. 124.
Case of Cerebral Abscess. J. E. Gage, Utica.—p. 127.
Laceration of Cervix Uteri: What Does It Mean to Patient, to Obstetrician, and to Gynecologist? J. R. Gaffe, New York.—p. 129.
Features of Gallbladder Surgery of Interest to Obstetrician and Gynecologist. W. D. Johnson, Batavia.—p. 131.
Pyelitis. H. D. Furniss, New York.—p. 132.
Social Pediatrics. H. L. K. Shaw, Albany.—p. 133.
Sugar. F. Van Der Bogert, Schenectady.—p. 135.
"Colic" in Nursing Infant. T. W. Clarke, Utica.—p. 138.

Northwest Medicine, Seattle

April, 1921, **20**, No. 4

Tuberculosis of Skin in Some of Its General Medical Aspects. J. H. Stokes, Rochester, Minn.—p. 79.
Anaphylaxis in Asthma and Hay-Fever. M. Bisaillon and R. W. Matson, Portland, Ore.—p. 84.
*Simple Drainage Device for Empyema. A. A. Matthews, Spokane, Wash.—p. 88.
*Active Immunization Against Diphtheria. H. Jeidell, Salt Lake City. —p. 89.
Growth of Laboratory of Washington State Board of Health. M. E. Larkin, Seattle, Wash.—p. 93.

New Drainage Device for Empyema.—Matthews uses the Wilson empyema drainage tube but inserts in its lumen another tube which fits very snugly (air tight), and passes it through flush with the inner opening. Then it is secured by a couple of interrupted sutures leaving the distal end from 8 to 10 inches long.

Active Immunization Against Diphtheria.—The clinical reactions following the Schick test were noted by Jeidell in about 165 cases, and he observed the direct effects of treatment with toxin-antitoxin in about seventy-five cases. Local reactions and constitutional disturbances were noted in a few of the older children, but these were not alarming and passed off in from twenty-four to thirty-six hours. Jeidell believes that the public should be enlightened as to the value of the treatment with toxin-antitoxin for the prevention of diphtheria.

Ohio State Medical Journal, Columbus

April 1, 1921, **17**, No. 3

Heart Failure and Tobacco as an Etiologic Factor. R. O. Brigham, Ann Arbor, Mich.—p. 226.
Anesthesia in Obstetrics. A. H. Bill, Cleveland.—p. 228.
What Can General Practitioner Do for the Eyes? C. A. Tyler, Alden, N. Y.—p. 231.
Is Strychnin Sulphate a Specific in Treatment of Tetanus? T. J. Savage, Xenia.—p. 233.
Malnutrition Among School Children: Its Causes, Effects and Methods of Correction. C. P. Knight, Washington, D. C.—p. 235.
Problem of Gastroptosis. W. C. Stoner, Cleveland.—p. 237.
Enlargement of Prostate. M. L. Pratt and R. B. Pratt, Bellfontaine, —p. 239.
Antidiuretic Effect of Pituitary Extract in Diabetes Insipidus: Report of a Case. G. Micklethwaite, Portsmouth.—p. 245.

Physiological Reviews, Baltimore

April, 1921, **1**, No. 2

Blood Volume and Its Regulation. J. Erlanger, St. Louis.—p. 177.
Sugar of Blood. J. J. R. Macleod, Toronto.—p. 208.
Regulation of Pulmonary Circulation. C. J. Wiggers, Cleveland.—p. 239.
Contributions of War to Physiology of Nervous System. G. Horrax, Boston.—p. 269.
Heat-Regulating Mechanism of Body. H. G. Barbour, New Haven, Conn.—p. 295.

Tennessee State Medical Ass'n Journal, Nashville

March, 1921, **13**, No. 11

Congenital Pyloric Stenosis. R. A. Barr, Nashville.—p. 403.
Blood Transfusion in Thirty-Nine Cases by Citrate Method. C. R. Crutchfield, Nashville.—p. 408.
Auricular Fibrillation. J. O. Manier, Nashville.—p. 416.
Gynecologic Cervix. G. F. Douglas, Birmingham, Ala.—p. 420.

Texas State Journal of Medicine, Fort Worth

April, 1921, **16**, No. 12

Importance of Removing Supraclavicular Glands in Cases of Cancer of Breast. J. E. Thompson, Galveston.—p. 524.
Use of Radium in Gynecology. G. H. Lee, Galveston.—p. 530.
Use of Radium in Epithelioma of Lateral Wall of Nose. E. H. Cary, Dallas.—p. 536.
Cancer of Uterus. J. E. Gilcreest, Ennis.—p. 539.
Tumors of Urinary Bladder. K. D. Lynch, El Paso.—p. 541.
Surgical Treatment of Toxic Goiter. J. A. Hill, Houston.—p. 544.

Virginia Medical Monthly, Richmond

April, 1921, **48**, No. 1

Care of Patients Manifesting High Blood Pressure. L. F. Barker, Baltimore.—p. 1.
Extraction of Teeth; Study and Protest. J. W. Hunter, Jr., Norfolk.—p. 7.
Epidemic Encephalitis. W. B. Martin, Norfolk.—p. 13.
Syphilis of Cardiovascular System. L. F. Cosby, Abingdon.—p. 20.
Treatment of Inoperable Carcinoma of Uterus with Radium. S. W. Budd, Richmond.—p. 22.
*Pituitary Headache. F. H. Redwood, Norfolk.—p. 25.
Artificial Feeding of Infants. W. Rivers, Lynchburg.—p. 27.
Few Fundamental Facts. C. Thompson, Jacksonville, N. C.—p. 31.
Incidence of Congenital Syphilis. L. T. Royster, Norfolk.—p. 35.
Care and Treatment of Pneumonia. F. C. Rinker, Norfolk.—p. 36.
Value of Necropsies; Report of Cases. K. D. Graves, Roanoke.—p. 39.

Pituitary Headache.—Redwood has seen eleven patients whose sole or chief complaint was headache of pituitary origin. All cases showing positive Wassermann reactions, urinary findings indicating nephritis, and reflex cases, such as pelvic disease in women, have been eliminated. All cases with any associated disease that could possibly have a bearing on the headache are not included. Some of these patients had other complaints, for instance, convulsive attacks or diabetes insipidus, but all of them had headache. Seven had very small sellas, closed in by the clinoids, and four had sellas normal in size but the clinoids enclosed the fossa. Six had headache every day, three every two or three days, and two once a month. One patient had been troubled with headache since he could remember; the other patients from six months to seven years. In eight cases the headache disappeared entirely or has been greatly relieved; two cases of long standing have not been benefited in the slightest, and one patient has not been heard from in several months. The treatment consisted of the administration of pituitary extract.

West Virginia Medical Journal, Huntington

April, 1921, **15**, No. 10

Treatment of Rectal Diseases. R. J. Wilkinson and J. M. Emmett, Huntington.—p. 361.
Tuberculosis in Children. V. L. Wetherby, Welch.—p. 363.
Purpura Hemorrhagica. J. L. Miller, Thomas.—p. 365.
Hernias of Urinary Bladder. A. P. Heineck, Chicago.—p. 374.

Wisconsin Medical Journal, Milwaukee

April, 1921, **19**, No. 11

*Incidence of Goiter in Wisconsin with Suggestions as to Medical Management. R. C. Blankinship, Madison, Wis.—p. 561.
Cholecystectomy vs. Cholecystostomy. C. J. Combs, Oshkosh, Wis.—p. 565.
Special Points in Surgery of Gallbladder and Ducts. G. W. Crile, Cleveland.—p. 568.
Need of Maternity Service in Rural Districts. C. M. Schuldt, Platteville, Wis.—p. 574.
Dental Conditions Relative to Systemic Findings. C. R. Modie, Madison, Wis.—p. 577.
Recent Experiments in Secondary Nursing Service. B. K. White, Milwaukee, Wis.—p. 579.

Incidence of Goiter in Wisconsin.—In the examination of 13,706 entering students at the University of Wisconsin, simple unclassified thyroid enlargement was found in 28 per cent. and exophthalmic goiter in 6 per cent. The proportion of males to females was approximately 1 to 2 in both simple and exophthalmic goiter. Blankenship believes that this is a fair index of the incidence of goiter in Wisconsin.

American Journal of Insanity, Baltimore

April, 1921, **77**, No. 4

State Hospital Training School for Psychiatric Nursing. D. A. Laird, Iowa City.—p. 477.
Undiagnosed Cases, Chicago State Hospital, 1919. C. F. Read, Chicago.—p. 493.
Tertiary Syphilitic Psychoses Other than Paresis. B. P. Thom, New York.—p. 503.
Problem of Psychopathic Child. H. H. Goddard, Columbus, Ohio.—p. 511.
Plots in Psychiatry. D. Gregg, Wellesley, Mass.—p. 517.
Compensatory Mechanism of Delusions and Hallucinations. S. A. Silk, Washington, D. C.—p. 523.
Reaction in Dementia Praecox to Vagotonic and Sympathicotonic Criteria. T. Raphael, Ann Arbor, Mich.—p. 543.
Comparison of Manic-Depressive and Dementia Praecox Cases by Free-Association Method. G. Murphy.—p. 545.
*Analysis of More Than Two Hundred Cases of Epilepsy Treated with Luminal. C. C. Kirk.—p. 559.
Malingering and Simulation of Disease in Warfare. T. A. Williams, Washington, D. C.—p. 567.

Luminal in Epilepsy.—The method of treatment employed by Kirk consisted of the administration of 1½ grains of luminal at bedtime. Luminal sodium seemed to be as effective as luminal. There was immediate decrease in the number of seizures, a decrease in the severity of the seizures, many of them changing from grand mal to petit mal, decrease in the severity of furore and a shortening of the time of confused states, an improvement of the mental and physical health of all patients, fewer number of accidents, a general improvement of the moral tone of the wards, and a complete cessation of the seizures in a large number of cases. No deleterious effects were observed. In certain cases the drug is effective in from twenty-four to forty-eight hours, in others not until a week or more has passed.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

April 16, 1921, **1**, No. 3146

Nature of Flutter and Fibrillation of Auricle. T. Lewis.—p. 551.
*Carcinoma of Large Intestine. J. L. Stretton.—p. 555.
Gunshot Injury to Brain Involving Both Cortical and Subcortical Tissue. J. S. Bury.—p. 556.
*Surgical Treatment of Chronic Sciatica. J. M. Renton.—p. 557.
*Survival After Operation for Annular Malignant Disease of Large Bowel. J. D. Malcolm.—p. 559.
Hospital Treatment of Fractures: Suggestion for Centralization. R. Ollerenshaw.—p. 559.
Notes on a Giant. W. Robinson.—p. 560.
Involvement of Orbit in Disease of Nasal Accessory Sinuses. R. E. Wright.—p. 561.
Isolation of Diphtheria Bacilli. D. R. Wood.—p. 562.
Prevention of Intestinal Obstruction After Ventrofixation. A. Don.—p. 563.
Amebic Dysentery Complicating Malignant Disease of Lower Bowel. J. Hoskin.—p. 563.

Carcinoma of Large Intestine.—The treatment Stretton advocates for these cases is to operate early and freely. If there is a chance to perform a radical operation for the complete removal of the growth, do so. It may not be wise to do it all at one sitting. This must depend on the case. The excision should be a free one. At least 4 inches of healthy bowel on each side of the growth, together with the mesentery and lymph glands, should be removed and then an end-to-end anastomosis is made as it is the nearest approach to Nature's arrangement. Stretton prefers simple suture to any mechanical appliances, and he uses linen thread. Five cases of carcinoma of the large intestine are cited.

Surgical Treatment of Chronic Sciatica.—Renton is convinced that in a considerable proportion of these cases a rapid and complete recovery can be obtained by operation. If the correct type of case is selected and the operation of nerve-freeing performed, a cure can be obtained in practically every instance. It is only in chronic cases of sciatica that have failed to recover under medical treatment that there is any question of surgical interference. Further, not all of those chronic cases are suitable for operation, so that it is necessary to differentiate them carefully by the symptoms to which they give rise. Renton classifies them into three groups: 1. Cases in which the patient is quite free from pain while at rest but begins to have pain on exercise or on assuming some special position. 2. Cases in which there is a certain amount of pain while at rest, but where it becomes really intense on exercise or on the assumption of a particular position. 3. Cases in which the pain is of an indefinite character, present at rest off and on, and sometimes improving to a certain extent on exercise. The nerve is exposed below the gluteus maximus by a 4 to 5 inch longitudinal incision, and then carefully remove all adhesions from the sacrosciatic notch to about the middle of the thigh. All tags and loose ends of adhesions

ould be dissected away. The nerve is then dropped back o the wound and the skin sutured. No splint is applied, t the patient is kept in bed for ten days and then allowed up.

Survival After Operation for Annular Malignant Disease Intestine.—In one case cited by Malcolm, the patient being male, aged 78, an annular constriction of the transverse lon near the splenic flexure necessitated the performance a lateral fistula in the presenting portion of the enormously lated ascending colon. Further treatment was considered wise at that time. The patient bore the operation well, and covered satisfactorily. From the first he was subject to tacks due to accumulations in the transverse colon which ere accompanied by pain, discomfort and high temperature, ntil an offensive discharge took place through the fistula. fter about four years these attacks began to be associated ith escapes of irritating matter, mainly mucus, through the nus, by which small quantities of feces were passed at inter- ls to the last. Between the attacks the patient was wonder- lly well and able to go out. The patient died from metas- sis more than seven and a half years after the operation.

Indian Medical Gazette, Calcutta

March, 1921, **56**, No. 3

Cause of Dysentery. L. Cook.—p. 81.
Transfusion of Blood. J. W. Porter.—p. 83.
Malaria. Part II. S. D. S. Greval.—p. 85.
Wassermann Survey of Inmates of Ranchi European Lunatic Asylum. O. Berkeley-Hill.—p. 89.
Autohemic or Autoserum Therapy. D. N. Sen.—p. 94.
Uses of Sodium Cacodylate. S. Mallannah.—p. 96.
Incidence of Gingivitis Among Indian Troops. R. C. Watts and S. G. Mohamed.—p. 97.
Plague at Pyawbwe (Upper Burma). N. S. Pillai.—p. 98.
Cure of Hernia by Vaccine. S. Mallannah.—p. 99.
Strange Migration of Round Worm. T. M. Pillay.—p. 100.
Curious Case of Ascites. H. C. Gupta.—p. 100.

Wassermann Reaction in Insane.—The entire population of he Ranchi European Lunatic Asylum, which is fairly repre- entative of the "middle" or "lower-middle" class European nd Eurasian population of Northern, Central and Eastern ndia, has been examined by Hill by the Wassermann syphilis eaction, 186 individuals being tested. None of these were general paretics. Of the total number, seventy-three reacted positively, on which basis there is a percentage of latent syphilis amounting to 39.24 among the total population of he asylum. Hammond, in his survey of the New Jersey State Hospital, in which he examined 1,583 individuals, found hat on excluding cases of general paralysis the percentage of latent syphilis in the total hospital population was only 2.7. It is believed that the enormous difference between the percentage of syphilitics in the Ranchi Asylum and in the New Jersey State Hospital can be explained as being due to (1) the comparatively few cases examined, (2) that the cases examined had never received any anti-syphilitic treatment since admission to the asylum, (3) that they were all drawn from an urban population as opposed to the rural population which supplies the cases to the New Jersey State Hospital, (4) that the middle class Europeans and Eurasians in the towns of Northern, Central and Eastern India are as a community very heavily infected with syphilis, a view that finds considerable support from the huge percentage of unmarried women belonging to the community who are found to be suffering from syphilis.

Autohemic Therapy.—In cases of autohemic treatment a few drops of blood are drawn from a vein of a patient and added to some sterilized distilled water. This is then subjected to certain laboratory processes by which a solution containing the products derived from the splitting up of the highly specialized constituents of the blood is obtained. Ten or twenty drops of this serum or solution thus prepared are injected under the skin or into a vein of the patient, which stimulates cell metabolism to a very high degree. The treatment appears to have had beneficial results on several otherwise intractable cases.

Strange Migration of Roundworm.—The course taken by the worm in Pillay's case would appear to be similar to that of an oblique inguinal hernia. After penetrating the intestinal wall and peritoneum, it pierced the various tissues that usually form the coverings of such a hernia, forming a soft fluctuating swelling at the upper part of the scrotum on the right side. The boy had been ailing for more than a fortnight with fever and pain in the abdomen. There was a slight localized peritonitis in the hypogastrium adjoining the right inguinal region.

Lancet, London

April 16, 1921, **1**, No. 5094

Nature of Flutter and Fibrillation of Auricle. T. Lewis.—p. 785.
*General Indications for Operative Exploration in Nerve Injuries. H. Platt.—p. 789.
Biochemistry of Germs and Other Proteins, with Special Reference to Problems of Immunity. D. Thomson.—p. 795.
*Case of Filaria Loa Infection. G. C. Low and E. J. O'Driscoll.—p. 798.
Spinal Anesthesia for Suprapubic Prostatectomy. H. M. Page.—p. 800.
*Case of Acute Aplastic Anemia. F. E. Larkins.—p. 801.
Small Outbreak of Dysentery in a Provincial Town. J. S. Manson and H. A. Mitchell.—p. 802.

Operative Exploration in Nerve Injuries.—From a serious consideration of the problem of the exploration or re-exploration of the injured nerves, it is suggested by Platt that the exploration or re-exploration should be considered under the following conditions: 1. In complete lesions of the median or ulnar nerves in the upper arm. The restoration of function in the proximal muscles is to be expected, even after long periods of delay, but distal recovery may probably not take place. For lesions of those nerves in which conduction is already present as far as the proximal branches with the total failure of distal regeneration, exploration is on the whole advisable, but short of resection and suture, which may be unjustifiable, nothing can be done. 2. In complete lesions of the median and ulnar nerves in the forearm. The potential restoration of sensation in the median is of such great importance as to warrant every effort to be made to ensure its occurrence. In lesions of the median in which partial sensory conduction is present, but with complete motor loss, resection and suture at this date should be strongly condemned. For the ulnar, where the intrinsic muscles are alone inactive, resection is always worth while. 3. In all complete sciatic lesions where end-to-end suture can be reasonably expected. 4. In musculo-spiral lesions exploration of the nerve should precede the performance of tendon transplantation.

Filaria Loa Infection.—Four distinct points Low and O'Driscoll says will help in diagnosing *Filaria loa* infection: (1) the actual presence of the adult worm in the eye; (2) the presence of *Filaria loa* embryos in the peripheral blood; (3) the presence or definite history of Calabar swellings; and (4) eosinophilia in people from the endemic area, with nothing else to explain its presence.

Acute Plastic Anemia Caused by Roentgen Ray.—In the case cited by Larkins exposure to roentgen rays for about fifteen years was considered to be the cause of the anemia. It was of short duration, about six months, and symptoms were complained of only during the last two months. The rapid diminution in the red and white corpuscles was very noticeable in this case, the reds disappearing at the rate of, roughly, 250,000 per week. The color index was never over 0.9. The differential leukocyte count was remarkable. The first blood count, made in October, 1920, was: Reds, 4,200,000; whites, 7,200; hemoglobin, 85 per cent. Differential leukocyte count: lymphocytes, 38 per cent.; polymorphonuclears, 60 per cent.; eosinophils, 1.7 per cent. March 6, 1921, it was: Reds, 1,350,000; whites, 1,030; hemoglobin, 26 per cent. Differential leukocyte count: polymorphonuclears, 20 per cent.; lymphocytes, large, 72 per cent., small, 6.5 per cent.; eosinophils, 5 per cent.; basophils, none. March 19: Reds, 1,005,000; whites, 840; hemoglobin, 18 per cent. Differential count: polymorphonuclears, 41 per cent.; lymphocytes, large, 54 per cent., small, 4 per cent.; eosinophils, none; basophils, none.

Journal of Tropical Medicine and Hygiene, London

April 1, 1921, **24**, No. 7

Tropical and Extra-Tropical Edible Fruits of Far East. C. Ford.—p. 89.
Pancreatic Extract in Treatment of Sprue. T. R. Brown.—p. 90.
*Treatment of Bubonic Plague by Intravenous Injections of Iodin. S. M. Vassallo.—p. 92.

Iodin Intravenously in Bubonic Plague.—The treatment employed by Vassallo consisted in the administration of an iodin solution intravenously: iodin, 1 dram; potassium iodid, 1 ounce, and alcohol, 20 ounces. A small quantity is freshly prepared for each case, and 10 or 15 minims in about 2 ounces of distilled water, warmed to body temperature, are injected into a vein with the usual antiseptic precautions. The dose is repeated whenever it is thought necessary; for this the temperature is the best indication. After an intravenous injection the temperature, usually within twelve hours, comes down one or two degrees, this remission may be permanent or only temporary; should it be only temporary then another injection is indicated, and Vassallo usually gives then half a dose in the same amount of distilled water, if within twenty-four hours of the first injection. The injection is repeated every other day until the temperature becomes normal, and a last one is given when it has been normal for a day or two.

April 15, 1921, **24**, No. 8

Trypanosomiasis. P. W. Bassett-Smith.—p. 105.
*Treatment of Hepatic Abscess with Emetin. V. S. Hodson.—p. 108.
Wild Birds a Cause of Spread of Bilharzia Infection. F. G. Cawston. —p. 109.

Emetin in Liver Abscess.—Hodson has treated a number of cases of hepatic abscess medically and they have appeared to be cured completely. In two cases of rupture through the lung recovery ensued at once after the exhibition of emetin in 1 grain doses for six or seven days.

Medical Journal of Australia, Sydney

March 5, 1921, **1**, No. 10

*Symptomatology of Complete Transverse Lesions of Spinal Cord. G. E. Rennie.—p. 185.
Clinical Studies. III. Wounds of Common Femoral Artery. G. Bell. —p. 189.

March 12, 1921, **1**, No. 11

Toxicity, Immunity Response and Treatment of Certain Helminthic Infestations. N. H. Fairley.—p. 205.

Symptomatology of Complete Transverse Lesion of Spinal Cord.—Rennie claims that the definite statement by Riddoch and Walshe, "that one of the diagnostic points in complete transverse lesions of the cord is the absence of extensor spasm, while they are present in cases of incomplete lesions," does not hold good. Moreover, it can no longer be maintained that extensor tone depends on intactness of the extrapyramidal tracts and that if these be divided, postural or extensor tone is lost. The only symptom on which reliance can be placed as indicating a complete transverse lesion of the cord is a permanent loss of all voluntary movements below the level of the lesion and a corresponding loss of all forms of sensation in the part of the body below the level of the lesion. If the lesion be high up in the dorsal region, a further confirmation of a complete lesion is the loss of all sensations from the abdominal viscera and loss of sensation of the functioning of the bladder and rectum. No reliance can be placed on the condition of the tendon jerks or of the cutaneous reflex actions, nor on the presence or absence of tone in any one group of muscles, though an increased tone in the flexor group and a diminished tone in the extensor group of muscles most probably points to a complete transverse lesion.

March 19, 1921, **1**, No. 12

Acute Inflammation. H. H. Schlink.—p. 223.
Pneumococci in Pneumonia in Sydney. A. H. Tebbutt.—p. 228.
*Cases of Primary Anemia in Children.—p. 231.

Primary Anemia in Children.—Litchfield reports a case of pernicious anemia in a boy, aged 2 years and 3 months; case of lymphatic leukemia in a girl, aged 3 months; case of lymphatic leukemia or lymphosarcoma in a child, aged 10 years; lymphatic leukemia in a boy, aged 4 years, a girl, aged 9 years, a boy, aged 6 months, a girl, aged 1 year and 11 months, and a boy, aged 1 year and 7 months; acute myelogenous leukemia in a girl, aged 10 years.

Practitioner, London

February, 1921, **116**, No. 2

Oriental Sore. A. W. Sheen.—p. 77.
Strain of Heart. W. Edgecombe.—p. 87.
Angina Pectoris. R. O. Moon.—p. 100.
Pericardial Factor and Its Bearing on Heart Disease. G. A. Stephens. —p. 109.
Recent Work on Diseases of Heart. C. W. Chapman.—p. 116.
Uses and Abuses of Psycho-Analysis. R. McN. Wilson.—p. 125.
Psychologic Analysis of Case of Simple Hysteria. J. K. Reid.—p. 132.
Importance of Muscular Relaxation in Examination of Joints. C. Westman.—p. 139.
Syphilitic Lesions Simulating or Associated with Tubercle. Z. P. Fernandez.—p. 144.

South African Medical Record, Cape Town

March 26, 1921, **19**, No. 6

Early Diagnosis of Pulmonary Tuberculosis. D. P. Marais.—p. 102.
Unity of Origin of Herpes Zoster and Varicella. W. P. LeFeuvre.—p. 108.
Bilharzia: Its Cause, Complications and Cure. F. G. Cawston.—p. 113.
Pulmonary Embolism. C. M. Comrie-Sharp.—p. 116.

Archives des Maladies du Cœur, etc., Paris

February, 1921, **14**, No. 2

Velocity of Arterial Pulse. I. C. Laubry, Mougeot and Giroux.—p. 49.
Permanent Nodal Bradycardia. L. Gallavardin and L. Gravier.—p. 71.
Sinusal Tachycardia, etc., in Diphtheria. R. Lutembacher.—p. 83.

Bulletin de l'Académie de Médecine, Paris

Dec. 20-22, 1920, **84**, No. 41

The Centennial of the Académie de Médecine. pp. 387 to 555.

March 22, 1921, **85**, No. 12

Commercial Infant Foods not Complete Foods. Doléris.—p. 360.
*Manifestations of Pneumococcus Infection. P. Bazy.—p. 365.
*Subsidence of Mammary Cancer After Castration. H. Reynès.—p. 383.
Mixed Kidney Tumor. E. Desnos.—p. 384.
Oculocardiac Reflex and Blood Pressure in Hydrocephalus. J. Roubinovitch and O. Tidemand-Johannessen.—p. 386.

Pneumococcus Infection.—Bazy reports some examples of extrapulmonary manifestations, including a hygroma of the subdeltoid bursa, an abscess near the anus, and cystitis. All these manifestations of pneumococcus infection are relatively mild, and usually soon heal under treatment.

Subsidence of Mammary Cancer After Castration.—Reynès reports the case of a nullipara of 45, menstruating regularly, with an inoperable cancer of the left breast and edema of the region and arm. There were two deep ulcerations, one in one axilla, and the regional glands were enlarged and hard, the head drawn down toward the left side. At the close of the menstrual period in October, 1920, Reynès removed both ovaries; one was normal, the other contained a small cyst. A week later the ulceration and the edema began to subside; in two months the ulcers had healed, and the glands and edema had disappeared. The general condition was completely transformed, and the patient now goes about. No other general or local treatment was applied. The similar cases on record confirm the remarkable relations which unite the ovary and the mammary glands, but in order for the castration to be successful the ovaries must be still actively functioning.

March 29, 1921, **85**, No. 13

Treatment of Leprosy at Hawaii. E. Jeanselme.—p. 393.
Cancer in Animals. Cadiot.—p. 396.
Direct Research on the Blood. E. Lenoble.—p. 411.
*Appendicular Jaundice. C. P. Caplesco.—p. 414.
*Dangers from Handling Radium. H. Bordier.—p. 416.

Appendicular Jaundice.—Caplesco describes a mild jaundice due to toxins formed in a chronically but latent diseased appendix. The conjunctiva shows the jaundice, and the appendix is tender. He urges to examine the conjunctiva in dubious cases of indigestion or oppression in the stomach or migraine, and if jaundice is evident, to explore the appendix. Appendectomy puts an end to all disturbances.

Dangers from Handling Radium.—Bordier cites Mottram's three recent cases of fatal anemia, of the type induced by toxic gases, in three attendants at the London Radium Institute, mentioned in the London Letter, p. 1360.

Bulletin Médical, Paris

April 9, 1921, **35**, No. 15

Acute Pericarditis in Children. J. Renault.—p. 293.

Bulletins de la Société Médicale des Hôpitaux, Paris

March 18, 1921, **45**, No. 10

*Treatment to Cure Syphilis. L. Queyrat.—p. 367.
Lymphosarcoma of Thymus in Young Woman. P. Harvier.—p. 374.
Recklinghausen's Disease in Boy of 13. J. Comby.—p. 382.
*The Induced-Glycuronia Test. M. Chiray and E. Caille.—p. 383.

Inguinal Lymphogranulomatosis. Favre.—p. 395.
Transient Spirocheturia in Infectious Jaundice. N. Fiessinger and H. Janet.—p. 396.
*Fatal Acute Uremia After Neo-Arsphenamin. Lesné.—p. 399.
Frequency of Spina Bifida. Crouzon and Béhague.—p. 403.
Esophagoscope. R. Bensaude and M. Lelong.—p. 405.
Case of Miculicz' Disease. H. Méry and others.—p. 406.
*Blood Pressure Under Serotherapy. A. Jousset and L. Binet.—p. 412.
*Febrile Syphilis of the Liver. A. Gilbert and others.—p. 417.
Epidemic Jaundice at Paris. P. F. Armand-Delille.—p. 435.
Sclerodermia with Spina Bifida. Queyrat and others.—p. 437.

Treatment to Cure Syphilis.—Queyrat warns that as antivenereal disease measures are multiplied, we are encountering constantly larger numbers of syphilitics in the infectious second stage. Syphilitics are being treated ineffectually, and physicians seem to be content with the subsidence of the manifestations without striving to eradicate the disease. Among the instances he cites is a man with multiple mucous patches, swarming with spirochetes, and a 3 plus reaction. He had taken two courses of treatment during the year, but the whole was absolutely inadequate. In the discussion that followed, Pinard emphasized what he calls the four great laws for treating syphilis: (1) the law of progression of doses from a small one to begin with; (2) the law of large doses; (3) the law of short intervals, and (4) the law of reactivation. Small doses allow latent foci to persist and induce meningeal reactions and clinical mishaps. He declares that neurosyphilis and visceral syphilis in many cases are only the result of inadequate treatment rousing reactions in the meninges or viscera. One woman complained of muscular fatigue in her legs, and series of ten injections of 15 cg. of neo-arsphenamin were instituted with six-week intervals. This treatment violated the first three of the above laws, while the fourth law imposed the penalty, the reactivation accidents. The young woman at the third series developed pains in the joints, and is now bedridden, with terrible pains from the reactivation, and she has become addicted to morphin in seeking relief. The small doses seem to be as dangerous in recent syphilis as in the old cases.

Induced Glycuronuria Test.—Chiray and Caille expatiate on the important information to be derived from the appearance of glycuronic acid in the urine after swallowing, fasting, two capsules containing each 0.5 gm. of natural camphor. The urine is collected at once and again six hours later. They describe a lead colorimetric method for determining the glycuronic acid in the urine. This throws light on the functioning of the liver. In the normal, glycuronuria follows, the figure running from 0.01 or 0.04 up to 0.08 gm. in four hours, and it keeps high for six or eight hours. For children they use half the dose. Full details of the technic are given.

Fatal Acute Uremia After Neo-Arsphenamin.—Lesné was treating a woman of 38 with syphilis, of six years' standing, apparently extremely benign. He gave her three series of intravenous injections of neo-arsphenamin in doses of 15, 30 and 45 cg., all well tolerated, in the course of the year. A new injection of 15 cg. was followed by anuria with acute uremia and death the eighth day. In the discussion, de Massary reported a similar fatality after a series of injections of arsphenamin. The third week, an injection of 60 cg. was followed by toxic symptoms, including those of aplastic pernicious anemia and meningitis, with fatal coma the fourteenth day. No lesions could be discovered at necropsy but there was much congestion in the meninges. No arsenic was found in the organs. Netter referred further to two fatalities of which he knows; in one case the arsphenamin treatment had been given on a mistaken diagnosis at the beginning of epidemic encephalitis. It had evidently aggravated the condition, with fatal outcome.

Lowering of Blood Pressure Under Serotherapy.—Jousset and Binet present data to demonstrate that therapeutic antiserums have a pronounced action in reducing the blood pressure. This explains the somnolency in children immediately after a first and large dose of the antiserum. Hypotension seems to be a normal feature of serotherapy. The knowledge of this imposes caution, and explains the benefit from stimulants and of epinephrin with the serotherapy. The epinephrin can be given by the rectum; by this means it escapes the barrier of the liver. This often restored the pressure to approximately normal in from thirty to sixty minutes. With 1 mg. of epinephrin daily, in suppositories, the blood pressure can be kept practically normal.

Febrile Syphilitic Disease of the Liver.—Gilbert and his co-workers have now a record of five cases of enlargement of the liver in the tertiary phase of syphilis with fever keeping up for months and years, but no jaundice. This fever is peculiarly rebellious to the ordinary measures, while it yields rapidly to mercurial or arsenical treatment. In the cases described the fever had kept up for from two months to six years without interruption, or with only brief remissions. In some, the general health did not seem impaired. This hypertrophic, febrile syphilitic hepatitis may be the incipient form of definite syphilitic disease of the liver. Although the fever subsides under specific treatment, the liver does not always return to normal size. They suggest that fever in any form of syphilis may be due to latent involvement of the liver, as we know the important part played by the liver in the regulation of the heat of the organism. In the discussion that followed Netter reported a case of fever for twenty years which disappeared after the second mercurial injection. Achard mentioned two cases in which an operation had been done or was contemplated for hydatid cyst of the liver, but the course of the cases corrected this to syphilitic disease of this organ. Abrami warned that amebic disease of the liver must not be forgotten, as this also may subside under arsenical treatment. In a recent case, five examinations had been negative, but emetin enemas disclosed encysted amebas and neo-arsphenamin treatment was promptly followed by disappearance of all the symptoms. Mercurial treatment differentiates syphilitic and amebic disease of the liver, as they both present an almost identical clinical picture and both respond almost alike to arsenical treatment. Dufour added that tertiary syphilitic hepatitis will not always yield to medical treatment. He had a patient for whom the diagnosis had been made in turn of angiocholitis, pylorospasm, appendicitis and syphilis, but no benefit was realized until the surgeon cleared out eight suppurating gummatous tumors in the liver.

Encéphale, Paris

March, 1921, **16**, No. 3

Amyotrophic Lateral Sclerosis. Gerber and Naville.—p. 113.
Feeblemindedness plus Obesity in Man with Inherited Syphilis. Laignel-Lavastine and G. Heuyer.—p. 127.
War and Juvenile Delinquency. P. Courbon.—p. 136.
Localized Serous Meningitis. C. I. Urechia.—p. 141.
*Monakow's Conception of Diaschisis. R. Mourgue.—p. 144.

Gynécologie et Obstétrique, Paris

February-March, 1921, **3**, No. 2-3

The Corpus Luteum of Pregnancy. A. Gross.—p. 73.
*Infarcts in the Placenta. R. Haffner.—p. 81.
*Malignant Myoma of the Uterus. P. Jacquin.—p. 90.
*Diagnosis of Rupture of the Uterus. R. Keller.—p. 112.
*Fibroma and Pregnancy. M. Reeb.—p. 129.
*Physiology of the Ovaries. G. Schickelé.—p. 170.
Extra-Uterine Pregnancy with Retention of Fetus. Frey.—p. 197.
Hematoma Simulating Rupture of Uterus. G. Schickelé.—p. 204.

Infarcts in the Placenta.—Haffner was unable to find any connection between infarcts in the placenta and albuminuria in 400 cases examined.

Malignant Myoma of the Uterus.—Jacquin reports a case of a tumor which histologically seemed to be a simple myoma even under the microscope after hysterectomy, but there was recurrence in ten months, speedily fatal notwithstanding roentgen-ray treatment. Four similar cases on record are cited, and the absence of intercellular connective tissue in all the cases is mentioned as the only feature of these malignant myomas which might have cast doubt on their benign character. Jacquin describes further a case in which a myosarcoma developed from a fibromyoma in a nullipara of 65. In a third case a small-cell sarcoma and in a fourth, a polymorphous sarcoma had developed from a preexisting fibromyoma. Recurrence followed the operation in three of the four cases, the longest interval twelve months.

Diagnosis of Rupture of the Uterus.—Keller has been impressed with the deceptive insignificance of the symptoms from rupture of the uterus in certain cases. In one the lower segment had ruptured but without any symptoms until a retroperitoneal hematoma had become infected. In this case and in 11 of his total 22 cases, the rupture occurred spon-

taneously in the maternity under close medical supervision. In 5 of the cases one of the round ligaments had been stretched very taut, in one case both ligaments were taut, and in one case there was pain in the inferior segment besides. In 2 cases Bandl's ring was pronounced. These were the only premonitory signs; in the other cases the rupture occurred without warning. In one case expression of the placenta was painful. In 3 cases a soft tumor rapidly developed above the symphysis; in 2 others the placenta was retained. There was absolutely nothing to suggest the rupture in 2 cases. The rupture was in the cervix in all but one case, and it was transverse.

Fibromas and Gestation.—Fifteen cases are described from the Strasbourg maternity. Every effort was made to save the uterus if the woman was young, but hysterectomy was the rule with women near the menopause after delivering the child.

Ovarian Functioning.—Among the facts related by Schickelé are some that show that menstruation can occur in the absence of any corpus luteum. The corpus luteum and the uterus mucosa seem to be reciprocally independent.

Paris Médical

April 2, 1921, **11**, No. 14

Pathology of Digestive Tract in 1921. P. Harvier.—p. 257.
*Radiotherapy of Cancer of Tongue. C. Regaud.—p. 265.
Operative Treatment of Cancer of Colon. A. Schwartz.—p. 272.
Amebic Liver Disease Without Suppuration. G. Paisseau.—p. 277.
Volvulus of Colon. V. Pauchet.—p. 281.
*Defecation After Meals. P. Carnot.—p. 283.

Cancer of the Tongue.—Regaud urges the necessity for microscopic examination of a scrap from any suspicious growth on the tongue, as the nonepidermoid malignant growths yield to radium therapy most readily. He warns against treatment as for syphilis, although in over 50 per cent. the cancer develops on a syphilitic lesion. Precious time is wasted, and specific treatment at this stage only whips up the malignant disease. Burying in the growth hollow needles containing a radium salt is the simplest and most even method of radium treatment, but he reiterates that a cancer should either be cut out entirely at one sitting or be destroyed by the radium at one sitting. Smaller repeated doses are never effectual. Repeated doses increase the resisting power of the cancer cells while they reduce the resisting power of the normal cells. His experience has demonstrated further that the malignant disease extends farther than would be supposed from the aspect of the lesion; recurrence is always at the periphery.

Postprandial Defecation.—Carnot explains that the defecation which normally follows a feeding in infants and a meal in certain adults may be due to the pressure of the weighted stomach on the colon, in addition to the play of the reflexes. The mechanism may be exaggerated by colitis, alimentary anaphylaxis, derangement of the biliary apparatus or indigestion entailing postprandial diarrhea.

April 9, 1921, **11**, No. 15

Anomalies in Ossification of the Patella. A. Mouchet.—p. 289.
*Syphilitic Mastitis. R. Burnier.—p. 292.
Cerium Salts in Treatment of Tuberculosis. Amaudrut.—p. 297.

Syphilitic Mastitis.—Burnier quotes from the records thirty-one cases and adds two to the list in which mastitis of syphilitic origin developed during the secondary or tertiary phase of syphilis; in three cases the syphilis was inherited. Trauma was not incriminated in any instance. The swelling of the gland may occur with or without pain, and it often simulates cancer. The lesions generally subside in a few weeks whatever treatment is used, but in four of the cases several months elapsed before the conditions returned to normal. The assumption of a syphilitic origin should not be rejected too hastily. Only twenty of the total cases were in women, but there was no connection with a pregnancy except in one case.

Presse Médicale, Paris

April 2, 1921, **29**, No. 27

*Blocking the Splanchnic Nerves. H. Billet and E. Laborde.—p. 261.
*Causalgia. J. Tinel.—p. 263.
*Sugar Infusion in Heart Disease. L. Cheinisse.—p. 266.

Blocking the Splanchnic Nerves.—Billet and Laborde comment on the efficacy, the simplicity and the absence of shock with this method of regional anesthesia for the upper abdomen. The patient lies on his side and the needle is introduced just below the twelfth rib, 7 cm. from the line of the spinous processes. The needle, 12 cm. long, is pushed in until it hits the body of the vertebra. The needle is then slanted at a tangent to the vertebra until the tip no longer meets with any resistance, showing that it has passed through the muscles into the paravertebral cellular tissue. Then the anesthetic is injected on one or both sides. It spreads throughout the paravertebral cellular zone, infiltrating the splanchnic nerves and the solar plexus. It is far from a blind method, as the needle is introduced into a well determined region, and they regard it as one of the best, if not the best, method of anesthesia for operations in the upper abdomen. The only danger, they say, is from the renal vein, and they explain how to avoid contact with this vein.

Causalgia.—Tinel describes sympathetic algias, a mild form of the clinical picture of traumatic causalgia. The nerves the most frequently involved are those in which sympathetic fibers most abound. The features of the clinical picture are distinctly of sympathetic origin. The sensations are not actual pains but rather a burning, a sense of oppression, with pulsation and the sensation of the blood wave. In five cases described the disturbance was in the hand, thigh or leg, and in one case in the face and neck. These disturbances develop in the predisposed with an irritable sympathetic system. Unless a cause can be discovered and removed, treatment is disappointing; the only benefit he found from drugs was with potassium iodid and calcium chlorid in a few cases in which vascular spasm cooperated. The main thing is to tranquilize and reassure the patients that a spontaneous cure is certain in time in good conditions of repose and hygiene. These algias, although undoubtedly rooted in some disturbance in the sympathetic system on a physiologic basis, are yet amenable to a certain extent to psychotherapy.

Benefit from Sugar Infusion in Heart Disease.—Cheinisse reviews the work of Enriquez and Gutmann, eight years ago, in regard to the advantages of intravenous injection of concentrated solutions of sugar in toxic infectious conditions and inanition, and other experiences in this line, including Büdingen's advocacy of hypertonic glucose solution in treatment of heart disease. The latter advises it to supplement digitalis, or to use in its place. With sclerosis of the coronary arteries, Büdingen gives a series of these intravenous injections once a year. He also finds it useful in chronic myocarditis not responding to digitalis. By this means he combats what he calls the cardiodystrophia resulting from an inadequate sugar content of the blood or from an inadequate supply of the blood brought to the coronary arteries, or to overcome disturbance in the nourishment of the heart from microbian or other poisons.

April 6, 1921, **29**, No. 28

*Subacute Venous Septicemia. Vaquez and Leconte.—p. 273.
Access to a Projectile in the Ear. G. Portmann.—p. 274.
*Flaking Power of the Blood Serum. Hélouin.—p. 277.

Subacute Venous Septicemia.—Vaquez and Leconte discuss subacute venous septicemia restricted to a small focus and spreading by small foci; also the phlegmasia type; the type of pulmonary infarct causing hemoptysis, and the quadriplegic type. They describe examples of each. These local septicemias are liable to entail trophic disturbance or rebellious impotence requiring long and careful treatment. The immobilization should not be kept up any longer than necessary, and great caution should be used with irritating substances and even with any local applications, as even maceration of the skin is too often followed by erosions. It does no harm to mobilize the region if three weeks have elapsed after the temperature has returned to normal. It is important to distinguish purely periarticular lesions, as these permit mobilization at any time under an anesthetic.

Flaking Power of the Serum.—Hélouin tabulates the findings in uremia, cholemia and spirochetosis in respect to the flaking power of the blood serum. None of these seem able to modify the serologic reaction by Vernes' technic, although spirochetosis may induce the Wassermann reaction.

Schweizerische medizinische Wochenschrift, Basel

March 31, 1921, **51**, No. 13

*Sporadic Hemophilia in Woman of 28. E. Montanus.—p. 289.
Occupational Skin Disease in Briquette Makers. R. Schärer.—p. 296.
*Immune Reactions with Artificial Pneumothorax. U. Carpi.—p. 299.
Technic for Obturator Herniotomy. A. Steinegger.—p. 301.

Sporadic Hemophilia in Woman of 28.—Montanus compares with his case the literature on this subject. In his case in the periods of hemorrhage the blood did not coagulate at all, but in the intervals coagulation occurred normally.

Immune Reactions with Artificial Pneumothorax.—Carpi found the opsonic index constantly increased in cases of pulmonary tuberculosis under treatment with artificial pneumothorax. He cites as evidence of the immune reactions the cure of laryngeal tuberculosis during the artificial pneumothorax treatment. Even more demonstrative is the cure of renal tuberculosis under these conditions. He knows of one case in which the cure of classic tuberculosis of the kidney was confirmed three years later. Such cases, he says, establish the stimulating action on the defensive forces and specific stimulation of the morbid foci under the influence of the changes brought about by the artificial pneumothorax.

Pediatria, Naples

March 1, 1921, **29**, No. 5

*Epitrochlear Adenitis in Infants. S. Fabris.—p. 193.
*Familial Ophthalmoplegia. I. Fiorenza.—p. 200.
*Congenital Megacolon. U. Provinciali.—p. 209.
*Alizarin Test for Tuberculosis. G. Genoese.—p. 227.

Epitrochlear Adenitis in Infants.—Fabris tabulates the findings in 2605 infants examined for enlargement of the epitrochlear glands. It was evident in 32 per cent. of the children under 1 year old, and in 33 per cent. of those up to 2 years who presented signs of inherited syphilis. The figure was only 7 and 9 per cent. in the tuberculous children, and 7 and 11 per cent. in those with rachitis. Epitrochlear adenitis, therefore, may be regarded as a confirming sign in inherited syphilis, to judge from his 379 cases with the inherited taint.

Familial Ophthalmoplegia.—Fiorenza reports that two brothers presented partial external ophthalmoplegia, and a third, total. The ages were from 16 to 30. No inherited taint was discoverable except that the maternal grandmother had had occasional convulsions.

Two Cases of Congenital Megacolon.—Provinciali was able to evacuate the distended colon in one infant but the other died. Treatment, he emphasizes, should be directed to regulate the reflexes and combat the tendency to spasm.

Alizarin Test for Tuberculosis.—Genoese has been applying to sixty children Roncal's method of testing tuberculous sputum with a 1 per cent. alcoholic solution of alizarin. The response was always negative in twenty healthy children; in forty with various diseases it was positive only in the tuberculous.

Policlinico, Rome

March 28, 1921, **28**, No. 13

*Diabetes and Trauma. S. Diez.—p. 431.
*Anesthesia of the Trigeminal Nerve. G. Trogu.—p. 436.
Silver Salvarsan. R. Angeli.—p. 439.

Diabetes and Trauma.—Diez cites statistics showing trauma as a factor in 2 per cent. of 4,068 cases of diabetes; up to 5.6 per cent. in 669 other cases, and in 10 per cent. of Cantani's 1,004 cases. The trauma affected the skull, spine or abdomen, or was peripheral. In many of the cases there was a traumatic neurosis besides. He discusses the causal connection from various standpoints, and the aggravating influence of the diabetes on the recovery from an accident, and also the influence of a trauma on the development of gangrene in diabetes. Diabetics should be warned against occupations exposing them to accidents.

Anesthesia of Trigeminal Nerve.—Trogu emphasizes the advantage of having the patient conscious in operations on the jaw, as aspiration of secretions can thus be averted. He has found injection of alcohol into the gasserian ganglion the most effectual and convenient method for local anesthesia, and also for treatment of trigeminal neuralgia, and reports two cancer cases and two neuralgia cases to demonstrate the superiority of this technic, by Härtel's method.

March 15, 1921, **28**, Surgical Section No. 3

*Fascia Implants. P. Chironi.—p. 93.
*Implants of Fat Tissue. A. Pemnisi.—p. 113. Conc'n.
*Operations on Peripheral Nerves. O. Tenani.—p. 122.
*Operative Treatment of Causalgia. A. Turco.—p. 127.

Fascia Implants.—Chironi gives ten photomicrograms showing the substitution in time of connective tissue for a free transplant of fascia in his experiments on rabbits and dogs, while auto-implants retained their histologic structure nearly throughout, and their vitality.

Implants of Fat Tissue.—Pennisi emphasizes the advantages of fat tissue to isolate nerves, tendons and vessels, and protect them against erosion and infection. He says that fat makes the best pad for the bottom of a stump after amputation, and to bridge a gap in the dura and brain. The fragments of the skull can be replaced over it without fear of adhesions, while the fat implant protects against hemorrhage and inflammation. An osteoperiosteal transplant might supplement the thin sheet of fat tissue in operations on the head. The adaptability and vitality of fat tissue implants render them particularly useful for operations on joints, hernias, and cavities in bones. In sixty-eight cases of the latter the success was complete in the aseptic group, and even in many cases of chronic suppurating processes.

Operations on Peripheral Nerves.—In Tenani's five cases of suture and six of neurolysis, the best results were always obtained with the radial nerve. He thinks an interval of two years is necessary before attempting to estimate the final outcome.

Treatment of Causalgia.—In Turco's case of causalgia after severing of the median nerve, no benefit followed neurolysis, but decortication of the humeral artery for a stretch of 7 cm. restored clinically normal conditions. This success confirms Leriche's view that the perivascular network of sympathetic fibers is responsible for the disturbances.

Riforma Medica, Naples

March 12, 1921, **37**, No. 11

*Clinical Significance of Plethysmography. G. Pezzali.—p. 242.
*Correction of Deformity of Hand. O. Nuzzi.—p. 248.
Glycogen in Sputum. G. Felsani.—p. 249.
Immobilization with Simple Fractures. D. Taddei.—p. 252.

Plethysmography.—Pezzali analyzes the findings in a large number of cases as they threw light on the effect of drugs and on the prognosis. They prove anew that the heart, the vessels and the vasomotor centers must be regarded as a single whole, and that it is futile to study either alone.

Deformity of the Hand.—Nuzzi refers to what he calls surgical distal intermetacarpolysis, and describes his success in restoring the functional use of the hand in one case.

Rivista Critica di Clinica Medica, Florence

March 15, 1921, **22**, No. 8

*Congenital Malaria. P. Pennato.—p. 85.

Congenital Malaria.—Pennato reports a case in which the mother died at childbirth from malaria while the fetus was apparently free from the slightest indication of malaria. In other cases the fetus suffers. The protecting action of the placenta evidently varies from case to case.

Archivos Españoles de Pediatría, Madrid

February, 1921, **5**, No. 2

*The Specific Defenses in Children. J. Verdes Montenegro.—p. 65.
*Fatal Chorea. L. Morquio.—p. 84.
Febrile Influenza in Children. J. García del Diestro.—p. 99.

The Specific Defenses in Children.—Verdes Montenegro has long been teaching that the reaction to the partial antigens of the tubercle bacillus is much more instructive than the reaction to any whole tuberculin test. He made four intradermal tests with each of the three partial antigens in twenty-four children before and after a three months' course at a seashore sanatorium. Along with the general improvement, in the active group the reactions were always intensified.

Fatal Chorea.—Morquio remarks that nothing to suggest syphilis could be discovered in a recent series of fifteen cases of chorea. He has had two cases recently of recurring chorea,

the fourth and fifth attacks, in girls who have never had rheumatism or heart disease. In a boy of 11, an attack of very severe chorea was soon followed by febrile epidemic encephalitis. In three other children, chorea of unusual severity with stormy onset gradually yielded to a paralytic condition with fever, fatal in one or two months. Necropsy revealed diffuse encephalitis, and in one case also an old endocarditis. He discusses the relations between chorea and epidemic encephalitis and articular rheumatism, and the chorea developing after a fright.

Gaceta Médica de Caracas, Venezuela

Feb. 15, 1921, **28**, No. 3

*Arsenicals in Treatment of Adnexitis. I. Lares R.—p. 29. Idem. D. Lobo.—p. 29.

Arsenicals in Treatment of Adenexitis.—Lobo declares that before resorting to surgical measures, thorough arsenical treatment should be given in cases of adnexitis. He cites excellent results obtained with arsenicals or other measures. Lares reports a case in which the adnexitis subsided completely under neo-arsphenamin treatment, three doses, to a total of 0.5 gm. The operation in this case had been deferred only because of the pathologic condition of the liver, and all the symptoms subsided under the arsenical treatment.

Deutsche medizinische Wochenschrift, Berlin

March 24, 1921, **47**, No. 12

Pharmacologic Observations on the Healthy and the Sick. A. Bornstein.—p. 317.
Inadequate Signature for Prescriptions. G. Joachimoglu.—p. 317.
Clinical Lectures on Cutaneous Diseases. P. G. Unna.—p. 319.
Epidemic Myelo-Encephalitis. A. Böhme.—p. 319.
Differential Diagnosis of Malta Fever. A. Luger.—p. 321.
Kreuzfuchs Method of Measuring Aorta. Weiss and Lauda.—p. 322.
Diffuse Colloid Goiter. A. Hellwig.—p. 324.
Results of Steinach Operation. Levy-Lenz and Schmidt.—p. 327.
Vaccination Against Smallpox in the Newborn and During Pregnancy, and the Puerperium. F. Kirstein.—p. 328.
Significance of Negative Wassermann Reaction Effected by Mercurial Treatment. M. Funfack.—p. 330.
Combination Sachs-Georgi-Wassermann Reaction. Keining.—p. 330.
The Friedmann Tuberculosis Strain. G. Schröder.—p. 331.
Infiltration Following Friedmann Treatment. Grass.—p. 331.
*Intravenous Injection of Glucose Solution. Korbsch.—p. 332.
Determination of Dosage in Phototherapy. J. Schütze.—p. 332.
Venipuncture with Trocar Needle. H. Robert.—p. 333.
Present Status of Vaccine Theory. H. Reiter.—p. 333.
Infant Feeding and Weaning. L. Langstein.—p. 335.

Hypertonic Sugar Solution by the Vein.—Korbsch has gone beyond Büdingen's 20 per cent. solution of grape sugar in treatment of heart disease with edema, and reports that a 50 per cent. solution of dextrose in à daily dose of 20 c.c. was borne without harm by his patients, and exerted an extremely favorable influence on the diseased heart. He adds that he sees no reason why the amount could not be increased to 50 or even 100 c.c. This 50 per cent. solution seems to be the limit as a more concentrated solution than this would be too thick to inject intravenously.

Deutsche Zeitschrift für Chirurgie, Leipzig

March, 1921, **161**, No. 3-5

*Tuberculin Test in Surgical Tuberculosis. C. Mau.—p. 145.
Unreliability of Urine Test for Tuberculosis. E. König.—p. 162.
*Congenital Megacolon. G. Hoffmann.—p. 175.
*Invaginations. E. Michaelsen.—p. 226.
*Perforation of Gastric or Duodenal Ulcer. M. Schülein.—p. 242.
*Postoperative Tetany. R. Pamperl.—p. 258.
Injury of Vessels in the Neck. H. Gödde.—p. 282.
*Congenital Dislocation of Hip Joint. M. Brandes.—p. 289.
*Sensations in Muscles. C. ten Horn.—p. 338.

Tuberculin Test in Surgical Tuberculosis.—Mau applied the skin tuberculin test in about 200 cases of bone and joint disease, and states that a positive focal response was obtained with surgical tuberculosis only in about 66 per cent. of the cases. He thinks that with a negative response to various tuberculin tests, we can positively exclude tuberculosis.

Congenital Megacolon.—Hoffmann reviews the operative cases of megacolon since 1911 in Payr's service. The list includes 13 men, 3 women and 2 children, and 7 of the 18 died, including 1 little girl who succumbed to inanition. These cases seem to indicate that a congenital enlargement of part of the bowel is not so rare as some assume, although the picture of megacolon may not develop until later in life.

Invaginations.—Michaelsen relates that invagination of the bowel was the cause of 12.5 per cent. of 343 cases of ileus in Ringel's service. Fully 56 per cent. of the cases were in infants; only 16 per cent. in adults. The mortality in infants was 75 per cent., in adults 43 per cent. She advocates operative reduction of the invagination after failure of attempts to correct the condition by injecting fluid in infants and children. In adults, resection may sometimes be indicated.

Perforation of Gastric or Duodenal Ulcer.—Schülein states that 3 died of the 14 patients treated by gastro-enterostomy after an interval of over sixteen hours. There was no mortality in the 9 cases in which the operation followed the perforation within nine hours. All died in the 6 with an interval of eighteen hours but 50 per cent. survived of the 4 in which the interval was less than eighteen hours. These experiences confirm that up to eighteen hours is not too late for operation in patients that are not too much debilitated by the preceding ulcer disturbance. The perforation itself should be sutured and covered with omentum, with a supplementary gastro-enterostomy. In desperate cases, simple drainage of the ulcer may be tried, postponing excision or resection until the acute stage of the peritonitis is past.

Postoperative Tetany.—Pamperl reports five cases of severe tetany after thyroidectomy, in which benefit followed parathyroid treatment, plus sedatives, amounting to a complete cure in some. In the pregnant, this may render it unnecessary to interrupt the pregnancy, and give time for parathyroid grafting. He thinks that, in addition to injury of the parathyroid bodies, other factors may be involved, including the extensive reduction of thyroid tissue, the disturbances in the heart action, and the disturbances in the internal secretions from the hyperthyroidism. Postoperative tetany is usually encountered only in women.

Congenital Dislocation of the Hip Joint.—Brandes discusses the importance of forward torsion with congenital dislocation of the hip joint, and means to correct it. This element in the clinical picture is too often overlooked, and this invites recurrence. By the correction of this antetorsion, he has been able to obtain permanently favorable results in 10 per cent. more of his cases.

Sensations in the Muscles.—This article relates the results of extensive tests in regard to the innervation, sensations, etc., of the muscles as determined in the tunnels in cinematized amputation stumps. These provide a remarkable means for estimating conditions in the depths of the muscles.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

February, 1921, **54**, No. 2

Behavior of Capillaries in Uterus During Menstrual Cycle. E. Mauthner.—p. 81.
*Functioning of Ovary During Pregnancy. O. O. Fellner.—p. 88.
Incomplete External Rupture of Uterus with Necropsy. H. Katz.—p. 95.
*Ovarian Pregnancy. W. Liebe.—p. 102.
A Lithopedion. H. Hinterstoisser.—p. 109.
Retroperitoneal Cysts. W. Zangemeister.—p. 111.
*Artificial Vagina. M. Brenner.—p. 112.

The Activity of the Ovaries During Gestation.—Fellner presents evidence to show that the secretory function of the ovaries is even more active during a pregnancy than at other times. The female sexual lipoid is produced during gestation in larger amounts, like the substances secreted in all the other endocrine glands.

Ovarian Pregnancy.—The ovary was removed on account of supposed cystic enlargement, but a fetus was found in it, the ovary elements having nearly all been superseded by the intact developing ovum.

Artificial Vagina.—Brenner reports another successful case in which a vagina was made out of a loop of small intestine. A total of seventy-three cases of plastic reconstruction of the vagina have been published, including thirty-two in which the small intestine and fourteen in which the large intestine was utilized. The former has a record of three fatalities.

Monatsschrift für Kinderheilkunde, Berlin

March, 1921, **19**, No. 6

Skin Capillaries in Pseudo-Anemia in Infants. Hochschild.—p. 449.
Purpura, with Thrombocytopenia, After Vaccination. Nocke.—p. 455.
Edema in the Prematurely Born. G. Petényi.—p. 461.
Congenital Duodenal Atresia. M. Salzmann.—p. 468.

Syndrome Due to Damage from Thirst in Newborn. C. Meier.—p. 470.
Two Cases of Epidemic Dysentery in Newborn. Walz-Georges.—p. 477.
Observations on Diphtheria in Children. H. Feldmann.—p. 480.
Infusion into Longitudinal Sinus in Infants. Beumer.—p. 494.
Disease and Heredity in the Child. A. Peiper.—p. 500.
*Lipase in Blood Serum in Infants. Beumer and Fontaine.—p. 524.

Grave Syndrome Produced by Damage from Lack of Water in the Newborn and Other Infants.—Meier reports seven cases to show that breast-fed infants, especially during the first ten days of existence, occasionally suffer from lack of water on account of loss of appetite owing to some infection, even a slight "cold." The disinclination to take food prevents them from getting the needed fluid. The vicious circle formed by the reduction of the water balance and the accompanying anorexia, by which the child is discouraged from satisfying its thirst, must be broken by the forced introduction of water. The clinical picture bears a great resemblance to alimentary toxicosis, in which lack of fluids also plays an important rôle, since complete recovery may follow ingestion of water. Meier assumes that in his cases the change in the viscosity of the blood and accumulation of decomposition products in the blood brought about the grave phenomena. The quickest therapeutic results were obtained by introducing into the stomach through a catheter in the nose 150 c.c. of a carbonated alkaline mineral water at a temperature of from 100 to 104 F. The artificially fed get more water in proportion and are not so liable to suffer from this impoverishment of fluid.

Lipase in Relation to Nutritional Disturbances in Infants.—Beumer and Fontaine admit that the function of the lipase of the blood serum, and more particularly its relation to fat metabolism, are by no means settled questions. While healthy infants usually have a high percentage of lipase, nevertheless they sometimes present also lower values. Diarrhea, during infancy, is always followed by a transient decrease of lipase. The most marked decrease in lipase was found in connection with alimentary toxicoses, which agrees with Lust's findings that lipase disappears from the intestine in alimentary toxicosis. This points to a possible connection between the lipase of the blood serum and that of the intestine and its common origin from the pancreas. In anaphylactic shock the lipase content of the blood serum remains unchanged. The lipase values in tuberculosis were not characteristic of the gravity of the disease process. The lumbar spinal fluid contains no lipase, not even in the presence of marked lymphocytosis. They tabulate the findings in thirty-two infants, nineteen older children and two adults.

Münchener medizinische Wochenschrift, Munich

March 25, 1921, **68**, No. 12

Biology of Blood Plasma. H. Sachs and K. von Oettingen.—p. 351.
Treatment of Pleural Empyema. W. Jehn.—p. 353.
Late Epilepsy after Gunshot Injuries of Head. Voss.—p. 358.
Etiology of Dental Caries. A. Seitz.—p. 360.
*Laryngeal Pellet in Treatment of Aphonia. O. Muck.—p. 361.
Simple Ionization Gage for Roentgen Work. H. Martius.—p. 362.
Facial Asymmetry as Sign of Cervicodorsal Scoliosis. Staub.—p. 364.
Percutaneous Tuberculin Test. Moro.—p. 364.
*Semisitting Position for Patient in Bed. H. Burckhardt.—p. 364.
Activation by Unspecific Therapy. W. Weichardt.—p. 365.
Disadvantages of Iodin for Laparotomies. P. Schumacher.—p. 366.
Duodenal Ulcer. Gerhardt.—p. 367.

Laryngeal Pellet in Treatment of Aphonia. — During the war, Muck reported his success in treating war aphonia by lowering a pellet or small ball into the larynx (summarized in THE JOURNAL, Dec. 23, 1916, p. 1977). He now reports his further success with the method in peace times. The technic is not described in detail, but reference is made to his previous articles on the subject. Singers, preachers, teachers and actors whose voices had become impaired have been much benefited or cured by a few treatments (sometimes one treatment suffices), provided there are no organic changes in the vocal organs. The fright as the patient feels he is suffocating may start the vocal reflex anew, and the aphonia be conquered at a single sitting, even when it has persisted for up to twenty years.

Semisitting Position for Patient in Bed. — Burckhardt describes with an illustration the method that he has found satisfactory to secure for the patient a comfortable semi-erect position. He wraps a blanket about a cane or sawed-off broom handle and fastens it with safety pins. This roll is placed crosswise of the bed under the thighs and is kept from slipping down by the ends of the cane being tied with long cords to the head of the bed. Pillows or a frame furnish the support for the back.

Zeitschrift für Kinderheilkunde, Berlin

Jan. 18, 1921, **27**, No. 5-6

*Jaundice in the Newborn. B. Schick.—p. 231; Idem. R. Wagner.—p. 251.
*Calcium and the Autonomic Nervous System. W. Usener.—p. 262.
Cholesterin Content of Milk. L. Wacker and K. F. Beck.—p. 288.
*Pyknolepsy. M. Meyer.—p. 293.
Bactericidal Action of Infant Blood. H. Langer and Kyrklund.—p. 302.
Mesentery Anomalies and Hirschsprung's Disease. F. Goebel.—p. 323.
Etiology of Mongolism. A. Dollinger.—p. 332.

Jaundice in the Newborn.—Schick explains that the mother's blood passing into the fetus, and there disintegrating, is responsible for the icterus neonatorum. It is thus a symptom of a physiologic process. Wagner's research has confirmed Schick's theory, but supplements it by showing that the destruction of the maternal blood proceeds mainly in the placenta. After birth, the spleen and the rest of the reticuloendothelial system assume the task. The placenta contains relatively much more iron at a premature birth than at term, and jaundice is almost inevitable in the prematurely born. Both articles issue from Pirquet's and Thaler's services.

Action of Calcium on the Vegetative Nervous System. — Usener tabulates the findings in groups of children given calcium chlorid plus pilocarpin or atropin or epinephrin. Experimental research is also reported, and the effect of calcium chlorid on alimentary glycosuria, on the composition of the cerebrospinal fluid, etc. The data presented show among other things that calcium seems to inhibit the action of those nerve elements which are responsible for hyperglycosuria under the influence of epinephrin, as well as pathologic glycosuria from central hyperglycemia. Alimentary glycosuria is not modified by it. Central and liver hyperglycemia and its corresponding glycosuria are influenced by the calcium, which seems to check the functioning of both the vagus and sympathetic nervous systems. He suggests that it may be possible to distinguish by the effect of calcium between central and alimentary glycosuria, and, in diabetes, to eliminate by this means the central components of the diabetes when such exist.

Pyknolepsy. — Meyer refers to recurring mild attacks in children which resemble the petit mal of epilepsy but which are not of epileptic nature, as the children finally outgrow them without mental impairment, and none of the usual measures for treatment of epilepsy have any effect. There is a brief, slight disturbance in consciousness for ten or twenty seconds; the eyeballs roll up and the knees may give way. He has had four patients with this pyknolepsy, all girls between 7 and 12, with an inherited nervous taint but no epilepsy in the family, and there was no evidence of spasmophilia. One of the children had up to thirty attacks a day, and slight jerking was noted in one case, and urine sometimes escaped during the attack. The children were bright and lively, with nothing to suggest hysteria. Under treatment with calcium lactate up to 6 gm. a day, with 0.03 to 0.05 gm. phenobarbital six times a day, improvement was observed amounting to a complete cure in three months in one of the cases, but in two of the cases no benefit was apparent. The attacks first appeared as the child began to attend school, and fatigue may possibly be a factor in their production. The pulse was unstable and the reflexes exaggerated in these pyknoleptic children.

Zeitschrift für Tuberkulose, Leipzig

February, 1921, **33**, No. 4

Unfavorable Experiences with Friedmann's Treatment of Tuberculosis. W. Unverricht.—p. 193.
*War and Tuberculosis. W. Schmid.—p. 206.
*Relations Between Catarrhal Colds and Tuberculosis. Warnecke.—p. 220.
Fatal Hematemesis in Miliary Tuberculosis. E. Als.—p. 231.

War and Tuberculosis.—Schmid remarks that among the prejudices banished by the war is the one that only the "predisposed" contract tuberculosis. Zadek and Hayek found that among 2,400 tuberculous soldiers examined, and Schmid in 143, that the severer forms were encountered among the previously healthy men, and the mild forms among the men

with a tuberculous taint before the war. The latter group seemed to have the prognosis favorably modified by the vicissitudes of the war. The nonpredisposed were thus the ones that displayed the greatest predisposition to severe tuberculosis. Those that had been in contact with tuberculosis before the war were in a condition of preparedness; they responded readily with production of antibodies to any new invasion of tubercle bacilli from without or from latent foci within the body. Those that used to be called the "predisposed to tuberculosis" are in fact already chronic cases of long standing.

Catarrhal Colds in Relation to Tuberculosis. — Warnecke explains how recurring catarrhal colds are liable to prepare the mucous membranes and lymph glands for tuberculosis, or rouse a latent into an active tuberculous process, or transform a closed into an open case. It must be borne in mind, he reiterates, that the tuberculous are peculiarly sensitive to "catching cold," both on account of their constitutional inferiority and of the frequent toxic action of the disease on the nervous apparatus.

Zentralblatt für Chirurgie, Leipzig

March 26, 1921, **48**, No. 12

*Intraspinal Injections of Air in Diagnosis. S. Wideröe.—p. 394.
*Operative Lengthening of Lower Leg. H. Hartleib.—p. 397.
*Etiology of Peculiar Type of Volvulus. K. Fritsch.—p. 401.
Division of the Rectus in Laparotomies (a Reply). Drüner.—p. 404.
Chronic Ileus After Anterior Gastro-Enterostomy. E. Stark.—p. 405.
Sterilization of Silk Thread for Sutures. E. Wilhelm.—p. 406.
*Reduction of Suprarenal Substance in Epilepsy. H. Peiper.—p. 407.

Diagnostic Significance of Intraspinal Injections of Air in Disease of the Spinal Cord.—Wideröe (Christiania) refers to intraspinal injection of air as first carried out by Dandy of Baltimore, in 1919, in eight cases of brain disease to locate the disease process. Wideröe has tried Dandy's technic with slight modifications in eleven cases of various diseases of the central nervous system—the first attempt to use the method in affections of the cord. He has found localization of tumors of the spinal cord occasionally very difficult, and in one particularly difficult case the intraspinal injections proved very useful in locating a tumor in the region of the seventh cervical vertebra.

In four cases of a hydrocephalous nature, the intraspinal injections produced no phenomena. In another group of four cases, they caused tinnitus and headache; the diagnosis in these cases was a syphilitic cerebral affection without hydrocephalus. In the two cases in a third group one patient with paresis felt after each injection of air radiating pains in both legs; the other patient (epilepsy with hysterical symptoms), radiating pain throughout the whole back. If the vertebral canal is narrow, whether for pathologic or physiologic reasons, the air presses on the sensory nerves and the patient feels pain. Whether this is characteristic of epilepsy remains to be seen. In Group 4 there was only the one patient with the tumor of the spinal cord. In her case the pains came on in periodic attacks a few hours after the injections.

Operative Lengthening of Leg. — Hartleib describes with illustrations his operation at one sitting for lengthening the lower leg in two patients aged 18 and 27, saying that a comfortable gait is not possible if the shortening amounts to more than 4 cm. A raised shoe is only a makeshift. In one of his cases the shortening of 5 cm. was corrected by mobilizing the overlapping stumps of the fistula and tibia and applying strong continuous traction. The nerves and muscles did not seem to suffer from this. The stumps were held with an aluminum plate which healed in place without reaction. The leg in the other patient, a woman, was 12 cm. short, and he was able to lengthen it only by 3 cm., but by raising the sole 5 cm. the limb is now only 4 cm. short, and crutches and cane have been discarded.

Volvulus of Kinked Intestinal Loop.—Fritsch discovered in two different operations for "Wringverschluss" marked changes of the mesentery in the region of the torsion. Cicatricial thickening and old adhesions had probably interfered with peristalsis; there was no fixation of the loop. The ileus had developed slowly and was very grave, both patients succumbing in about twelve hours after the operation.

Unilateral Suprarenalectomy in Treatment of Epilepsy.—Peiper reports that in seven cases of epilepsy one suprarenal gland was removed. Brüning's transperitoneal method was followed in each instance. The seizures either ceased at once or the status epilepticus quickly disappeared following the operation, but, unfortunately, recurrences soon set in. Unless he learns of marked success with the method from other sources, Peiper has decided not to perform the operation further. He admits, however, that the operation may be more successful in older patients (his patients ranged from 6 to 24 years of age), as hypertrophy of the remaining suprarenal gland is more likely to occur in the young.

Zentralblatt für Gynäkologie, Leipzig

March 26, 1921, **45**, No. 12

Treatment of Febrile Abortion. W. Latzko.—p. 425; Idem. J. Halban. —p. 439.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 8, 1921, **1**, No. 2

*Syphilitic Origin of Exophthalmic Goiter. J. H. Roorda Smit.—p. 156.
*Operative Treatment of Spondylitis. T. A. Jagerink.—p. 159.
*Trauma and Tuberculosis. R. Korteweg.—p. 164.
The Untenableness of Monism. J. J. de Casparis.—p. 168.
Postdiphtheric Polyneuritis in Young Man. L. Bouwmeester.—p. 174.
*Ascending Neuritis. G. C. Bolten.—p. 181.

Syphilitic Origin of Exophthalmic Goiter. — Smit relates two cases of exophthalmic goiter in which a cure was realized under treatment as for syphilis. The success in both confirms that syphilis may be responsible for toxic thyroiditis in certain cases. His patients were women of 34 and 52 with typical toxic thyroiditis, insomnia, etc., pulse rate 140, blood pressure 60 and 140, and sluggish pupil reactions. Marked improvement was realized by the fifth day. The teeth of the younger woman suggested inherited syphilis. The deafness in one ear in the older woman was cured also by the treatment.

Operative Treatment of Spondylitis. — Jagerink reviews twenty cases in which he applied Albee's technic with excellent results.

Trauma and Tuberculosis.—Korteweg is making an official investigation of this subject and appeals to the profession to aid him in this task. Acute miliary tuberculosis, especially in the form of meningitis, is the most instructive for this purpose, and he charts the cases he has compiled in which death occurred within six weeks of the trauma. In 30 cases of tuberculous meningitis, the trauma had been an operation; in all but 3 for a tuberculous process. In 19 cases there had been a fall or blow on the head; in 5 a fall not affecting the head; a violent shock in 3, and in one case there had been only extreme fright for half an hour. His chart shows that the trauma cannot be incriminated for a death from tuberculous meningitis or miliary tuberculosis occurring in less than fourteen days afterward. In the 14 cases of miliary tuberculosis, the trauma had been an operation in 4; fall into water in 1 case; fall from a height in 5, and abortion in 4. The connection between trauma and acute tuberculosis has long rendered surgeons extra wary in operating on the tuberculous, but Korteweg's chart emphasizes further that this connection is manifested also in the duration of the disease, the fifteenth day showing the beginning of the fatalities, and the number runs up high. At the twenty-seventh day it drops abruptly again.

Ascending Neuritis.—Bolten regards it as scarcely probable that a neuritis can climb upward. He describes what seemed to be a typical case, but it proved to be a tuberculous ascending lymphangitis, involving nerves.

Acta Medica Scandinavica, Stockholm

Nov. 27, 1920, **54**, No. 2

*Peritonitis in Typhoid. N. Svartz and R. Hanson.—p. 97.
*The Meningeal Reaction in Poliomyelitis. A. Wallgren.—p. 117.
*Acute Leukemia in Pregnancy. A. Wallgren.—p. 133.
*Migration of Fat. H. C. Geelmuyden.—p. 147. Begun in No. 1, p. 51.
*The Planes Sign. G. Söderbergh.—p. 164.
*Motor Disturbances after Zona. G. Söderbergh.—p. 170.
*Motor Disturbances after Spondylitis. A. Barkman.—p. 183.

Peritonitis in Typhoid Without Perforation.—The diffuse purulent peritonitis developed apparently from spread of the inflammation through the bowel wall, as no trace of perforation or of gas could be discovered, no fecal odor, no

colon bacilli and no signs of injury of other viscera in the woman of 26. In the forty or fifty cases on record the peritonitis was purulent in only 10. About 25 per cent. of the patients recovered after operative treatment. Typhoid bacilli were demonstrated in the peritoneal effusion in 4 cases.

The Meningeal Reaction with Acute Poliomyelitis.—Wallgren tabulates the findings in the spinal fluid in 58 cases of poliomyelitis, in 95 of epidemic and in 34 of tuberculous meningitis. The data presented show that lymphocytosis in the spinal fluid with stiffness of the neck but without Kernig's sign seems to be characteristic of poliomyelitis in adults. The different location of the lesions explains this lack of concordance between the neck sign and the Kernig sign.

Acute Leukemia in Pregnancy.—The woman of 29 died from acute leukemia twenty-five days after delivery of a macerated but nonleukemic infant. He has found only three cases of the kind on record, all in women between 24 and 37, and all fatal. No signs of leukemia could be discovered in the infants and one survived. That infants are liable to have leukemia is shown by two cases of fatal leukemia cited, developing almost at once after birth.

Migration of Fat.—Summarized, May 7, p. 1328.

The Planes Sign of Cerebellum Disease.—Söderbergh found in three cases of cerebellar disease that the arms extended horizontally bent involuntarily rhythmically at the elbow, or twisted to and fro, when the arms were in certain planes and not in others. The movements were most pronounced in the extreme adduction plane.

Abdominal Syndrome with Intercostal Herpes. — In this eleventh communication Söderbergh discusses the motor disturbances left by zona in ten of fifteen cases. Their segmental localization, the rotation of the umbilicus and the paresis and atrophy of muscles are shown in a chart in connection with the site the herpes zoster had occupied.

Traumatic Spondylitis. — Atrophy and paresis of certain muscles may follow traumatic spondylitis. The segmental arrangement of the motor and trophic disturbances and of the "rheumatic" pains corresponded to the vertebrae involved in the trauma in the three cases described.

Hospitalstidende, Copenhagen

Feb. 16, 1921, **64**, No. 7

*Quantitative Tests for Diabetic Urine. M. Claudius.—p. 97.

March 16, 1921, **64**, No. 11

The Modern Conceptions of Heredity. W. Johannsen.—p. 161.

Quantitative Tests for Diabetic Urine.—Claudius describes a quantitative method for determination of the acetone, acetoacetic acid, beta-oxybutyric acid and dextrose in diabetic urine. The principle is the oxygenation of the substances with iodic acid in a solution of sulphuric acid. The amount of sulphuric acid required differs for each of these different substances. The oxidation occurs on the water bath at the boiling point; as the iodic acid yields oxygen it releases a corresponding amount of iodin, and this amount is determined in the usual way by titration with a solution of thiosulphate.

Hygiea, Stockholm

Feb. 14, 1921, **83**, No. 3

Diagnosis of Disease in Otolith Apparatus. R. Bárány.—p. 81.
Access to Brain Stem at Necropsy. I. Syk.—p. 84.

Norsk Magazin for Lægevidenskaben, Christiania

April, 1921, **82**, No. 4

*Treatment of Diabetes. K. Motzfeldt.—p. 249.
*Medicine in Ancient Egypt. B. Ebbell.—p. 285.
*Prevalence of Tuberculosis in Children. F. Hamburger.—p. 294.
*Retroperitoneal Cyst. N. Paus.—p. 313.
*Acute Appendicitis in the Elderly. N. Paus.—p. 315.
*Perforated Ulcer. N. Paus.—p. 318.
Schlatter's Disease. N. Paus.—p. 320.
Postoperative Fatalities. N. Paus and M. Lorange.—p. 322.
Tests of Blood Before Transfusion. F. Jervell.—p. 329.

Treatment of Diabetes.—Motzfeldt has been applying undernutrition in treatment of diabetes for more than three years and reports extremely favorable results. He tabulates the outcome in 54 cases before 1917 treated on other principles. There were 13 per cent. deaths and only 44 per cent. were free from glycosuria and ketonuria at the close of the course. The corresponding figures under more or less rigorous starvation treatment were 5 per cent. deaths and 79 per cent. with normal urine when discharged from the hospital. One boy of 12 was in diabetic coma three weeks after the onset of the first symptoms. In earlier days this would have been classed as a case of acutely fatal diabetes, but under seven months of treatment he was dismissed in good condition with urine and blood sugar normal. Motzfeldt's experience has confirmed the value of the preliminary test for acidosis by the time that the breath can be held.

Medicine in Ancient Egypt.—Ebbell describes the five more important papyri found in ancient Egypt and comments on the various prescriptions found in them and the repetition of these prescriptions in the later Greek works. Night blindness and alopecia he discusses in detail. The Ebers Papyrus, written 1550 B. C., contains prescriptions for the cure of falling of the hair. The first recommends porcupine quills for the purpose, to be burnt and mixed into a salve with fat for local application. The word translated "alopecia" seems to be the same as one used in ancient Hebrew for the same purpose. If this actually represents alopecia, as supposed, the first description of the disease is found in the third book of Moses, instead of in Celsus, as generally taught. The oldest prescription for its treatment is in the Ebers Papyrus. Ebbell adds in conclusion that it is a pity that the old Egyptian remedy of porcupine quills has gone out of use, because it seems to be as rational and as effectual as the treatments that have been in vogue in modern times.

Prevalence of Tuberculosis in Children.—Hamburger urges in seeking to determine the prevalence of tuberculosis in children, that children in schools and contagious disease hospitals should be selected, not child patients in dispensaries. The test should be with the skin and percutaneous technic and, with negative results, a subcutaneous test. Only in this way will it be possible to estimate clearly the prevalence of the disease in children at large.

Retroperitoneal Cyst.—Smooth recovery followed evacuation of 6 liters of fluid from the retroperitoneal cyst in the woman of 35.

Acute Appendicitis in the Elderly.—Only one died of Paus' five patients between 57 and 70, operated on for acute appendicitis.

Perforated Ulcer.—The first of the two patients was a woman of 72 and she has been in good health for over a year since resection of the stomach for a perforated ulcer. There had been symptoms from the ulcer for two years and she was much debilitated.

Ugeskrift for Læger, Copenhagen

April 7, 1921, **83**, No. 14

*Film Treatment in Dermatology. A. Kissmeyer.—p. 475.
Treatment of Scabies. E. Ehlers.—p. 480.

Film Treatment in Dermatology. — Kissmeyer was much impressed with the fine results of paraffin film treatment of burns and for a year or so he has been applying this same method in treatment of skin diseases at the Finsen Light Institute at Copenhagen. The experiences with 84 patients were extremely favorable, especially in eczema and pruritus. In 10 cases of leg ulcer, 3 very old ulcerations healed in less than a month and the others in two weeks, except those that are still under treatment. The film seems to induce rapid growth of the epithelium. In his 23 cases of eczema some had been treated for years with all other measures without results, but they healed promptly under the paraffin film. Eczema with fissures in the inguinal region and anus had been exceedingly troublesome for several years in one man of 32 but it healed completely in thirty-six days under the film treatment. Neurodermatitis and prurigo also subsided under it and likewise roentgen burns. He experimented with various films and found most effectual a mixture of 1 part benzoin; 5 parts caoutchouc, and 100 parts neutral paraffin with melting point at 52 C. Infected ulcers have to be cleansed first; he dries them afterward with a jet of hot air. This treatment is not always effectual, but it never failed promptly to reduce the itching.

THE BOSTON SESSION

AMERICAN MEDICAL ASSOCIATION, SEVENTY-SECOND ANNUAL SESSION
BOSTON, JUNE 6-10, 1921

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The seventy-second annual session of the American Medical Association will be held in Boston, Mass., June 6-10, 1921.

The House of Delegates will convene at 10 a. m., Monday, June 6. In the House the representation of the various constituent associations for 1921 is as follows:

Alabama	3	New Hampshire	1
Arizona	1	New Jersey	3
Arkansas	2	New Mexico	1
California	3	New York	11
Colorado	2	North Carolina	2
Connecticut	2	North Dakota	1
Delaware	1	Ohio	6
District of Columbia	1	Oklahoma	2
Florida	1	Oregon	1
Georgia	2	Pennsylvania	9
Idaho	1	Rhode Island	1
Illinois	8	South Carolina	1
Indiana	3	South Dakota	1
Iowa	3	Tennessee	2
Kansas	3	Texas	5
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	3
Maryland	2	Washington	2
Massachusetts	5	West Virginia	2
Michigan	4	Wisconsin	3
Minnesota	2	Wyoming	1
Mississippi	1	Canal Zone	1
Missouri	5	Hawaii	1
Montana	1	Philippine Islands	1
Nebraska	2	Porto Rico	1
Nevada	1		

The fifteen scientific sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting to be held at 8:30 p. m., Tuesday, June 7. The Sections will meet Wednesday, Thursday, and Friday, June 8, 9 and 10, as follows:

CONVENING AT 9 A. M. THE SECTIONS ON

- Practice of Medicine
- Obstetrics, Gynecology and Abdominal Surgery
- Laryngology, Otology and Rhinology
- Pathology and Physiology
- Stomatology
- Nervous and Mental Diseases
- Urology
- Preventive Medicine and Public Health

CONVENING AT 2 P. M. THE SECTIONS ON

- Surgery, General and Abdominal
- Ophthalmology
- Diseases of Children
- Pharmacology and Therapeutics
- Dermatology and Syphilology
- Orthopedic Surgery
- Gastro-Enterology and Proctology
- Miscellaneous

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 6, 7, 8 and 9, and from 8:30 a. m. to 12 noon, on Friday, June 10.

WILLIAM C. BRAISTED, President.
DWIGHT H. MURRAY, Speaker, House of Delegates.
ALEXANDER R. CRAIG, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members (indicated by *) who have reported to THE JOURNAL in time to be included:

STATE DELEGATES

ALABAMA
F. W. Wilkerson, Montgomery.
*S. W. Welch, Montgomery.
*J. D. Heacock, Birmingham.

ARIZONA
*D. F. Harbridge, Phoenix.

ARKANSAS
George S. Brown, Conway.
William R. Bathurst, Little Rock.

CALIFORNIA
H. Bert Ellis, Los Angeles.
Albert Soiland, Los Angeles.

COLORADO
Gerald B. Webb, Colorado Springs.
*J. N. Hall, Denver.

CONNECTICUT
John E. Lane, New Haven.

DELAWARE
*H. J. Stubbs, Wilmington.

DISTRICT OF COLUMBIA
William Gerry Morgan, Washington.

FLORIDA

GEORGIA
W. C. Lyle, Atlanta.
E. G. Jones, Atlanta.

IDAHO

ILLINOIS
Charles J. Whalen, Chicago.
G. Henry Mundt, Chicago.
F. C. Sibley, Carmi.
T. O. Freeman, Mattoon.

INDIANA
George W. Spohn, Elkhart.
Albert E. Bulson, Jr., Fort Wayne.
*J. Rilus Eastman, Indianapolis.

IOWA
L. W. Dean, Iowa City.
W. L. Allen, Davenport.

KANSAS
Elmer E. Liggett, Oswego.
*James W. May, Kansas City.
*C. Klippel, Hutchinson.

KENTUCKY
W. W. Richmond, Clinton.

LOUISIANA
L. R. DeBuys, New Orleans.
*W. H. Seemann, New Orleans.

MAINE
Bertram L. Bryant, Bangor.

MARYLAND
Randolph Winslow, Baltimore.
*T. S. Cullen, Baltimore.

MASSACHUSETTS
J. F. Burnham, Lawrence.
H. G. Stetson, Greenfield.
C. E. Mongan, Somerville.
*F. B. Lund, Boston.
*E. F. Cody, New Bedford.

MICHIGAN
A. W. Hornbogen, Marquette.
Guy L. Connor, Detroit.
J. D. Brook, Grandville.
F. C. Warnshuis, Grand Rapids.

MINNESOTA
J. W. Bell, Minneapolis.
*W. H. Magie, Duluth.

MISSISSIPPI

MISSOURI
Franklin E. Murphy, Kansas City.
C. R. Woodson, St. Joseph.
S. L. Baysinger, Rolla.

MONTANA
E. W. Spottswood, Missoula.

NEBRASKA
LeRoy Crumner, Omaha.
*W. O. Bridges, Omaha.

NEVADA
M. R. Walker, Reno.

NEW HAMPSHIRE
D. E. Sullivan, Concord.

NEW JERSEY
George E. Reading, Woodbury.
H. H. Davis, Camden.
*Henry A. Cotton, Trenton.

NEW MEXICO
*H. A. Miller, Clovis.

NEW YORK
E. Eliot Harris, New York City.
Eden V. Delphey, New York City.
Edward Livingston Hunt, New York City.
Arthur J. Bedell, Albany.
J. Richard Kevin, Brooklyn.
Dwight H. Murray, Syracuse.

NORTH CAROLINA
J. Q. Myers, Charlotte.
J. F. Highsmith, Fayetteville.

NORTH DAKOTA
E. A. Pray, Valley City.

OHIO
J. H. J. Upham, Columbus.
Ben. R. McClellan, Xenia.
C. D. Selby, Toledo.
G. E. Follansbee, Cleveland.
Granville Warburton, Lanesville.
W. D. Haines, Cincinnati.

OKLAHOMA
L. S. Willour, McAlester.
*L. J. Moorman, Oklahoma City.

OREGON
*Joseph A. Pettit, Portland.

PENNSYLVANIA
William F. Bacon, York.
George R. S. Corson, Pottsville.
Herbert B. Gibby, Wilkes-Barré.
George G. Harman, Huntingdon.
Wilmer Krusen, Philadelphia.
*C. A. E. Codman, Philadelphia.
*John B. McAlister, Harrisburg.
*George A. Knowles, Philadelphia.
*John D. McLean, Philadelphia.

RHODE ISLAND
Frederick T. Rogers, Providence.

SOUTH CAROLINA
Edgar A. Hines, Seneca.

SOUTH DAKOTA
R. D. Alway, Aberdeen.

TENNESSEE
E. T. Newell, Chattanooga.
L. A. Yarbrough, Covington.

TEXAS
E. H. Cary, Dallas.
J. Mark O'Farrell, Houston.

UTAH
S. G. Kahn, Salt Lake City.

VERMONT
F. T. Kidder, Woodstock.

VIRGINIA
Ennion G. Williams, Richmond.
Southgate Leigh, Norfolk.

WASHINGTON
S. E. Lambert, Spokane.
D. E. McGillivray, Post Angeles.

WEST VIRGINIA
Henry P. Linsz, Wheeling.
*James R. Bloss, Huntington.

WISCONSIN
Joseph F. Smith, Wausau.
*Rock Sleyster, Wauwatosa.
*Horace M. Brown, Milwaukee.

WYOMING
George P. Johnston, Cheyenne.

CANAL ZONE
Harry Eno, Christobal.

HAWAII

PHILIPPINE ISLANDS
Juan G. Mañagas, Baltimore.

PORTO RICO
Jacinto Aviles, San Juan.

UNITED STATES ARMY
Joseph S. Siler, Washington, D. C.

UNITED STATES NAVY
N. J. Blackwood, Boston.

U. S. P. H. SERVICE
J. W. Schereschewsky, Washington, D. C.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE
James S. McLester, Birmingham, Ala.

SURGERY, GENERAL AND ABDOMINAL
R. P. Sullivan, New York.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY
Edward S. Reynolds, Boston.

OPHTHALMOLOGY
Lee M. Francis, Buffalo.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
John F. Barnhill, Indianapolis.

DISEASES OF CHILDREN
I. A. Abt, Chicago.

PHARMACOLOGY AND THERAPEUTICS
Robert A. Hatcher, New York.

PATHOLOGY AND PHYSIOLOGY
James Ewing, New York.

STOMATOLOGY
Eugene S. Talbot, Chicago.

NERVOUS AND MENTAL DISEASES
E. W. Taylor, Boston.

DERMATOLOGY AND SYPHILOLOGY
Howard Fox, New York City.

PREVENTIVE MEDICINE AND PUBLIC HEALTH
James A. Hayne, Columbia, S. C.

UROLOGY
E. O. Smith, Cincinnati.

ORTHOPEDIC SURGERY
John Ridlon, Chicago.

GASTRO-ENTEROLOGY AND PROCTOLOGY
Alois B. Graham, Indianapolis.



Courtesy of W. M. Leonard

RECEPTION AT THE BOSTON SESSION, 1906. HARVARD MEDICAL SCHOOL
Meeting Place, in 1921, of Sections on Pharmacology and Therapeutics; Pathology and Physiology; Preventive Medicine and Public Health, and Gastro-Enterology and Proctology

BOSTON—A RETROSPECT

PREVIOUS SESSIONS IN BOSTON

As the American Medical Association is to hold its next annual session in Boston it will be of interest to glance back at the previous sessions in that city. The second annual session of the Association was held in the Lowell Institute, Boston, May 1, 1849, under the presidency of Dr. Alexander Hodgdon Stevens of New York. At this meeting Dr. John Collins Warren of Boston delivered the address of welcome on behalf of the Committee of Reception of the Massachusetts Medical Society. On the following day he was elected as the third president of the Association. The attendance was 658, including a long list of noted men. Dr. Alfred Stillé of Philadelphia and Dr. Henry Ingersoll Bowditch of Boston were elected secretaries. The next meeting in Boston was held June 6-9, 1865, only two months after Lee's surrender at Appomattox. The general meeting was held in the State House on Beacon Hill, Dr. N. S. Davis of Illinois presiding and Dr. Henry J. Bigelow of Boston delivering the address of welcome as chairman of the local committee of arrangements. The attendance was not large as the war was only just over and facilities for travel were limited; moreover the South did not care to visit the North at that time, so practically all those in attendance, 616, were from the eastern States. Governor John A. Andrew addressed the Association on June 9; D. Humphreys Storer of Boston was elected president on the last day. The problems confronting the Association were much the same at both of these early sessions, namely, medical education, medical licensure, and the purity and integrity of the drugs offered to physicians by manufacturers and dealers.

The third meeting in Boston was June 5-8, 1906, the opening session being held in Grand Hall in the Mechanics Building. Six thousand were present, with Dr. William J. Mayo of Rochester, Minn., as president. The House of Delegates met in the Boston Medical Library Building on the Fenway, then only five years old, while the sections were housed in various halls on Huntington Avenue, and in Tufts College Medical School and Harvard Medical School. There was a commercial exhibit in Mechanics Building, and a restaurant in Symphony Hall. At the first general meeting, June 5, there were addresses of welcome by Gov. Curtis Guild, Pres. Charles W. Eliot of Harvard, Dr. Arthur T. Cabot, president of the Massachusetts Medical Society, John F. Fitzgerald, mayor of Boston, and Dr. Herbert L. Burrell, chairman of the Committee of Arrangements. At the second general meeting in Jordan Hall, on the evening of the same day, Dr. Frederick C. Shattuck of Boston gave the oration in medicine, and Dr. Joseph D. Bryant of New York the oration in surgery. The oration

on state medicine was delivered at the third general meeting in Jordan Hall on the evening of June 6, by Dr. W. H. Sanders of Montgomery, Ala. Dr. Joseph D. Bryant of New York was elected president, and Dr. Herbert L. Burrell of Boston first vice president. It was estimated that 15,000 visitors came to Boston for this session, the registration being 4,722, altogether the largest in the history of the Association at that time.

HISTORIC BOSTON

Through Boston passes annually a great concourse of summer visitors to the coast resorts of Massachusetts and Maine, and to the legion of hotels, boarding houses and private residences of the White Mountains. Marblehead is the greatest yachting rendezvous on the Atlantic seaboard; and Beverly Shore has long been famous for its equability of climate. Here the woods meet the water on rocky ledges, and the prevailing southwest breeze sweeps across Massachusetts Bay tempering the summer heat. The Maine coast, with its many indentations and its myriads of islands, is sure to provide a cool resting place during the heated term, and Cape Cod, stretching a long arm into old ocean, is seldom without a cooling wind.

COMING OF THE PILGRIMS

There, 300 years ago, the Pilgrims landed in search of a home where they might as Separatists from the established church of England worship God according to their customs. It was in November, 1620, that they first stepped ashore at Provincetown from the *Mayflower,* after a long and stormy voyage from England, having missed their original destination, through the exigencies of the weather, in territory that is now New Jersey. The vessel was of only 180 tons, and carried a total of 130 souls. While off Provincetown at the tip of the cape, the famous "Mayflower Compact" was signed in the cabin, for in not arriving at the Virginia plantation they had forfeited their Virginia patent and the authority which it vested in their leaders. The compact was signed November 11. It recited that the loyal subjects of "our dread soveraigne Lord, King James, by ye grace of God, of Great Britaine, Franc, & Ireland king, defender of ye faith, &c, haveing undertaken, for ye glorie of God, and advancemente of ye Christian faith, and honour of our king and countrie, a voyage to plant ye first colonie in ye Northerne parts of Virginia, doe by these presents solemnly & mutually in ye presence of God, and one of another, covenant & combine our selves togeather into a civill body politick, for our better ordering & preservation & furtherance of ye ends aforesaid; and by vertue hearof to enacte, constitute, and frame such just & equall lawes, ordinances, acts, constitutions, & offices, from time to time, as shall be thought most meete & convenient for ye generall good of ye Colonie, unto which we promise all due submission and obedience."

The morning after the signing of the compact, Capt. Myles Standish and sixteen men made the first landing on New England soil. Then in the ship's boat he undertook an exploration of the coast, finally selecting the future Plymouth as a suitable place for a settlement; and there the historic landing on Plymouth Rock was made on Dec. 21, 1620. Five days later the Mayflower sailed into the harbor, and the voyage, begun September 16, from Plymouth, England, was ended.

There began a new era in America's great experiment. The colonists were men of determination and strong faith. Peaceful, industrious, just, reverent, they enacted fundamental laws which today control our great country. To them we owe the first law for trial by jury, a part of the English common law, and from the same source came our laws for the registry of lands, on taxation, and for an equitable distribution of property among widows and children.



HOLMES HALL, BOSTON MEDICAL LIBRARY



BOSTON MEDICAL LIBRARY
Meeting Place of House of Delegates

LEADERS IN THE COLONY

The first winter they built cabins, laid out a street, called Leyden, from their former dwelling place in Holland, and did their best to withstand the rigors of a more inclement climate than their Virginia outfit had provided for. Affairs were conducted by William Bradford, William Brewster, Edward Winslow, Myles Standish, and Isaac Allerton, Brewster being ruling elder, Bradford, governor, after Carver died in 1621, and Standish, captain. Bradford's History of the Plymouth Plantation, from 1620 to 1648, has been preserved in manuscript in the state library. It has been printed several times, furnishing the most authentic account of the beginnings of civilization in New England. More than half of these brave souls died the first winter; none sailed home on the *Mayflower.* The graves of those buried were plowed over so that the Indians might not know how few were the survivors. In the fall of 1621 another ship came from England with about thirty-seven more settlers, and from that time the community began to prosper. However, it never increased in numbers proportionately to Boston, to the north, which was settled by Puritans from other parts of England.

COMMUNISTIC EXPERIMENTS

The Pilgrim colonists began the first communistic experiment in the country when they agreed that "all profits and benefits gotten by trade, traffic, working, or any other means, or any other person, or persons, shall remain in the common stock." This arrangement was to last seven years. Alas, such a complete form of social brotherhood took little thought

of human characteristics. There were drones among even those public-spirited and conscientious people; the stimulus of self-interest and family affection was needful for the existence of the community, so that by the spring of 1623 the settlement was like to go to pieces when it became apparent that nothing but a good harvest could save it from starvation. Thereupon each man was given a small piece of corn-growing land for himself, and the trial scheme was at an end.

John Winthrop, with his company of Puritans, arrived at Salem in 1629, and the same year a part of the company settled at Charlestown, across the harbor from Trimount, or the three-hilled peninsula which in the following year was to receive the name of Boston, after Boston in Lincolnshire.



MOSELY (ADMINISTRATION) BUILDING, MASSACHUSETTS GENERAL HOSPITAL

The Court of Assistants, sitting in Charlestown, voted this, so the chief settlement was transferred across the water to land where springs abounded. In this same year, 1630, came the *Mary and John* to Nantasket Roads, with settlers from Devonshire and Somersetshire, for Dorchester and Roxbury, later to become parts of the city of Boston. By the end of the year there had arrived seventeen ships, bearing over a thousand passengers; and during the next ten years the colony was augmented by some twenty-five thousand settlers. From this time on for over a century there was little immigration, the inhabitants being descendants of the first immigrants. In this fact we have an explanation as to why the characteristics of both Pilgrims and Puritans became so firmly fixed and exerted such a powerful influence on the subsequent history of the entire country; for in the course of time the succeeding generations spread over the land, before the great admixture with other races had begun. In making new settlements away from the seaboard, they established their own customs and laws.

PERSONAL CHARACTERISTICS

The Puritan fathers had their faults, which they confessed humbly; but they were not affable—they frowned more than they smiled and punished rather than praised; they were better encountered in the spirit at a distance of three centuries than lived with in the flesh. Nevertheless, although the fathers went about with faces that were much too long, the Puritan mothers at least did not walk the streets with dresses that were much too short. The men had a way of talking through their noses, but we may be sure the maidens did not blow cigaret smoke through their nostrils. The Puritans neither danced nor gambled; their descendants . . . but enough has been said.

EDUCATION

The history of Boston's progress is a story of her dominant influence in New England from her settling to the present day. The Puritans were pioneers in popular education. In 1636 the general court appropriated the sum of 400 pounds toward the establishment of a college at Newtowne, now Cambridge. This is said to be the first instance of the people giving voluntarily of their funds to found an educational institution. Two years later, John Harvard of Charlestown, bequeathed half his estate and his library to this college. In 1647 a law was passed requiring each town of fifty householders to "appoint one within their town to teach all such children as shall resort to them to read and write"; and any town with one hundred families was required to set up a grammar school for the instruction of youths to be "fitted for the university." Long before this, April 13, 1635, by vote of the Town Meeting, Philemon Pormort had been "intreated to become schoolmaster, for the teaching and nourturing of children with us." This was the origin of the Public Latin School, in active operation today. The free schools always were on a democratic basis, not controlled by the clergy, as were many early activities of the colony.



PHILLIPS HOUSE, PRIVATE WARD OF MASSACHUSETTS GENERAL HOSPITAL

INDUSTRIES

Governor Winthrop built the first Massachusetts sea-going vessel, "The Blessing of the Bay," a bark of about sixty tons, at his farm called "Ten Hills," at Medford on the Mystic river. It was launched July 4, 1631, and it was used in coastwise and West India trade. The first ship built in Boston (1642) was the "Trial," of two hundred tons. She made voyages to Fayal with pipe staves and fish, and to Spain, bringing back wine, fruit, oil, iron and wool. From the first fish was the staple commodity for barter with foreign ports. The fisheries were always the principal commercial resource of the colonies, and they were carefully promoted by the government. The industry constantly increased in value, by 1716 the exports of codfish from Massachusetts amounting to 120,384 quintals.

Just previous to the Revolution (1769) it was estimated that upward of four hundred vessels were constantly employed in the fishery, whose annual profits of over 160,000 pounds sterling were remitted to meet the cost of imports from Great Britain. Today Boston is the greatest fishing port in the world. During the year 1920 there was received direct from the fishing grounds 125,000,000 pounds of groundfish, much of it at the new Boston Fish Pier at South Boston.

Stephen Daye printed the first book extant in English North America, in Cambridge, in 1639. In 1692 the first permanent and successful printing press was established in Boston, and in 1704 the first newspaper in America, the *Boston Newsletter,* began an existence which lasted seventy-two years. Manufactures were begun within a comparatively short time after the settlement; there were sawmills, gristmills, glass works, tanneries, brickyards, and even an iron foundry, started by John Winthrop, Jr., at Lynn, in 1643. The shoe industry, always an important factor in Massachusetts, was in active operation before 1700; there was a cotton mill in Beverly in 1788, and a woolen mill at Byfield in 1794, while carpet weaving began at Worcester in 1804.

MEDICINE IN COLONIAL DAYS

Of medicine in Colonial days there is not much to say. According to the standards of today the physicians of the old world were none too highly enlightened in the practice of the art. Few crossed the ocean; therefore, in the new colony the inhabitants were forced to get along, for the most part, with the medical lore that the clergymen had acquired as supplementary to their theology. Samuel Fuller (1580-1633) came to Plymouth on the *Mayflower* as physician. It is not known what education he had, but he was put down on the roster as a physician, and he practiced medicine among the colonists for thirteen years with success and satisfaction to them. When death claimed him, his widow practiced midwifery with high repute. A clergyman-physician of those days was Giles Firmin (1615-1697), who ministered to the physical wants of the settlers at Ipswich, and was the earliest lecturer on anatomy, previous to sailing to England in 1644, where he devoted the remainer of his life to preaching and writing religious pamphlets, all the time practicing medicine as occasion offered. In later times there were Charles Chauncy and Leonard Hoar, presidents of Harvard College, skilled in medicine, and teachers of the art to their students, though trained chiefly in theology. Hoar was credited with being the first to propose the modern system of technical education by adding a workshop and a chemical laboratory to Harvard. John Clark (1588-1664) of Newbury, the first of a line of seven physicians of the same name, was said to have great skill in cutting of stone, having received a special diploma for this accomplishment. He maintained a large farm at Plymouth, where he imported and bred fine horses.

The introduction of inoculation for smallpox took place in Boston in 1721, through the efforts of the Rev. Cotton Mather and Zabdiel Boylston. Vaccination was introduced by Benjamin Waterhouse in 1799. These were important epochs in Boston's history, inaugurating procedures that were to be the means of saving many lives. Prominent names in the town's medical story are: William Aspinwall, Samuel Danforth, Aaron Dexter, James Jackson, James Lloyd, Isaac Rand, the Shattucks, David Humphreys Storer, John Ware, the Warrens, the Bigelows, and Jeffries Wyman.

THE REVOLUTION

The continued growth of the spirit of liberty in the colonies made it inevitable that the people should resist the attempt of the British government to impose duties on a commerce so vitally necessary to their progress and prosperity. The stage was set for the "Boston Tea Party" of Dec. 16, 1773, when the tea was thrown into Boston harbor, a defiant protest which resulted in the closing of the port of Boston by Parliament, June 1, 1774. The irritation of the people had been fostered by the armed forces that were kept in and about the city, and by the ships of war in the harbor. The spark which set off the flame of the Revolution was provided by an attempt of the British to capture the military stores and supplies gathered at Concord. The date was April 19, 1775.



BOSTON CITY HOSPITAL

Paul Revere's famous ride on the previous night served to awaken the inhabitants along the route that was to be taken by the troops. The war was begun on Lexington Common and continued a few hours later at Concord bridge. At Lexington Dr. William Aspinwall conducted himself with distinction as a volunteer and bore from the field the body of Captain Isaac Gardner, commander of the Brookline company. Very soon volunteer reinforcements for the militia began to come into the district from all over New England, and before long from the more distant colonies. On the night of June 16, the Continentals threw up redoubts on Bunker Hill in Charlestown, and the next day the battle was fought in which the British came off victorious. Gen. Israel Putnam and Col. William Prescott were in command of the Continental forces, and Dr. Joseph Warren, a volunteer, though recently made a major-general, was killed near the end of the battle. Washington was appointed commander-in-chief by Congress, taking command of the army at Cambridge, on July 2, 1775, as eastern Massachusetts was then the scene of the conflict. Fortifications were erected on the various hills and points of vantage in the vicinity of Boston, and, finally, on March 16, 1776, Washington fortified Dorchester Heights, now South Boston. The next day the British forces were obliged to evacuate the town, and the fleet sailed out of the harbor.

The remainder of the war was fought in New York, New Jersey, Pennsylvania and the South.

Some of the hospital surgeons of the Revolution from New England may be mentioned. John Warren did valuable service throughout the war; William Eustis was at Bunker Hill and went with Washington's army; Isaac Foster and his apprentice, Josiah Bartlett of Charlestown, helped to organize the medical department; William Aspinwall was in charge of the Jamaica Plain hospitals, as was Lemuel Hayward; James Thacher, the medical biographer, of Plymouth, was hospital mate and regimental surgeon, being present at West Point at the time of Arnold's treason, and at Cornwallis' surrender at Yorktown. In 1823 he wrote a most interesting and noteworthy book, his "Military Journal During the American Revolutionary War." Another physician-author was James Mann of Wrentham, who served three years in the medical corps, and, thirty years later, three years more in the war of 1812, writing "Medical Sketches" of the latter.

Although hampered with a large domestic and public debt, and by the war of 1812, the people of the Bay State soon entered on a long period of material progress. Industries of many kinds were established, large interior sections of the country were settled and developed; roads, canals and public improvements were put in operation. For several generations New England led the United States in shipbuilding as well as in coastwise and foreign commerce, the profits from which added to the wealth and prosperity of Boston. Before and for a long time after the Revolution, the statesmen of that city were among the foremost in the land. We have only to mention the names of the Adamses, Samuel, who organized the Revolution; John, president; John Quincy, president, ambassador and congressman; Charles Francis, our minister to Great Britain during the civil war; and Benjamin Franklin, wise in counsel both at home and abroad, to call to mind statesmanship that was of supreme importance to the republic in times of stress. Daniel Webster was born in New Hampshire and Edward Everett in Dorchester, while Rufus Choate came from Essex, that picturesque town where the trig schooner *Mayflower* has just been launched to maintain the supremacy of fast fishing boats against a Canadian competitor.

Boston has been prominent as a literary center. The most notable group of philosophers, essayists, poets and novelists the country has produced lived in and about the city, so that it got the sobriquet of the Hub. Familiar figures were Emerson, Longfellow, Holmes, Lowell, Hawthorne, Theodore Parker, William Ellery Channing, Francis Parkman, Edward Everett Hale, Thomas Bailey Aldrich, and W. H. Prescott. John Greenleaf Whittier lived in Haverhill, and Henry D. Thoreau in Concord. James T. Fields, the publisher, entertained the literary lights and talked of them. William Lloyd Garrison, Wendell Phillips, Charles Sumner and Frank Sanborn were much in evidence during and after the civil war. George Bancroft, John Fiske and Justin Winsor, eminent historians, and Phillips Brooks, the eloquent rector of Trinity Church, contributed to the distinction of this city, which holds a unique place in the history of our country.



PETER BENT BRIGHAM HOSPITAL

TRANSPORTATION

Special Railroad Fares

The Trunk Line Association acts for railroads within New York State (east of and including Buffalo, Niagara, Suspension Bridge and Salamanca), New Jersey, Pennsylvania (east of and including Erie, Oil City and Pittsburgh), Delaware, Maryland, Destrict of Columbia, Virginia and West Virginia (east of and including Wheeling, Parkersburg, Kenova, Orange and Norfolk).

This association has announced that there will be available for members of the American Medical Association who go to the Boston Annual Session a special rate for the round trip going and returning by the same route of one and one-half fares to the western gateway of the New England Passenger Association Territory, plus double the regular one way fare from that gateway to Boston. These special rate tickets will be sold only to members of the American Medical Association who present "identification certificates." One certificate will enable the member to purchase tickets for himself and for dependent members of his family. These tickets will be on sale from May 29 to June 5, inclusive. They must be validated in Boston for the return trip. The return must be begun on the date on which the ticket is validated, and the passengers must arrive at their original starting point by midnight of June 14.

The Central Passenger Association covers railroads operating in the states of Indiana and Ohio; the lower peninsula of Michigan; that portion of Illinois on and south of a line drawn from Chicago to Peoria, and thence to Burlington, Iowa, including St. Louis and Hannibal, Mo., and border portions of Kentucky and West Virginia extending from Evansville, Ind., to Louisville, Ky., thence to Kenova, and thence a line leading to Pittsburgh.

This association has authorized the sale of round trip tickets to Boston in accordance with the terms which have been authorized by the Trunk Line Association.

The Western Passenger Association has authorized the sale of these special round trip tickets to Boston from points within its territory as indicated below:

These tickets will be on sale from June 1 to 5 inclusive, with final return limit of June 13 from points served by the Western Passenger Association in Illinois, Iowa, Minnesota, Missouri, Northern Michigan and Wisconsin.

From Kansas, Nebraska, North Dakota and South Dakota, the selling dates will be from May 31 to June 4, inclusive, with final return limit of June 14.

From Colorado, Idaho, Montana, Utah and Wyoming, the selling dates will be from May 29 to June 2, inclusive, with final return limit of June 16.

The validating dates for return on all these tickets will be from June 3 to June 11, inclusive.

The Southwestern Passenger Association has authorized special fares and arrangements from points within its territory as indicated: From Illinois and Missouri, the authorized selling dates are June 1 to 5, final return limit, June 13; from points in Arkansas, Kansas, Louisiana, Nebraska, Oklahoma and Texas (except El Paso) selling dates are from May 31 to June 4, and the final return limit, June 14; from El Paso and points in Colorado, the selling dates are from May 29 to June 2, and the final return limit, June 17. The rates are approximately identical with those announced for

the other passenger associations. The exact rates may be secured from local passenger agents.

The Southeastern Passenger Association has announced special excursion fares from certain designated stations in Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia, and also from Cincinnati, Ohio; Helena, Ark.; Cairo, Ill.; Evansville, Ind., and Washington, D. C. Members in this territory should at once secure identification certificates and consult their local passenger agent for detailed information.

From points on the Pacific Coast, either all year tourist fares or summer tourist fares will be available. It will be unnecessary to present an identification certificate for the purchase of either of these tickets.

Tickets sold on this tariff will not be honored on the trains designated below:

Boston & Albany R. R.	Nos. 25 and 26
New York, New Haven & Hartford R. R.	Nos. 15, 16, 23 and 24
New York Central R. R.	Nos. 25 and 26
Pennsylvania R. R.	Nos. 28, 29, 127, 130, 187, 188, 198 and 199

Members who desire to take advantage of these special railroad fares must secure "identification certificates," which are to be deposited with the ticket agent who sells the round trip ticket. These identification certificates will be forwarded promptly to those members who make requests for them from the Secretary of the American Medical Association, 535 North Dearborn Street, Chicago. A self-addressed, stamped envelop should be enclosed with the request. Members who plan to take advantage of these fares should write at once for identification certificates. A failure to do this may make it impossible to forward the identification certificate in time so that the member may use it in purchasing his transportation to Boston.



MECHANICS' BUILDING

Scientific Exhibit, Registration, Commercial Exhibit, Information Bureau and Postoffice in this building; Meeting place of the Sections on Stomatology; Nervous and Mental Diseases; Dermatology and Syphilology; Urology; Orthopedic Surgery and Miscellaneous Topics

Through the courtesy of representatives of the New York Central Railroad Company, the following table has been prepared announcing approximate railroad rates from various points:

From	Price	Selling Dates	Return Limit	One Way Pullman Fare: Lower	One Way Pullman Fare: Upper	Drawing Room
Chicago, Ill.	$ 63.36	May 29–June 5	June 14	$10.94	$ 8.75	$38.88
Denver, Colo. ...	119.84	May 29–June 2	June 17	22.68	18.14	79.38
Los Angeles, or San Francisco, Calif.	213.87	Daily	9 mos.	36.05	28.84	126.36
	(All year tourist fares, Certificate not required)					
Portland, Ore. or Seattle, Wash.	193.43	June 1–Sept. 30	Oct. 31	35.24	26.10	115.50
	(Summer tourist fares, Certificates not required)					
St. Paul, Minn.	82.58	June 1–5	June 14	13.77	11.02	48.60
St. Louis, Mo. ..	74.44	May 29–June 2	June 17	12.96	10.37	45.36
St. Louis, Mo. via Chicago.....	80.21					

Members who plan to go to Boston are urged to consult the local ticket agent in their home town for full information regarding rates, time limits, extensions and stopover privileges. The tariff schedules on file at every ticket office will allow the local ticket agent to quote rates from that point. In addition to this, with the assistance of the agent, the physician can determine whether or not it is possible to arrange for side trips either going or coming. Moreover, it may be necessary for the local agent to secure a special form for the round trip ticket from a central distributing point.

Special Train Accommodations

Physicians from Kansas City and those who pass through that city may take advantage of a special Pullman train from that point through to Boston which is being arranged by the Jackson County, Missouri, Medical Society. Those who desire to use this train should communicate with the secretary of the Jackson County Medical Society, General Hospital, Kansas City, Mo., in order to complete arragements which will assure Pullman accommodations on that train.

The Chicago Medical Society, through the Harlan-Spears Tours, 20 West Jackson Boulevard, Chicago, has arranged for personally conducted tours from Chicago to Boston and return in accordance with a number of different itineraries. Those who join these tours, going and returning by the same route, may take advantage of the special railroad rate provided they secure the necessary Identification Certificate from the Secretary of the American Medical Association. The rates charged for these tours cover all necessary expenses except meals while in Boston. A deposit of $15 a person is required, this amount to apply against the final payment, or to be refunded in case the reservation is canceled. Requests for information and applications for reservations should be made directly to the Harlan-Spears Tours.

The passenger agents of the lines going out from Chicago will book Pullman reservations and will arrange so that these assignments will be grouped in accordance with the number of reservations made so as to provide special cars or special sections of trains for the use of physicians going to Boston.

REGISTRATION

The Bureau of Registration will be located in the Massachusetts Charitable Mechanics Association Building, Huntington Avenue, between Garrison and West Newton streets. A committee of local physicians will assist those desiring to register. A branch postoffice will be opened and a bureau of information established in connection with the Registration Bureau. Here may be secured copies of the *Daily Bulletin,* which announces the names of visitors and other important convention items.

Fellows, Affiliate, Associate and Honorary Fellows, and Invited Guests only may register and take part in the work of any of the sections of the Scientific Assembly. Members of the organization, i. e., members in good standing in the constituent associations, are eligible to Fellowship in the Scientific Assembly. The Fellows of the Scientific Assembly are those members who have, on the prescribed form, applied for Fellowship, subscribed to THE JOURNAL, and paid their annual Fellowship dues for the current year. These annual Fellowship dues provide for a subscription to THE JOURNAL for one year. In a word, members of component county medical societies are *ipso facto* members of their several constituent state associations and are eligible for Fellowship in the Scientific Assembly. Members should qualify as Fellows before they start for Boston, and receive a pocket card certifying to their Fellowship. This pocket card will enable its holder to register at the Boston Session readily and without undue delay. Those who do not have pocket cards should secure them by writing to the American Medical Association, 535 North Dearborn Street, Chicago.



BOSTON PUBLIC LIBRARY

ARRANGEMENTS FOR SECURING POCKET CARD

Arrangements will be made so that it will be possible for members of the organization to qualify as Fellows of the Scientific Assembly after they reach Boston; but it will require more time to register, and the delay will not only be a hardship to the physician who postpones qualifying as a Fellow, but also will be an inconvenience to others waiting their turn to register. Those who apply for Fellowship at Boston should provide themselves, before leaving their homes, with certificates signed by the secretary of their state association, certifying to their being members in good standing in the state and county branches of the organization: a membership card for 1921 issued by the constituent state association will be accepted.

Register Early

Physicians of Boston and Massachusetts, as well as other Fellows who are in Boston on Monday and Tuesday, should register as early as possible. It will be an accommodation to visiting physicians to find the names and addresses of the members of the Boston profession listed in the *Daily Bulletin* for Tuesday, June 7.

Suggestions Which Will Facilitate Registration

Every one who registers will fill out completely the spaces on both parts of the double registration cards, which will be found on the tables in front of the Registration Bureau. These entries should be written very plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin.*

1. Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out registration card, together with their pocket card, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a copy of the official program and other printed matter of interest to those attending the annual session.

2. Those Fellows who have forgotten their pocket cards should present the filled in registration card at the window marked "Paid—No Card." The work of registration at this window will be conducted as rapidly as possible; but the necessity of finding the Fellow's name on the Fellowship roster may occupy a considerable time and will occasion inconvenience to those who neglect to bring their pocket cards with them.

3. The Fellow whose 1921 dues are unpaid should present his filled in registration card with the amount of his Fellowship dues ($6) at one of the windows marked "Cash." Here, too, there will be some delay; but the work of registering will be conducted as promptly as possible.

4. As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than May 28. Any applications received later than May 28 will be given prompt attention, but the Fellowship pocket card may not reach the applicant in time so that he can use it in registering at the Boston Session.

BOSTON HOTELS

Hotel reservations should be secured early. By arrangements made between the Local Hotel Committee and the hotels, requests for reservations are referred to the Hotel Committee. Physicians will, therefore, save time by writing for reservations to the Committee on Hotels rather than directly to the hotel in which accommodation is wanted. The accommpanying table shows the daily rates and accommodations available at a number of Boston hotels. It will be a great comfort on arriving at Boston to go at once to a hotel which is expecting you rather than to make a round of hotels, finding a number of them completely filled, and finally being compelled to take the first lodgings which can be found in hurried personal search. Write to the LOCAL COMMITTEE ON HOTELS, DR. JOHN T. BOTTOMLEY, Chairman, The Boston Medical Library, 8 The Fenway, Boston 17, Mass., requesting the hotel reservations you desire. In writing to the Committee, be sure to indicate your first, second and third choices of hotels and to authorize the making of the reservation which will most nearly meet the needs of your party. It is important that the Hotel Committee be advised of the number of rooms you desire to have reserved and whether with or without bath; also that you state the total daily charge which you are willing to pay, European plan. It will be expected that if you are unable to occupy the reservation and if you fail to notify the Committee at least ten hours before the time for which the reservation is made, you will pay one day's charges in the event that the hotel shall hold the Committee for that amount. If for any reason after having secured a reservation, conditions make it impossible to attend the annual session, the Hotel Committee should be advised promptly.

Hotel	Street Address	Without Bath		With Bath		Suite	
		Single	Double	Single	Double	For Two	More than Two
ADAMS HOUSE *Orthopedic Surgery*	553 Washington St.	.....	3.50–4.50	.....	6.00– 7.00	.....	.....
AMERICAN HOUSE	56 Hanover St.	.....	4.00	.....	6.00	10.00	15.00
ARLINGTON	18 Chandler St.	.....	.....	2.50–3.00	4.00– 5.00	7.00	7.00– 8.00
AVERY	24 Avery St.	.....	.....	.....	.....	6.00	.....
BELLEVUE *Pathology and Physiology* *Prev. Med. & Public Health*	21 Beacon St.	.....	4.00–6.00	.....	8.00–10.00	.....	12.00–18.00
BREWSTER	19 Boylston St.	2.50–3.00	.....	3.00–4.00	5.00– 7.00	10.00	10.00
BRUNSWICK *Lar., Otol. & Rhin.*	Boylston and Clarendon	3.00	5.00	4.00	6.00– 7.00	8.00	12.00–15.00
BUCKMINSTER *Obst., Gyn. & Ab. Surg.*	641 Beacon St.	2.50	5.00	3.00	6.00	8.00	8.00–10.00
COMMONWEALTH	Bowdoin St.	.....	.....	.....	5.00	.....	10.00
COPLEY-PLAZA	Copley Square	.....	.....	6.00	11.00	20.00	30.00
COPLEY SQUARE *Pharmacology & Therapeutics* *Dermatology & Syphilology*	49 Huntington Ave.	.....	.....	4.00	6.00	.....	.....
ESSEX *Gastro-Ent. & Proctology*	693 Atlantic Ave.	3.00	.....	5.00	7.00– 8.00	.....	.....
FRITZ-CARLETON	1138 Boylston St.	3.00	4.50	.....	8.00–10.00	.....	12.00–15.00
GARRISON HALL	8 Garrison St.	.....	.....	3.00	5.00	.....	8.00–10.00
LANGHAM	1699 Washington St.	2.00	3.00	3.00	4.00	5.00	7.00– 8.00
LENOX *Surg., Gen. & Abdominal*	Exeter and Boylston	3.50	5.00	5.00	8.00	10.00	.....
OXFORD	40 Huntington Ave.	2.00–2.50	4.00	4.00	5.00	8.00	10.00–15.00
PARKER HOUSE *Diseases of Children* *Stomatology*	School and Tremont	4.00–4.50	5.00	5.50–7.00	5.50– 7.00	12.00	12.00–17.00
PEMBERTON	Hull, Mass. (A Boston suburb)	.....	4.00–5.00	.....	10.00	14.00	14.00
PLAZA	419 Columbus Ave.	.....	3.00	.....	5.00	10.00	.....
PRISCILLA, THE (Women only)	307 Huntington Ave.	.....	.....	3.00	4.50– 6.00	.....	.....
PURITAN	390 Commonwealth	2.50	.....	5.00	6.00	10.00	15.00
PUTNAM	284 Huntington Ave.	2.00–3.00	3.00–4.00	.....	.....	.....	.....
QUINCY	47 Brattle St.	2.00–2.50	3.50–4.00	3.50	6.00– 7.00	7.00	10.00–12.00
RANELEGH	11 Mountfort	.....	.....	.....	5.00	6.00–9.00	9.00
STEWART CLUB (Women only)	102 Fenway	3.50	6.00	.....	.....	.....	.....
SOMERSET *Practice of Medicine*	Commonwealth and Charlesgate	.....	5.00	.....	10.00	16.00	.....
UNITED STATES	90 Beach St.	2.50	4.00	.....	.....	.....	.....
VENDOME (American Plan) *Ophthalmology*	Commonwealth and Dartmouth	.....	.....	8.00	14.00–16.00	20.00	.....
VICTORIA	271 Dartmouth St.	3.00	5.00	4.00	6.00	8.00	12.00
WESTMINISTER *Urology*	Copley Square	2.50	3.50	4.00	7.00	.....	.....
YOUNGS *Nervous & Mental*	Court and City Hall Ave.	.....	4.50–5.00	.....	7.00– 8.00	.....	10.00

CLINICS AT BOSTON

The Local Committee on Arrangements reports that the medical profession of Boston has arranged a series of clinics to be conducted by members of the Boston profession on Monday and Tuesday, June 6 and 7. These clinics will be open to Fellows of the Scientific Assembly, and will be conducted at the following hospitals:

CLINIC PROGRAM

BOSTON CITY HOSPITAL.—From 10 a. m. to 6 p. m., Monday, and from 9 a. m. to 1 p. m., Tuesday.

BOSTON DISPENSARY.—From 2 to 7:30 p. m., Monday, and from 9 a. m. to 4:30 p. m., Tuesday.

BOSTON FLOATING HOSPITAL.—From 2 to 4 p. m., Monday.

BOSTON PUBLIC SCHOOLS.—Open air classes may be visited at 9 and at 10:45 a. m., Monday and Tuesday.

BOSTON PSYCHOPATHIC HOSPITAL.—From 9 a. m. to 12 m., Tuesday.

PETER BENT BRIGHAM HOSPITAL.—Beginning at 10 a. m., Monday, and from 9 a. m. to 2 p. m., Tuesday.

CARNEY HOSPITAL.—Beginning at 10 a. m., Monday, and beginning at 9 a. m., Tuesday.

CHILDREN'S HOSPITAL.—From 10 a. m. to 5:30 p. m., Monday, and from 9 a. m. to 6 p. m., Tuesday; also at this hospital, the Harvard Infantile Paralysis Commission will conduct a clinic, Tuesday, beginning at 10 a. m.

FORSYTH DENTAL INFIRMARY FOR CHILDREN.—From 9 a. m. to 2 p. m., Monday and Tuesday.

HOUSE OF THE GOOD SAMARITAN.—Beginning at 10 a. m., Monday.

INFANT'S HOSPITAL.—From 10 a. m. to 6 p. m., Monday, and from 9 a. m. to 6 p. m., Tuesday.

INDUSTRIAL CLINIC.—From 8 a. m. to 6 p. m., Monday and Tuesday.

PARKER HILL HOSPITAL AND WEST ROXBURY HOSPITAL (RECONSTRUCTION CLINIC).—Beginning at 2 p. m., Tuesday.

MASSACHUSETTS GENERAL HOSPITAL.—From 10 a. m. to 1 p. m., Monday, and from 9 a. m. to 10 p. m., Tuesday.

ST. ELIZABETH'S HOSPITAL.—Beginning at 10 a. m., Monday and Tuesday.

THROAT CLINIC.—From 2 to 4 p. m., Monday and Tuesday.

NEW ENGLAND HOSPITAL FOR WOMEN AND CHILDREN.—From 9 a. m. to 12 m., Monday, and from 9 a. m. to 6 p. m., Tuesday.

In addition, the Angel Memorial Hospital for Animals will be open for inspection by visiting physicians throughout all the days of the annual session.



SOME BOSTON HOTELS

Left—above: Copley-Plaza; below: Touraine. (Courtesy of Thos. E. Marr.) Right—above: Brunswick; middle: Lenox; below: Vendome.

MEETING PLACES AND SECTION HEADQUARTERS

The following have been designated as section hotel headquarters, and as meeting places* for the Boston session—June 6 to 10:

HOUSE OF DELEGATES: *Boston Medical Library Building* (B).

PRACTICE OF MEDICINE: Somerset (2). *Convention Hall* (D).

SURGERY, GENERAL AND ABDOMINAL: Lenox (4). *Jordan Hall* (E).

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY: Buckminster (1). *Jordan Hall* (E).

OPHTHALMOLOGY: Vendome (6). *Huntington Hall* (C).

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Brunswick (12). *Huntington Hall* (C).

DISEASES OF CHILDREN: Parker House (School and Tremont Streets). *Convention Hall* (D).

PHARMACOLOGY AND THERAPEUTICS: Copley Square Hotel (7) *Harvard Medical School* (F).

PATHOLOGY AND PHYSIOLOGY: Bellevue (21 Beacon Street). *Harvard Medical School* (F).

STOMATOLOGY: Parker House (School and Tremont Streets). *Reception Hall, Mechanics Building* (A).

NERVOUS AND MENTAL DISEASES: Youngs Hotel (Court and City Hall Avenue). *Paul Revere Hall* (A).

DERMATOLOGY AND SYPHILOGY: Copley Square Hotel (7). *Talbot Hall* (A).

PREVENTIVE MEDICINE AND PUBLIC HEALTH: Bellevue (21 Beacon Street). *Harvard Medical School* (F).

UROLOGY: Westminster (11). *Talbot Hall* (A).

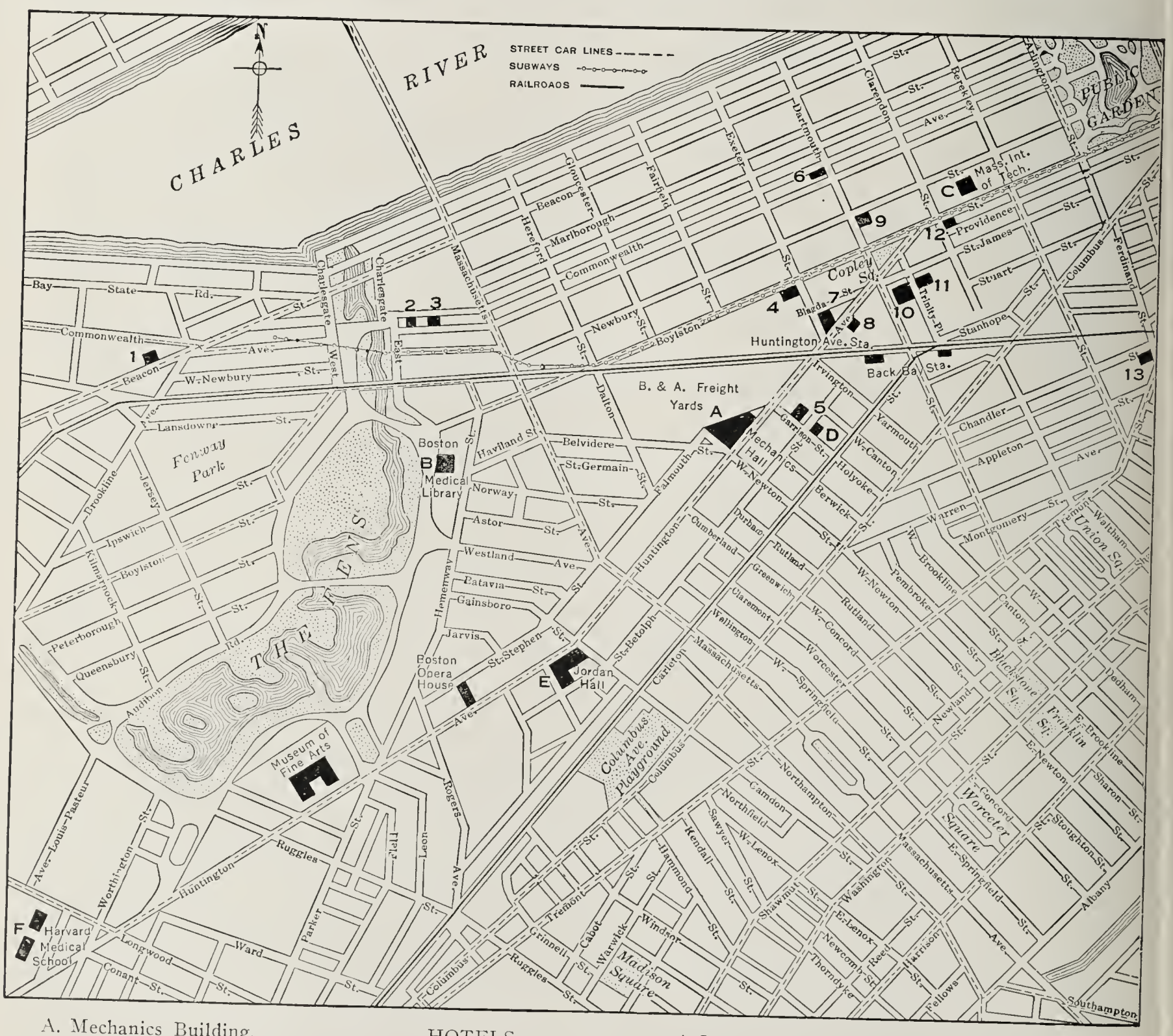
ORTHOPEDIC SURGERY: Adams House (553 Washington Street). *Paul Revere Hall* (A).

GASTRO-ENTEROLOGY AND PROCTOLOGY: Essex (693 Atlantic Avenue). *Harvard Medical School* (F).

MISCELLANEOUS (Meeting on Anesthesia): *Reception Hall, Mechanics Building* (A).

GENERAL HEADQUARTERS: SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, COMMERCIAL EXHIBIT, INFORMATION BUREAU AND BRANCH POSTOFFICE: *Mechanics Building* (A).

* Meeting places in italics.



A. Mechanics Building.
B. Boston Medical Library.
C. Huntington Hall.
D. Convention Hall.
E. Jordan Hall.
F. Harvard Medical School.

HOTELS

1. Buckminster.
2. Somerset.
3. Puritan.
4. Lenox.
5. Garrison Hall.
6. Vendome.
7. Copley Square Hotel.
8. Oxford.
9. Victoria.
10. Copley-Plaza.
11. Westminster.
12. Brunswick.
13. Arlington.

ENTERTAINMENT

(NOTE.—The official badge will be required for admission to entertainments and other places to which entrance is granted to those in attendance on the annual session.)

The Scientific Assembly will open with a general meeting convening at 8:30 p. m., Tuesday, June 7. The Local Committee on Arrangements announces the following entertainments:

Wednesday, June 8

From 2 to 6 p. m., the ladies are invited to a tea on the grounds of the Harvard Medical School. The time between 6 and 8:30 p. m. is set apart for alumni, medical fraternities, war service groups and other organization reunions, smokers and banquets. Assistance will be given to any organization wishing to arrange for such a gathering if requests are addressed to Dr. Beth Vincent, Chairman, Committee on Banquets, 295 Beacon Street, Boston, Mass. From 8:30 to 11 p. m., the trustees of the Museum of Fine Arts, Huntington Avenue, invite the Fellows and their guests to a reception to be given at the museum. This opportunity to visit the museum should be taken advantage of by as many as possible of visiting Fellows and their guests. The museum contains an unrivaled collection of classic and modern art, including Chinese and Japanese.



HARVARD LAW SCHOOL



CLASS OF 1877 GATE, HARVARD

Thursday, June 9

In the afternoon, the ladies are invited to visit the estates of Honorable Larz Anderson, Mr. E. D. Brandegee and Prof. Charles Sargent in Brookline and the Arnold Arboretum in Jamaica Plains. Automobiles will be furnished to take the visiting ladies through these wonderful estates. The last named is one of the most interesting botanical gardens in the country and is especially noted for its collection of trees.

On Thursday evening, there will be a reception and ball given in honor of the President. This will be held in the large hall in the Mechanics Building.

Additional Entertainments

In addition to the foregoing entertainments, excursions have been arranged which will take place on Wednesday, Thursday and Friday. Among other places of interest, visits will be made to Harvard College where competent guides will be assigned to show visitors through the buildings and grounds; one exhibit of unique interest is the wonderful collection of glass flowers in the Natural History Museum. Sight-seeing trips to historical points in Boston may also be made.

On Thursday, guests may make arrangements for a trip to Bunker Hill and the battle fields of Lexington and Concord on sight-seeing automobiles. A moderate fare will be charged for these trips.

On Friday, at a moderate fare, there will be excursions to the North Shore in automobiles.

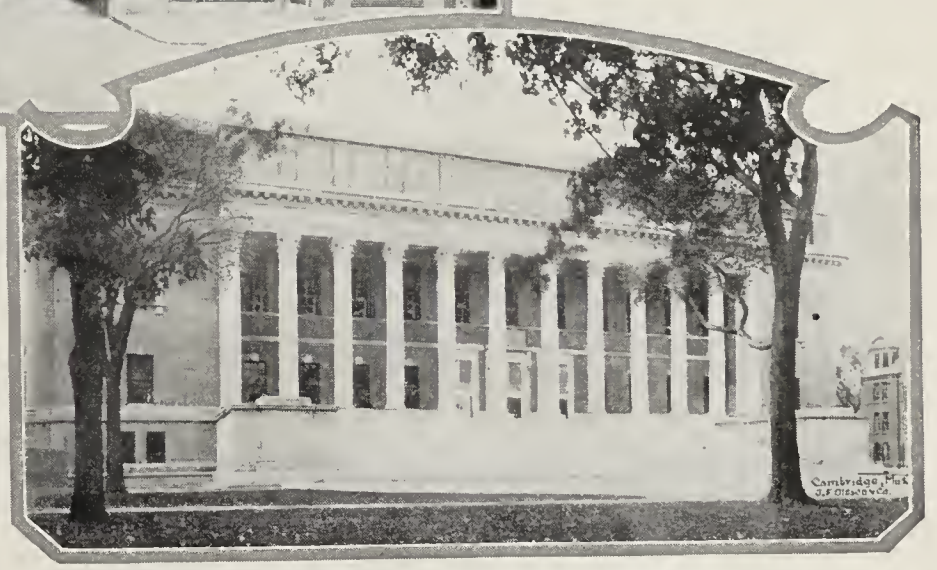
Plymouth Excursion

On registering in Boston, secure tickets for the special all day excursion to Plymouth, Mass,, on Saturday, June 11. Owing to limited steamer capacity only those who secure tickets early can be certain of being taken care of for this event. Plymouth this year is celebrating the three hundredth anniversary of the landing of the Pilgrims. An interesting visit is assured to all who care to see the place so justly called "The Cradle of America." Fellows and guests are urged to make this trip on June 11 since the Tercentennial Committee has made special arrangements to receive and entertain them on this day.

The boat will leave Boston Saturday morning and return late the same afternoon. The Harvard University Band will provide entertainment throughout the trip down Massachusetts Bay and back. Luncheon will be served in Plymouth. Exchange the coupon for ticket to Plymouth on registering in Boston. A charge of $5 will be made for the round trip, including luncheon.

American Medical Golf Tournament

The Seventh Tournament of the American Medical Golf Association will be held at the Commonwealth Country Club, Monday, June 6, under the auspices of the Local Committee: Franklin Newell, chairman; Walter Lancaster; Harold Tobey, secretary, 416 Marlboro Street, Boston.



WIDNER LIBRARY, HARVARD

The events will take place both morning and afternoon.

Any Fellow of the American Medical Association in good standing, who has a degree of M.D., becomes a member of the Golf Association, on acceptance of the by-laws and payment of the enrolment fee of $2, which confers life membership. A tournament fee of $1 is charged on entrance in the tournament. All play will be in four ball matches. Players enter in the scientific sections in which they register, and the wining team carries the "section trophies" for the year.

Entries close, May 25, for all of these events. Later entrants will play in sweepstakes.

The regular committee is in charge of the handicapping.

The general secretary, Will Walter, 1414 Chicago Avenue, Evanston, Ill., receives applications and entries.

NON-AFFILIATED ORGANIZATIONS

The following organizations have announced that they will hold meetings in or near Boston during the days immediately preceding or following those on which the Scientific Assembly of the American Medical Association will meet: Medical Veterans of the World War; American Association for Thoracic Surgery; American Association of Anesthetists; American Climatological and Clinical Association; American Dermatological Association; American Gastro-Enterological Association; American Gynecological Society; American Medico-Psychological Association; American Ophthalmological Society; American Orthopedic Association; American Pediatric Society; American Proctologic Society; American Radium Society; Association for the Study of Internal Secretions; Conference of State and Provincial Health Authorities, and the Radiological Society of North America.

The Association of Military Surgeons of the United States will meet June 2-4, in the Swiss Room, Copley-Plaza Hotel. The medical profession is invited to attend.

The Medical Women's National Association will meet, June 11, at the New England Women's Club, 585 Boylston Street.

FOREIGN GUESTS

Among others, Dr. W. Blair Bell, Liverpool; Dr. H. E. G. Boyle, London; Dr. Jacques Calve, Plage, France; Sir George Lenthal Cheattle, London; Dr. Walter W. Chipman, Montreal; Dr. Pierre Janet, Paris; Sir Robert Jones, Liverpool; Prof. V. Putti, Bologna, Italy; Dr. Richard G. Rows and Lieut.-Col. Henry Smith, London; Prof. Soubbotitch, Belgrade, Serbia, and Drs. M. Turin and A. Widmer, Territet, Switzerland, are expected to be in attendance at the Boston Session. It is anticipated that there will also be a number of physicians from Mexico and South America. Accredited physicians from foreign countries will be registered as "Invited Guests," and may participate in the annual session.

TO BOSTON BY AUTOMOBILE

The splendid roads in Massachusetts and its neighboring states will undoubtedly tempt a considerable number of physicians to motor to Boston for the annual session. Presumably they will enter the New England states either through New York or Albany. While physicians who are accustomed to make automobile tours will undoubtedly provide themselves with route maps through the cooperation of the different automobile organizations in which they hold membership, it may be of interest briefly to outline two or three of the main routes between these two cities and Boston.

From New York, one of the favorite routes goes through Mamaroneck, Stamford, Norwalk, Bridgeport to New Haven. From New Haven one of two routes may be followed, either continuing along Long Island Sound through Saybrook, New London, Westerly, Narragansett Pier, Providence and into Boston, or from New Haven through Durham, Middletown, Hartford, Springfield, Worcester and into Boston.

From Albany, the favored routes go first to Pittsfield. From that point there is a choice of roads either from Pittsfield through Lenox, Huntington, Westfield and into Springfield, from there following the route previously outlined to Boston; or at Pittsfield the motorist may go to the north through the Berkshire Hills to North Adams, and from there east through Greenfield, Orange, Gardner, Fitchburg, Littleton, Common, Concord and into Boston.

CONFERENCE ON HEALTH EDUCATION

A conference on "Health Problems in Education" under the direction of the Committee of the Council on Health and Public Instruction on this subject will be held at Paul Revere Hall, Mechanics Hall on Tuesday afternoon, June 7, at 2 o'clock. A program of addresses by representative physicians and educators is now being prepared. All physicians interested in this subject and especially the members of the state committees on "Health Problems in Education" are urged to be present.

MEDICAL VETERAN REUNIONS

Medical Veterans of the World War will hold its annual meeting on the afternoon of Tuesday, June 7, at 4 p. m., in Talbot Hall of the Massachusetts Charitable Mechanics Association Building. Col. Victor C. Vaughan is the president and Col. F. F. Russell the secretary of this association. All medical officers, contract surgeons of the United States Army and acting assistant surgeons in the United States Public Health Service and other physicians who served in the Medical Corps of the United States Army, of the United States Navy, and the United States Public Health Service, as well as medical members of local boards, members of medical advisory and district boards appointed by the President of the United States and the Provost Marshal General of the United States Army, and the governors of the states are eligible to membership. The object of the association "is to perpetuate fellowship, to prepare history, secure cooperation for the mutual benefit of the medical men who served in the World War, 1914-1918, and for the mutual improvement and social intercourse of its members."

There will be a Fort Riley reunion during the Boston Session. Medical officers who were at the Medical Officers' Training Camp at Fort Riley, Kansas, are invited to attend. Major Arial W. George, 43 Bay State Road, Boston, is in charge of the arrangements. A dinner will be held on Wednesday evening, June 8, probably at the Harvard Club.

Officers who served with Base Hospital 89 in France are cordially invited to attend a luncheon during the Boston Session. Dr. Walter S. Lucas, secretary of the association, will be at Hotel Brewster.

There will be a reunion and dinner of the medical officers of the Twenty-Sixth Division, Friday evening, June 10, at 7 o'clock at the Y. D. Club in Boston. Those who served with this division are strongly urged to stay over and make this reunion a success.

Physicians who served at Camp Wheeler Base Hospital will meet in reunion. Arrangements are being made under the direction of Dr. Beth Vincent, Boston, to whom requests for information should be addressed.

Medical officers who have served at Base Hospital, Camp Devens, will hold a reunion in the Student's Room, Building A, Harvard Medical School, Wednesday, June 8, at 7 p. m.

ALUMNI AND FRATERNITY REUNIONS

The Local Committee on Arrangements is arranging that members of medical fraternities and other organizations may register their attendance at the Boston Session. Announcements of reunions may be inserted in the *Daily Bulletin* on request.

The Alumni Association of the Jefferson Medical College will hold a smoker at the Boston Session; communicate with Dr. Wallace D. MacCallum, 214 Huntington Avenue, secretary.

The Harvard Medical School 1911 Class is to hold a dinner at Hotel Westminster, Boston, at 7 p. m., Wednesday, June 8. Signify intention to attend to J. H. Means, secretary, 15 Chestnut Street, Boston.

The Phi Alpha Sigma Fraternity will hold a smoker during the Boston Session; communicate with Dr. E. J. G. Beardsley at Hotel Brewster, Boston.

The Phi Beta Pi Medical Fraternity will hold a smoker at its chapter house, 1071 Beacon Street, Monday evening, June 6, as well as a banquet on Wednesday evening, June 8.

POSTOFFICE

An Association Postoffice will be maintained in connection with the Registration Bureau in the Massachusetts Charitable Mechanics Association Building, Huntington Avenue, between Garrison and West Newton streets. Guests are requested to order mail addressed to them "Care American Medical Association, Massachusetts Charitable Mechanics Association Building, Boston, Mass.," or to their hotels, as preferred.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located on the second floor of Mechanic's Building. The exhibitors who have so far made application for space are:

AMERICAN POSTURE LEAGUE, New York: Exhibit on posture and its relation to health; wall charts, etc.

THE AMERICAN SOCIAL HYGIENE ASSOCIATION, INC., New York: Exhibit showing panels on social hygiene and preventive medicine.

BATTLE CREEK SANITARIUM, Battle Creek, Mich.: Exhibit of charts and specimens on the duodenum and biliary tract and experimental observation on blood pressure variations.

AMERICAN RED CROSS (First Aid Service Dept.), Washington, D. C.: Exhibit of posters, first aid supplies.

UNITED STATES ARMY, MEDICAL DEPARTMENT, Washington, D. C.: Specimens of gunshot injuries of the World War, etc.; pictures and charts.

COMMUNITY HEALTH AND TUBERCULOSIS DEMONSTRATION, Framingham, Mass.: Demonstration on health; tuberculosis.

CONNECTICUT AGRICULTURAL EXPERIMENT STATION, New Haven, Conn.: Drs. Lafayette Mendel and Thomas B. Osborne will show a group of stuffed and mounted rats, illustrating the effect of different qualities of protein on growth; charts illustrating work on nutrition and growth. Dr. E. M. Bailey will show diabetic foods with analysis thereof and literature of the Station on the subject.

THE PRUDENTIAL INSURANCE COMPANY, Newark, N. J.: Exhibit showing graphic charts on diseases and public health.

SHURLEY CLINIC, Detroit, Mich.: Exhibit showing some diagnostic roentgen-ray plates, illustrating diseases of the accessory sinuses and chest.

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA, Charleston, S. C.: Exhibit on ulcerative granulomata; gross and microscopic exhibit, photographs of clinical and experimental lesions, microscopic, histological and biological demonstration, directed by Dr. Kenneth M. Lynch.

THE MAYO FOUNDATION, Rochester, Minn.: Exhibit of charts and photographs for demonstration purposes.

UNITED STATES PUBLIC HEALTH SERVICE, Washington, D. C.: Exhibit under the direction of Dr. C. C. Pierce, assistant surgeon-general, showing educational placards and posters from the Division of Venereal Diseases.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER, New York: Exhibit showing the work of the organization.

THE ROCKEFELLER INSTITUTE, New York: Exhibit on experimental syphilis, drawings, photographs and museum specimens, presented by Drs. Brown and Pearce.

NEW YORK POST-GRADUATE MEDICAL SCHOOL, New York: Educational exhibit.

DR. V. H. KAZANJAIN, Harvard Dental School, Boston: Exhibit on facial restoration, by members of Harvard Dental School, showing a large collection of war specimens of injuries to face and jaws, plaster masks, casts, photographs, etc.

DR. LUCIEN HOWE, Buffalo, N. Y.: Exhibit showing (A) hereditary cataract artificially produced and (B) syphilitic eye lesions.

DR. JOHN E. LANE, New Haven, Conn.: Exhibit on photographs of dermatologic cases.

DR. L. R. SANTE, City Hospital, St. Louis, Mo.: Exhibit of the roentgen-ray department on pneumoperitoneum and unusual cases.

DR. J. PARSONS SCHAEFFER, Jefferson Medical College, Philadelphia: Exhibit of anatomical specimens, preparations of the para-nasal accessory sinuses and related parts.

DR. ANGEL SORESI, New York: Exhibit of specimens and illustrations.

DR. S. CALVIN SMITH, Philadelphia: Exhibit of wall charts of electrocardiograms, illustrating a paper on observations of the heart in diphtheria.

DR. PHILEMON E. TRUESDALE, Fall Rivers, Mass.: Exhibit of five roentgenograms of diaphragmatic hernia.

AMERICAN LIBRARY ASSOCIATION, Boston: Exhibit of books for patients in general hospitals.

WARREN MUSEUM, Boston: Historical exhibit of books, instruments, etc.

DR. HAROLD C. ERNST, Boston: Exhibit on the development of the microscope; books on same subject.

DR. P. R. BENEDICT, Boston: Exhibit of respiration apparatus.

DR. J. RAWSON PENNINGTON, Chicago: Exhibit of charts and photographs on rectal anatomy and surgery.

DR. FRED J. TAUSSIG, St. Louis, Mo.: Exhibit of roentgen-ray plates on obstetrics and gynecology; an exhibition of pathological specimens, new instruments or apparatus and teaching models.

DR. TOM A. WILLIAMS, Washington, D. C.: Exhibit on new schema of the brachial plexes and spinal nerve roots.

AMERICAN MEDICAL ASSOCIATION: Exhibits illustrating the work of the Council on Pharmacy and Chemistry, the Chemical Laboratory, the Propaganda Department of THE JOURNAL, the Council on Medical Education and Hospitals, the Council on Health and Public Instruction, and the Publication Department of THE JOURNAL.

Moving Picture Theater

Opening at noon on Monday, running continuously each day thereafter from 9:00 a. m. to 5:30 p. m. until noon on Friday. The program will consist of the following:

DR. FREDERICK H. VERHOEFF, Boston: Lantern slide demonstration of pathology of the eye.

DR. F. E. SAMPSON, Creston, Iowa: Lantern slide demonstration on rural hospitals and rural centers.

DR. ANGEL SORESI, New York: Moving pictures and slides illustrating surgical methods.

DR. J. PARSONS SCHAEFFER, Jefferson Medical College, Philadelphia: Lantern slide demonstration on the anatomy of the optic nerve.

DR. E. C. ROSENOW, Rochester, Minn.: Lantern slide demonstration on the etiology of epidemic hiccough, encephalitis and poliomyelitis.

DR. PAUL B. MAGNUSON, Chicago: Demonstration of the use of ivory in internal splinting of fractures, retention of bone graft; demonstration of technique of five operations.

DR. ARVINE E. MOZINGO, Indianapolis: Film showing the surgical treatment of empyema by closed method.

DR. W. O. HENRY, Los Angeles: Lantern slides.

THE AMERICAN SOCIAL HYGIENE ASSOCIATION, New York: Moving pictures on social hygiene.

THE PRUDENTIAL INSURANCE COMPANY, Newark, N. J.: Showing lantern slides, demonstration of charts on diseases and public health.

SHURLEY CLINIC, Detroit, Mich.: Lantern slides and demonstration of some diagnostic roentgen-ray plates, illustrating diseases of the accessory sinuses and chest.

THE MAYO FOUNDATION, Rochester, Minn.: Films and lantern slide demonstrations by Drs. Wilson, Bowders, Bowing, Keyser, Mann and Magath, showing epithelioma of the genito-urinary organs; the use of radium and roentgen ray in the treatment of carcinoma of the cervix uteri; the dispersion of bullet energy in relation to wound effects; the experimental production of stones in the kidney; the effect of the total removal of the liver.

UNITED STATES PUBLIC HEALTH SERVICE, Washington, D. C.: Directed by Dr. C. C. Pierce, assistant surgeon-general; film showing the modern diagnosis and treatment of gonorrhea and syphilis.

DR. GEORGE GOLER, Health Bureau, Rochester, N. Y.: Film showing Rochester Tonsil-Adenoid Clinic.

DR. R. B. H. GRADWOHL, Chicago: Demonstration on blood chemistry.

DR. ROBERT EMMET FARR, Minneapolis: Film showing major surgical operations performed under local anesthesia.

DR. JOSEPH D. EBY, New York: Film showing complete operation relating to epidermic inlay.

DR. ISRAEL BRAM, Philadelphia: Lantern slides and demonstration of goiter and patients.

DR. FRED H. ALBEE, New York: Film showing bone operations.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

PROGRAM OF THE OPENING MEETING

Tuesday, June 7—8: 30 p. m.

Music.

Call to Order by the President, WILLIAM C. BRAISTED, Washington, D. C.

Invocation. REV. GEORGE A. GORDON, D.D., Boston.

Announcements. FRED B. LUND, Chairman of the Local Committee of Arrangements.

Address of Welcome. HON. CHANNING H. COX, Governor of Massachusetts.

Address of Welcome. HON. ANDREW J. PETERS, Mayor of Boston.

Music.

Introduction and Installation of President-Elect HUBERT WORK, Pueblo, Colo.

Address. HUBERT WORK.

Music.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program, nor is the list complete. The Official Program will be a pamphlet similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, as well as lists of committees, programs of the General Meeting, lists of entertainments, map of Boston and other information. To prevent misunderstandings and to protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN CONVENTION HALL

OFFICERS OF SECTION

Chairman—HENRY S. PLUMMER, Rochester, Minn.
Vice Chairman—G. CANBY ROBINSON, Nashville, Tenn.
Secretary—NELLIS B. FOSTER, New York.
Executive Committee—WALTER L. BIERRING, Des Moines; JAMES S. MCLESTER, Birmingham, Ala.; H. S. PLUMMER, Rochester, Minn.

(Stenographer—DR. W. W. BELLAMY, BOSTON)

Wednesday, June 8—9 a. m.

1. Tropical Sprue. DAVID BOVAIRD, New York.
2. Studies in Familial Neurosyphilis. JOSEPH E. MOORE and ALBERT KEIDEL, Baltimore.
3. Fasting as a Method for Treating Epilepsy (Lantern Demonstration). H. RAWLE GEYELIN, New York.
4. Sulphur Dioxid in the Treatment of Experimental Tuberculosis. PHILIP H. PIERSON, San Francisco.
5. The Importance of the Study of Symptoms with a Discussion of Mackenzie's Law Governing Their Causation. F. M. POTTENGER, Monrovia, Calif.
6. An Automatic Method for Serial Blood Pressure Observations in Man (Lantern Demonstration). M. A. BLANKENHORN, Cleveland.

Thursday, June 9—9 a. m.

JOINT MEETING OF SECTIONS ON PRACTICE OF MEDICINE, PHARMACOLOGY AND THERAPEUTICS AND PATHOLOGY AND PHYSIOLOGY

Meeting Place—Convention Hall

SYMPOSIUM ON BASAL METABOLISM IN CLINICAL MEDICINE

7. Address. HENRY S. PLUMMER, Rochester, Minn.
8. Fundamental Ideas Regarding Basal Metabolism. GRAHAM LUSK, New York.
9. The Measurement and Standards of Basal Metabolism (Lantern Demonstration). FRANCIS G. BENEDICT, Boston.
10. The Basal Metabolic Rates in Hyperthyroidism (Lantern Demonstration). WALTER M. BOOTHBY, Rochester, Minn.
11. The Determination of the Basal Metabolism as an Aid to Diagnosis and as a Guide to Treatment in Various Diseases (Lantern Demonstration). JAMES H. MEANS, Boston.
12. The Basal Metabolism of Fever. EUGENE F. DU BOIS, New York.

Friday, June 10—9 a. m.

Election of Officers

13. Truer Standards in the Diagnosis of Heart Failure: A Hitherto Unemphasized Form of Arrhythmia. HARRY I. WIEL, San Francisco.
14. Observations on the Heart in Diphtheria (Lantern Demonstration). S. CALVIN SMITH, Philadelphia.
15. Principles Underlying Treatment of Heart Disease by Exercise (Lantern Demonstration). THEODORE B. BARRINGER, New York.
16. Intermittent Hydrarthrosis. WALTER L. BIERRING, Des Moines.
17. The Acute Element in Chronic Nephropathies. CHARLES P. EMERSON, Indianapolis.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN JORDAN HALL

OFFICERS OF SECTION

Chairman—GEORGE P. MULLER, Philadelphia.
Vice Chairman—E. CLARENCE MOORE, Los Angeles.
Secretary—URBAN MAES, New Orleans.
Executive Committee—JOHN T. BOTTOMLEY, Boston; DEAN D. LEWIS, Chicago; GEORGE P. MULLER, Philadelphia.

(Stenographer—MRS. M. C. REPP, Philadelphia)

Wednesday, June 9—2 p. m.

1. The Treatment of Arteriovenous Aneurysm. JOHN F. CONNORS, New York.
2. Notes on Suturing Blood Vessels, with Report of a Sutured Brachial Artery. J. SHELTON HORSLEY, Richmond, Va.

   Discussion of papers 1 and 2 to be opened by RUDOLPH MATAS, New Orleans, and JOHN H. GIBBON, Philadelphia.
3. Possible Differentiation of Cases for Whole Blood Transfusion and Citrated Blood Transfusion. BERTRAM M. BERNHEIM, Baltimore.

   Discussion to be opened by GEORGE W. CRILE, Cleveland, and BETH VINCENT, Boston.
4. Tidal Irrigation of Wounds by Means of Liquid Tight Closure with Special Reference to the Treatment of Empyema of the Thorax. WALTER H. TAYLOR and NORMAN B. TAYLOR, Toronto.
5. Some of the Effects of Solutions on Wounds and Their Practical Applications. WALTER GRIESS, Cincinnati.

   Discussion of papers 4 and 5 to be opened by EVARTS GRAHAM, St. Louis.
6. The Value to the Surgeon of the Basal Metabolic Rate in Toxic Goiter. J. EARL ELSE, Portland, Ore.

   Discussion to be opened by FRANK H. LAHEY, Boston, and EMIL GOETSCH, Brooklyn.
7. Observations On and Indications For the Treatment of Cranial Injuries. W. J. CASSIDY, Detroit.

   Discussion to be opened by ERNEST SACHS, St. Louis, and WILLIAM SHARP, New York.
8. Acute Postoperative Dilatation of the Stomach. EMIL NOVAK, Baltimore.

   Discussion to be opened by MALVERN B. CLOPTON, St. Louis, and ALBERT E. HALSTEAD, Chicago.

Thursday, June 9—2 p. m.

9. Chairman's Address. GEORGE P. MULLER, Philadelphia.
10. High Jejunostomy as a Prevention of Postoperative, and in the Treatment of Acute Ileus. ARTEMAS I. MACKINNON, Lincoln, Neb.

    Discussion to be opened by DONALD MACRAE, JR., Council Bluffs, Ia., and JOHN A. HARTWELL, New York.
11. Prepancreatic and Peripancreatic Disease. JOHN B. DEAVER, Philadelphia.

12. The Relation of the Liver and Pancreas to Gallbladder Infections, E. STARR JUDD, Rochester, Minn.
Discussion of papers 11 and 12 to be opened by ALBERT J. OCHSNER, Chicago, and WILLARD BARTLETT, St. Louis.
13. Mesenteric Vascular Occlusion.
ROSS G. LOOP, Elmira, N. Y.
Discussion to be opened by MARTIN B. TINKER, Ithaca, N. Y.; GEORGE M. SHEAHAN, Quincy, Mass., and GEORGE G. ROSS, Philadelphia.
14. Diverticula of the Duodenum.
E. WYLLYS ANDREWS, Chicago.
Discussion to be opened by E. CLARENCE MOORE, Los Angeles, and HARRY P. RITCHIE, St. Paul.
15. Carcinoma Developing on Gastric Ulcer.
CHARLES H. MAYO, Rochester, Minn.
Discussion to be opened by JOHN M. T. FINNEY, Baltimore.
16. Gastrojejunal Ulcers. RICHARD LEWISOHN, New York.
Discussion to be opened by EUGENE H. POOL, New York.

Friday, June 10—2 p. m.

Election of Officers

17. Intussusception. EDWARD W. PETERSON, New York.
Discussion to be opened by CHARLES GORDON HEYD, New York, and JAMES S. STONE, Boston.
18. The Surgery of the Trigeminal Nerve.
CHARLES H. FRAZIER, Philadelphia.
Discussion to be opened by CHARLES A. ELSBERG, New York, and GILBERT HORRAX, Boston.
19. The Omission of Drainage Following Cholecystectomy.
JACOB R. BUCHBINDER, Chicago.
Discussion to be opened by JOHN L. YATES, Milwaukee, and JOHN T. BOTTOMLEY, Boston.
20. Nose Plastics. VILRAY PAPIN BLAIR, St. Louis.
Discussion to be opened by FERRIS N. SMITH, Grand Rapids, Mich.; WILLIS D. GATCH, Indianapolis, and ROBERT H. IVY, Philadelphia.
21. Certain Conservative Considerations in the Treatment of Cervical Lymphatic Metastases of Epidermoid Carcinoma. DOUGLAS QUICK, New York.
Discussion to be opened by GORDON NEW, Rochester, Minn., and HENRY K. PANCOAST, Philadelphia.
22. Bone Atrophy. An Experimental and Clinical Study.
NATHANIEL ALLISON and BARNEY BROOKS, St. Louis.
Discussion to be opened by CLARENCE A. MCWILLIAMS, New York, and DALLAS B. PHEMISTER, Chicago.
23. Incidence of Cancer in the Remaining Breast After Radical Operation on One Breast.
ALSON R. KILGORE, San Francisco.
Discussion to be opened by JOSEPH C. BLOODGOOD, Baltimore, and ROBERT B. GREENOUGH, Boston.
24. Tumors of the Pancreas.
CHARLES D. LOCKWOOD, Pasadena, Calif.
Discussion to be opened by JOHN J. GILBRIDE, Philadelphia.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN JORDAN HALL

OFFICERS OF SECTION

Chairman—JOHN O. POLAK, Brooklyn.
Vice Chairman—LUCIUS E. BURCH, Nashville, Tenn.
Secretary—SIDNEY A. CHALFANT, Pittsburgh.
Executive Committee—THOMAS J. WATKINS, Chicago; REUBEN PETERSON, Ann Arbor, Mich.; JOHN O. POLAK, Brooklyn.
(Stenographer—DR. ANNA C. LANDMAN, Chicago)

Wednesday, June 8—9 a. m.

1. The Treatment of Cancer of the Uterus (Lantern Demonstration). HENRY SCHMITZ, Chicago.
2. Ultimate Results of Radium Treatment in Three Hundred Cases of Cancer of the Uterus (Lantern Demonstration).
JOHN G. CLARK and FLOYD E. KEENE, Philadelphia.
3. Radium Treatment of Cancer of the Uterus (Lantern Demonstration). REX DUNCAN, Los Angeles.
Discussion to be opened by WILLIAM P. GRAVES, Boston, and CURTIS F. BURMAN, Baltimore.
4. The Relation of the Spleen to the Anemias.
WILLIAM J. MAYO, Rochester, Minn.
Discussion to be opened by WILLIAM D. HAGGARD, Nashville, Tenn., and ALBERT J. OCHSNER, Chicago.
5. In What Cases Do Uterine Fibroids Still Require Operative Removal? FREDERICK J. TAUSSIG, St. Louis.
Discussion to be opened by GEORGE G. WARD, JR., New York.
6. The Right of Patients to Diagnosis, Directions and Operative Findings in Writing.
ROBERT L. DICKINSON, New York.
Discussion to be opened by FRANK H. LAHEY, Boston.
7. Treatment of Infected Wounds (Lantern Demonstration).
THOMAS J. WATKINS, Chicago.
Discussion to be opened by RICHARD R. SMITH, Grand Rapids, Mich.
8. Similarity of the Demands of Local Anesthesia and the Patient's Best Interests (Lantern Demonstration).
ROBERT E. FARR, Minneapolis.

Thursday, June 9—9 a. m.

9. Chairman's Address: Our Defects in Obstetric Teaching.
JOHN OSBORN POLAN, Brooklyn.
10. The Treatment of Lesions in the Pelvic Genital Organs Associated with Chronic Infections (Lantern Demonstration). W. BLAIR BELL, Liverpool, England.
Discussion to be opened by WALTER W. CHIPMAN, Montreal, Canada.
11. Defective Diet as a Cause of Sterility—A Study Based on Feeding Experiments with Rats.
EDWARD REYNOLDS and DONALD MACOMBER, Boston.
12. Cholecystogastrostomy and the Courvoisier Gallbladder.
CHAS. G. HEYD, New York.
Discussion to be opened by JOHN B. DEAVER, Philadelphia.
13. Blood Pressure Changes During Abdominal Operations.
ALEXIUS MCGLANNAN, Baltimore.
Discussion to be opened by BERTRAM M. BERNHEIM, Baltimore.
14. Review of One Hundred Cases of Women with Pelvic Tuberculosis with Special Reference to the End Results of Operative Treatment.
REUBEN PETERSON, Ann Arbor, Mich.
Discussion to be opened by C. JEFF MILLER, New Orleans.
15. The Relation Between the Thyroid Gland and the Female Genital Organs: Specifically the Ovaries.
ADDISON G. BRENIZER, Charlotte, N. C.
Discussion to be opened by EDWARD S. JUDD, Rochester, Minn.
16. The Use of the Sigmoid Flexure and Cecum in Pelvic Peritonization. CAREY CULBERTSON, Chicago.
Discussion to be opened by CARL B. DAVIS, Chicago.

Friday, June 10—9 a. m.

Election of officers

17. End Results of Pernatal Care.
ALFRED C. BECK, Brooklyn.
Discussion to be opened by IRA L. HILL, New York.
18. Observations on the Differential Diagnosis of Extra-Uterine Pregnancy with a Special Reference to Ovarian and Tubal Hemorrhage Not Associated with Pregnancy.
EDWARD A. SCHUMANN, Philadelphia.
Discussion to be opened by J. WESLEY BOVÉE, Washington, D. C.
19. Treatment of the Early and Late Toxemia of Pregnancy.
EDWARD P. DAVIS, Philadelphia.
Discussion to be opened by GEORGE W. KOSMAK, New York.
20. Transperitoneal Cesarean Section. Copeland Technic.
GORDON G. COPELAND, Toronto, Canada.
Discussion to be opened by WILBER WARD, New York.
21. The Problem of Intracranial Hemorrhage of the New-Born from the Standpoint of the Obstetrician.
HUGO EHRENFEST, St. Louis.
Discussion to be opened by ISAAC A. ABT, Chicago.
22. Pregnancy After Nephrectomy (Lantern Demonstration).
HARVEY B. MATTHEWS, Brooklyn.
Discussion to be opened by HENRY D. FURNISS, New York.
23. Puerperal Breast Infections.
FRANKLIN A. DORMAN, New York.
Discussion to be opened by HOWARD T. SWAIN, Boston.
24. Puerperal Anemia. WALTER W. MANTON, Detroit.
Discussion to be opened by FRANKLIN S. NEWELL, Boston.

SECTION ON OPHTHALMOLOGY

MEETS IN HUNTINGTON HALL

OFFICERS OF SECTION

Chairman—JAMES BORDLEY, JR., Baltimore.
Vice Chairman—MARCUS FEINGOLD, New Orleans.
Secretary—GEORGE S. DERBY, Boston.
Executive Committee—CASSIUS D. WESTCOTT, Chicago; ALLEN GREENWOOD, Boston; JAMES BORDLEY, JR., Baltimore.
(Stenographer—Miss F. E. DILLON, Indianapolis)

Wednesday, June 8—2 p. m.

1. Chairman's Address. JAMES BORDLEY, JR., Baltimore.

SYMPOSIUM ON FOCAL INFECTION

2. The Ophthalmologist an Important Factor in Accurate Diagnosis. WILLIAM S. THAYER, Baltimore.
3. Focal Infection in Its Relation to Diseases of the Eye. FRANK BILLINGS, Chicago.
4. The Paranasal (Accessory) Sinuses in Relation to the Optic Nerve and the Optic Commissure (Lantern Demonstration; Motion Picture Demonstration given in Scientific Exhibit Hall). J. PARSONS SCHAEFFER, Philadelphia.
5. Diseased Teeth as Foci of Infection (Lantern Demonstration). LUCIEN BRUN, Baltimore.
   Discussion to be opened by GEORGE E. DE SCHWEINITZ, Philadelphia; WILLIAM H. WILMER, Washington, D. C.; EDWARD V. L. BROWN, Chicago; LUTHER PETER, Philadelphia.
6. The Position of the Eyeball in the Orbit. EDWARD JACKSON, Denver.
   Discussion to be opened by LUCIEN HOWE, Buffalo.
7. Complete Discission of the Lens by the V-Shaped Method. (Five minutes). S. LEWIS ZIEGLER, Philadelphia.
8. Squint: When Shall We Operate? AARON S. GREEN and LOUIS D. GREEN, San Francisco.
   Discussion to be opened by ALEXANDER DUANE, New York.

Thursday, June 9—2 p. m.

DEMONSTRATION SESSION. EXHIBITION OF NEW INSTRUMENTS AND APPLIANCES

9. Observation on Night Blindness. LIEUT.-COL. HENRY SMITH, C.I.E., I.M.S., London.
10. Immune Reactions Following Injuries to the Uveal Tract. ALAN C. WOODS, Baltimore.
    Discussion to be opened by JAMES G. DWYER, New York.
11. Myasthenia Gravis: Report of Three Cases. WILLIAM CAMPBELL POSEY, Philadelphia.
    Discussion to be opened by E. WYLLYS TAYLOR, Boston.
12. Primary Intraneural Tumors (Gliomas) of the Optic Nerve (Motion Picture Demonstration given in Scientific Exhibit Hall). FREDERICK H. VERHOEFF, Boston.
    Discussion to be opened by MARCUS FEINGOLD, New Orleans.
13. The Correction of Cicatricial Ectropion by the Use of True Skin of the Upper Lid. JOHN M. WHEELER, New York.
    Discussion to be opened by WALTER B. LANCASTER, Boston.
14. Plastic Repair of the Eyelids by Pedunculated Skin Grafts (Lantern Demonstration). GEORGE H. CROSS, Chester, Pa.
    Discussion to be opened by VILRAY P. BLAIR, St. Louis.
15. Quantitative Determination of Aqueous Humor Absorption of Cocain and Atropin. LAWRENCE POST, St. Louis.
    Discussion to be opened by WILLIAM F. HARDY, St. Louis.

Friday, June 10—2 p. m.

Election of Officers
Reports of Committees

16. Senile Cataract Extraction. WALTER R. PARKER, Detroit.
    Discussion to be opened by EDWARD C. ELLETT, Memphis, Tenn.
17. The Prevention of Postoperative Intra-Ocular Infections. GEORGE H. BELL, New York.
    Discussion to be opened by WALTER E. LAMBERT, New York.
18. Agricultural Conjunctivitis. JAMES M. PATTON and SANFORD R. GIFFORD, Omaha.
    Discussion to be opened by EDWIN N. ROBERTSON, Concordia, Kan.
19. The Relation of the Blind Spot to Medullated Nerve Fibers in the Retina. HARRY S. GRADLE, Chicago.
    Discussion to be opened by WILLIAM ZENTMAYER, Philadelphia.
20. The Repair of Scleral Wounds Including Scleral Rupture, Near the Limbus (Five minutes). LEE MASTEN FRANCIS, Buffalo.
21. An Operation for the Relief of Anterior Staphyloma, Partial or Complete (Five minutes). ARTHUR S. TENNER, New York.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN HUNTINGTON HALL

OFFICERS OF SECTION

Chairman—Ross H. SKILLERN, Philadelphia.
Vice Chairman—RICHMOND MCKINNEY, Memphis, Tenn.
Secretary—WILLIAM B. CHAMBERLIN, Cleveland.
Executive Committee—LEE WALLACE DEAN, Iowa City; JOSEPH BECK, Chicago; Ross H. SKILLERN, Philadelphia.
(Stenographer—Miss F. E. DILLAN, Indianapolis)

Wednesday, June 8—9 a. m.

1. Chairman's Address. Ross HALL SKILLERN, Philadelphia.
2. Retrobulbar Neuritis, Secondary to Diseases of the Nasal Sinuses. H. H. STARK, El Paso, Texas.
   Discussion to be opened by JAMES BORDLEY, JR., Baltimore, and EDWARD C. ELLET, Memphis, Tenn.
3. Pulmonary Abscess in Adults Following Tonsillectomy Under General Anesthesia. LEWIS FISHER and A. J. COHEN, Philadelphia.
   Discussion to be opened by SYDNEY YANKAUER, New York.
4. The Borderland of Rhinology, Neurology and Ophthalmology. GREENFIELD SLUDER, St. Louis.
   Discussion to be opened by CHARLES H. FRAZIER, Philadelphia.
5. Causes of Failure in the Frontal Sinus Operation. THOMAS J. HARRIS, New York.
   Discussion to be opened by JOSEPH A. STUCKY, Lexington, Ky.
6. Scopolamin and Morphin as an Advantageous Preliminary to Local Anesthesia. LEE M. HURD, New York.
   Discussion to be opened by WILLIAM L. GATEWOOD, New York.
7. The Ear and Sinus Complications of Influenza. WALTER E. BROWN, Pittsburgh.
   Discussion to be opened by CHARLES F. ADAMS, Trenton, N. J.

Thursday, June 9—9 a. m.

8. Intranasal Reconstruction (Lantern Demonstration). JOHN A. PRATT and FREDERICK J. PRATT, Minneapolis.
   Discussion to be opened by EDWIN MCGINNIS, Chicago.
9. Removal of a Vocal Cord for the Prevention of Asphyxiation from Permanent Abductor Paralysis. CHARLES H. BAKER, Bay City, Mich.
   Discussion to be opened by GEORGE L. RICHARDS, Fall River, Mass.
10. Endoscopic Removal of Sand Burrs from the Larynx and Tracheobronchial Tree. H. MARSHALL TAYLOR, Jacksonville, Fla.
    Discussion to be opened by RICHMOND MCKINNEY, Memphis, Tenn.
11. Prognosis of Foreign Bodies in the Lung. CHEVALIER JACKSON, Philadelphia.
    Discussion to be opened by LEE WALLACE DEAN, Iowa City.
12. Bronchoscopic Studies of Pulmonary Abscess. HENRY L. LYNAH, New York.
    Discussion to be opened by WILLIAM H. STEWART, New York.
13. The Endobronchial Treatment of Bronchial Asthma and Asthmatic Bronchitis. MARK J. GOTTLIEB, New York.
    Discussion to be opened by WOLFF FREUDENTHAL, New York.

Friday, June 10—9 a. m.

Election of Officers

EXHIBITION OF NEW INSTRUMENTS AND APPLIANCES

Report of Committees

14. Acute Retropharyngeal Abscess.
IRA FRANK, Chicago.
Discussion to be opened by HARRY GRADLE, Chicago.
15. Mieroscopical Proof of Malignant Disease of the Head and Neck, Treated by Combination of Surgery and Radium. JOSEPH C. BECK, Chicago.
Discussion to be opened by GORDON B. NEW, Rochester, Minn.
16. A Case of Cerebellar Abscess with Very Unusual Features. Operation. Recovery. JOHN McCOY, New York.
Discussion to be opened by MARCUS NEUSTAEDTER, New York.
17. The Problem of the Hard of Hearing and Electrical Hearing Devices. GEORGE E. SHAMBAUGH, Chicago.
18. Needed Measures for the Prevention of Deafness During Early Life. HAROLD HAYS, New York.
Discussion on papers 17, 18 and 19 to be opened by B. ALEXANDER RANDALL, Philadelphia; WENDELL C. PHILLIPS, New York, and MAX A. GOLDSTEIN, St. Louis.
19. Social Alleviations of Adventitious Deafness.
ANNETTE W. PECK, New York.

SECTION ON DISEASES OF CHILDREN

MEETS IN CONVENTION HALL

OFFICERS OF SECTION

Chairman—FRANK C. NEFF, Kansas City, Mo.
Vice Chairman—WILLIAM WESTON, Columbia, S. C.
Secretary—E. C. FLEISCHNER, San Francisco.
Executive Committee—FRANKLIN P. GENGENBACH, Denver; FRITZ B. TALBOT, Boston; FRANK C. NEFF, Kansas City, Mo.
(Stenographer—DR. W. W. BELLAMY, Boston)

Wednesday, June 8—2 p. m.

1. Chairman's Address: The Section on Diseases of Children. FRANK C. NEFF, Kansas City, Mo.
2. The Physiology of the Blood in Infancy and Childhood.
WILLIAM PALMER LUCAS, San Francisco.
3. Relation of Posture to the Health of the Child.
FRANK D. DICKSON, Kansas City, Mo.
4. The Rôle of Fatigue in Malnutrition of Children.
BORDEN S. VEEDER, St. Louis.
5. Heart Disease in Children of School Age.
ROBERT H. HALSEY, New York.
6. The Treatment of Furunculosis in Infants.
CLIFFORD G. GRULEE and CASSIE BELLE ROSE, Chicago.
7. The Beneficial Effects of Tonsillectomy upon Cyclic Vomiting and Allied Affections.
ALBERT H. BYFIELD, Iowa City.

Thursday, June 9—2 p. m.

SYMPOSIUM ON THE COMMUNICABLE DISEASES

8. Diagnosis and Transmission of Infectious Diseases.
D. L. RICHARDSON, Providence, R. I.
9. Certain Aspects of Postdiphtheritic Diaphragmatic Paralysis.
HAROLD R. MIXSELL and EMANUEL GIDDINGS, New York.
10. Studies on Diphtheria.
JOHN HOWLAND and HUGH JOSEPHS, Baltimore.
11. Experimental Measles. FRANCIS G. BLAKE, New York.
12. Preventive Diphtheria Work in the Public Schools of New York City. ABRAHAM ZINGHER, New York.
13. Experience with More Than a Hundred Cases of Epidemic Encephalitis in Children.
JOSEPHINE B. NEAL, New York.
14. Paralysis in Children Due to the Bite of Wood-Ticks.
P. D. McCORNACK, Spokane, Wash.

Friday, June 10—2 p. m.

Election of Officers

15. Visualizing the Child's Physical Condition: A Method Especially Adapted to Preventive Work.
C. E. CARTER, Los Angeles.
16. The Food Requirements of the New-Born Infant.
H. K. FABER, San Francisco.
17. The Breast and the Nursing Child.
FRANK H. RICHARDSON, Brooklyn.
18. Some Neglected Practical Points in the Technic of Infant Feeding. JOSEPH S. BRENNEMANN, Chicago.
19. Diet as a Factor in the Etiology of Adenoids.
FRANK VAN DER BOGART, Schenectady, N. Y.
20. Regional Sensitivity of the Skin of Normal Infants.
L. W. SAUER, Evanston, Ill.
21. The Clinical Diagnosis of Heredosyphilis.
HENRY F. STOLL, Hartford, Conn.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN HARVARD MEDICAL SCHOOL

OFFICERS OF SECTION

Chairman—LEONARD G. ROWNTREE, Rochester, Minn.
Vice Chairman—CARL VOEGTLIN, Washington, D. C.
Secretary—CARY EGGLESTON, New York.
Executive Committee—WALTER A. BASTEDO, New York; GEORGE W. McCOY, Washington, D. C.; LEONARD G. ROWNTREE, Rochester, Minn.
(Stenographer—DR. ANNA C. LANDMAN, Chicago)

Wednesday, June 8—2 p. m.

1. Chairman's Address.
LEONARD G. ROWNTREE, Rochester, Minn.
2. The Value of Drugs in Internal Medicine.
LEWELLYS F. BARKER, Baltimore.
Discussion to be opened by HENRY A. CHRISTIAN and FRANCIS H. McCRUDDEN, Boston.
3. The Value of Drugs in Surgery.
GEORGE W. CRILE, Cleveland.
Discussion to be opened by JOHN A. HARTWELL, New York.
4. The Value of Drugs in Pediatrics.
HENRY F. HELMHOLZ, Rochester, Minn.
Discussion to be opened by F. PAUL GENGENBACH, Denver, and Richard M. Smith, Boston.
5. The Value of Drugs in Ophthalmology.
WILLIAM H. WILMER, Washington, D. C.
Discussion to be opened by ROBERT G. REESE, New York.
6. The Value of Drugs in Urology.
HUGH H. YOUNG, Baltimore.
7. The Value of Drugs in Neurology.
C. MACFIE CAMPBELL, Boston.
Discussion to be opened by FOSTER KENNEDY, New York.

Thursday, June 9—9 a. m.

JOINT MEETING OF SECTIONS ON PRACTICE OF MEDICINE, PHARMACOLOGY AND THERAPEUTICS AND PATHOLOGY AND PHYSIOLOGY

Meeting Place—Convention Hall

SYMPOSIUM ON BASAL METABOLISM IN CLINICAL MEDICINE

For program, see page 1454.

Friday, June 10—2 p. m.

Election of Officers.

14. Flatulence in the Decompensation of Cardiac Disease: Etiology and Treatment.
THOMAS F. REILLY, New York.
Discussion to be opened by FRANK SMITHIES, Chicago.
15. The Effect to Digitalis on the Response of the Cardiac Pacemaker (Lantern Demonstration).
BENJAMIN H. SCHLOMOVITZ, Milwaukee.
16. Drugs of the Digitalis Group with Special Reference to the Action of Apocynum and Convallaria.
PAUL D. WHITE, Boston.
Discussion to be opened by ROBERT A. HATCHER, New York; JOSEPH H. PRATT, Boston, and CARY EGGLESTON, New York.
17. A Study of Local Anesthetics in Relation to Genito-Urinary Organs. DAVID I. MACHT, Baltimore.

18. The Treatment of Carbon Monoxid Poisoning.
YANDELL HENDERSON and HOWARD W. HAGGARD, New Haven, Conn.
Discussion to be opened by ROYD R. SAYERS, Washington, D. C.
19. The Prevention of Simple Goiter in Man.
DAVID MARINE, New York, and OLIVER P. KIMBALL, Youngstown, Ohio.
Discussion to be opened by MILTON J. ROSENAU, Boston.
20. The Treatment of Bronchial Asthma.
ROBERT A. COOKE, New York.
Discussion to be opened by I. CHANDLER WALKER, Boston.
21. The Chemical Studies in the Treatment of Arthritis (Lantern Demonstration).
ARTHUR F. CHACE, Boston, VICTOR C. MYERS and J. A. KILLIAN, New York.
Discussion to be opened by RALPH PEMBERTON, Philadelphia.
22. Therapeutic Value of Chaulmoogra Oil and Derivatives in Experimental Tuberculosis.
CARL VOEGTLIN, M. I. SMITH and JAMES M. JOHNSON, Washington, D. C.
Discussion to be opened by PHILIP KING BROWN and E. L. WALKER, San Francisco.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN HARVARD MEDICAL SCHOOL

OFFICERS OF SECTION

Chairman—EDWIN R. LE COUNT, Chicago.
Vice Chairman—WILLIAM S. CARTER, Galveston, Tex.
Secretary—JOSIAH J. MOORE, Chicago.
Executive Committee—JAMES EWING, New York; LOUIS B. WILSON, Rochester, Minn.; FRANCIS CARTER WOOD, New York; HOWARD T. KARSNER, Cleveland; EDWIN R. LE COUNT, Chicago.

(Stenographer—MRS. M. C. REPP, Philadelphia)

Wednesday, June 8—9 a. m.

1. Chairman's Address. EDWIN R. LE COUNT, Chicago.
2. The Action of Radium and Roentgen Rays on Normal and Diseased Lymphoid Tissue.
ISAAC LEVIN, New York.
3. Organ Stimulation by Roentgen Rays.
WILLIAM F. PETERSEN and CLARENCE SAELHOF, Chicago.
4. The Influence of Light on Uranium Poisoning.
HOWARD T. KARSNER and T. SHEN, Cleveland.
5. The Removal of the Liver.
FRANK C. MANN and THOMAS B. MAGATH, Rochester, Minn.
6. Intestinal and Hepatic Reactions in Anaphylaxis.
W. H. MANWARING, Stanford University, Calif.
7. Hypersensitiveness in Pulmonary Tuberculosis to Both Exotoxins and Endotoxins of the Tubercle Bacillus.
MYER SOLIS COHEN, Philadelphia.
8. Standardization of the Wassermann Reaction.
JOHN A. KOLMER, Philadelphia.

Thursday, June 9—9 a. m.

JOINT MEETING OF SECTIONS ON PRACTICE OF MEDICINE, PHARMACOLOGY AND THERAPEUTICS AND PATHOLOGY AND PHYSIOLOGY

Meeting Place—Convention Hall

SYMPOSIUM ON BASAL METABOLISM IN CLINICAL MEDICINE

For program see page 1454.

Friday, June 10—9 a. m.

Election of Officers

15. Reticulosis (Increased Percentage of Reticulated Erythrocytes in the Peripheral Blood).
EDWARD B. KRUMBHAAR, Philadelphia.
16. Minimal Renal Lesions Associated with Hypertension.
ELI MOSCHCOWITZ, New York.
17. Symptoms Referable to the Etiologic Pathology in Diabetes.
FREDERICK M. ALLEN and JAMES W. SHERRILL, Morristown, N. J.
18. A Statistical Study of 321 Aneurysms.
BALDWIN LUCKE and MARION H. REA, Philadelphia.
19. Granuloma Inguinale.
KENNETH M. LYNCH, Charleston, S. C.
20. Spirochetal Pulmonary Gangrene.
B. S. KLINE, New York.
21. Comparative Results of the Ligation of the Hepatic Artery in Animals: Its Application to Man.
MOSES BEHREND and AMMON G. KERSHNER, Philadelphia.
22. Epithelioma of the Genito-Urinary Organs.
ALBERT C. BRODERS, Rochester, Minn.

SECTION ON STOMATOLOGY

MEETS IN RECEPTION HALL, MECHANICS BUILDING

OFFICERS OF SECTION

Chairman—HENRY S. DUNNING, New York.
Vice Chairman—HERBERT A. POTTS, Chicago.
Secretary—ARTHUR D. BLACK, Chicago.
Executive Committee—EUGENE S. TALBOT, Chicago; VILRAY P. BLAIR, St. Louis; HENRY S. DUNNING, New York.

(Stenographer—MISS MARGARET I. MALONEY, Chicago)

Wednesday, June 8—9 a. m.

1. Chairman's Address. What Do We Mean by Oral Surgery? HENRY S. DUNNING, New York.
2. Is There an Educational Program in Dentistry?
CHARLES R. TURNER, Philadelphia.
3. Postgraduate Instruction in the Several Specialties.
WILLIAM C. FISHER, New York.
Discussion on papers 1, 2 and 3 to be opened by EUGENE S. TALBOT, Chicago.
4. Histopathology of the Apical Region of Teeth with Partially Filled Root Canals (Lantern Demonstration).
EDWARD H. HATTON, Chicago.
5. Further Studies on Focal Infection and Elective Localization. EDWARD C. ROSENOW, Rochester, Minn.
6. The Relation of Edentulous Jaws to Systemic Diseases (Lantern Demonstration).
CHARLES A. TEIFER, Muskegon, Mich.
Discussion on papers 4, 5 and 6 to be opened by ERNEST E. IRONS and FREDERICK B. NOYES, Chicago.

Thursday, June 9—9 a. m.

7. Dentigerous or Follicular Cyst.
RAYMOND J. WENKER, Milwaukee.
8. Etiology and Pathology of Cysts of the Upper Jaw.
GEORGE M. DORRANCE, Philadelphia.
9. Mandibular Tumors. JOSEPH A. PETTIT, Portland, Ore.
10. Central Tumors of the Lower Jaw (Lantern Demonstration). JOSEPH C. BLOODGOOD, Baltimore.
11. Report of a Case of Cephalic Chaneroid, and a Case of Bacteremia with Encephalitis (Lantern Demonstration).
HERBERT A. POTTS, Chicago.
Discussion on papers 7, 8, 9, 10 and 11 to be opened by THOMAS L. GILMER, Chicago, and ROBERT H. IVY, Philadelphia.

Friday, June 10—9 a. m.

Election of Officers

12. The Principles Involved in the Surgical Correction of Cleft-Palate and Hare-Lip.
FREDERICK B. MOOREHEAD, Chicago.
13. The Nasal Relation of Harelip Operations (Lantern Demonstration). GEORGE V. I. BROWN, Milwaukee.
Discussion on papers 12 and 13 to be opened by VILRAY P. BLAIR, St. Louis, and MORRIS I. SCHAMBERG, New York.
14. Notes on Plastic Surgery of the Lips.
V. H. KAZANJIAN, Boston.
15. The Epidermic Inlay (Motion Picture Demonstration Given in Scientific Exhibit Hall).
JOSEPH D. EBY, New York
Discussion on papers 14 and 15, to be opened by JOSEPH BECK, Chicago.
16. The Determination of the Oxygen Need in Anesthesia.
WILLIAM I. JONES, Columbus, Ohio.
17. Trigeminal Neuralgia. S. L. SILVERMAN, Atlanta, Ga.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN PAUL REVERE HALL

OFFICERS OF SECTION

Chairman—ARTHUR S. HAMILTON, Minneapolis.
Vice Chairman—WALTER TIMME, New York.
Secretary—CHARLES W. HITCHCOCK, Detroit.
Executive Committee—CHARLES EUGENE RIGGS, St. Paul; ARCHIBALD CHURCH, Chicago; ARTHUR S. HAMILTON, Minneapolis.
(Stenographer—MISS EDITH B. PHELPS, New York)

Wednesday, June 8—9 a. m.

1. Chairman's Address: Postgraduate Training in Neuropsychiatry. ARTHUR S. HAMILTON, Minneapolis.
2. Incipient Epilepsy, Its Diagnosis and Treatment. EDWARD A. TRACY, Boston.
3. The Use of Experimental Psychology in the Practice of Medicine. EDMUND JACOBSON, Chicago.
4. Some Personal Experiences with Cases of Myasthenia Gravis. ISADOR H. CORIAT, Boston.
5. The Psychic Factor in Exophthalmic Goiter (Motion Picture Demonstration Given in Scientific Exhibit Hall). ISRAEL BRAM, Philadelphia.
6. Report of a Case of Family Periodic Paralysis. MARCUS NEUSTAEDTER, New York.

Thursday, June 9—9 a. m.

7. Clinical Types of Congenital Neurosyphilis (Lantern Demonstration). KARL A. MENNINGER, Topeka, Kan.
8. Calcification of the Cerebral Vessels Producing Clinical Syndrome Mistaken for Brain Tumor (Lantern Demonstration). PETER BASSOE and GEORGE B. HASSIN, Chicago.
9. An Address on Neurology. RICHARD ROWS, London.
10. Medical Significance of the Disorders of Speech. SMILEY BLANTON, Madison, Wis.
11. Psychotherapy. CHARLES R. BALL, St. Paul.
12. Subjective Signs in Diagnosis. TOM A. WILLIAMS, Washington, D. C.
13. Psychiatry as a Dynamic Social Factor. FRANKWOOD E. WILLIAMS, New York.

Friday, June 10—9 a. m.

Election of Officers

14. War Neuroses and Allied Conditions Manifest in Ex-Service Men as Observed in U. S. P. H. S. Hospitals for Psychoneurotics. GEORGE H. BENTON, Waukesha, Wis.
15. The Sequelae of Encephalitis Lethargica. EDWARD LIVINGSTON HUNT, New York.
16. An Address on Neurology. PIERRE JANET, Paris.
17. Developments in the Treatment of Syphilis of the Central Nervous System. ISRAEL STRAUSS and DAVID J. KALISKI, New York.
18. The Static System and Its Relations to Symptomatology. J. RAMSAY HUNT, New York.
19. Quantitative Estimation of Cerebrospinal Fluid Proteid. JAMES B. AYER and HAROLD E. FOSTER, Boston.
20. Tumors of Gasserian Ganglion, Report of Cases. WALTER D. SHELDEN, Rochester, Minn.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN TALBOT HALL

OFFICERS OF SECTION

Chairman—WALTER J. HIGHMAN, New York.
Vice Chairman—EVERETT S. LAIN, Oklahoma City.
Secretary—HAROLD N. COLE, Cleveland.
Executive Committee—OTTO H. FOERSTER, Milwaukee; OLIVER S. ORMSBY, Chicago; WALTER J. HIGHMAN, New York.
(Stenographer—MRS. IRENE H. SNYDER, CHICAGO)

Wednesday, June 8—2 p. m.

1. Chairman's Address: Syphilis as a Rural Problem. WALTER J. HIGHMAN, New York.

SYMPOSIUM ON SYPHILIS

2. Sarcoid and Syphilis (Lantern Demonstration). ARTHUR WILLIAM STILLIANS, Chicago.
3. Clinical Manifestation of Disease as an Index to the Defensive Reaction of Animals Infected with Spirochaeta Pallida (Lantern Demonstration). WADE H. BROWN and LOUISE PEARCE, New York.
4. Three Hundred Cases of Syphilis After Five Years. HARRY G. IRVINE, Minneapolis.
5. Lesions of the Suprarenals in Latent Syphilis (Lantern Demonstration). ALDRED S. WARTHIN, Ann Arbor, Mich.
6. The Visceral Changes in Congenital Syphilis (Lantern Demonstration). J. FRANK FRASER, New York.
7. An Analysis of 1,000 Cases of Syphilis in Which Lumbar Puncture Was Performed. JOHN A. FORDYCE, ISADORE ROSEN and ELIZABETH C. JAGLE, New York.
8. Neurosyphilis with Particular Reference to Cases Having Negative Spinal Fluid—The Question of Spontaneous Cure or Abortion of Neurosyphilis. HARRY C. SOLOMON, Boston, and JOSEPH V. KLAUDER, Philadelphia.
9. A Study of Silver Arsphenamin in the Treatment of Syphilis, Based on 3,000 Injections. MIHRAN B. PARGUNAGIAN, New York.
   Discussion to be opened by J. FRANK SCHAMBERG, Philadelphia; UDO J. WILE, Ann Arbor, Mich., and JOHN H. STOKES, Rochester, Minn.

Thursday, June 9—2 p. m.

10. The Moulage Clinic (Exhibit in Scientific Exhibit). J. FRANK WALLIS, Washington, D. C.
11. Streptococcic Dermatoses. ERNEST DWIGHT CHIPMAN, San Francisco.
12. The Dermatologic Symptoms of Endocrine Dysfunction. PAUL E. BECHET, New York.
13. Practical Suggestions for the Treatment of Several Forms of Eczema. DAVID LIEBERTHAL, Chicago.
14. The Roentgen-Ray Treatment of Acne Vulgaris. HENRY H. HAZEN and FRANK J. EICHENLAUB, Washington, D. C.
15. A Rare Form of Suppurating and Cicatrizing Disease of the Scalp (Perifolliculitis capitis abscedens et suffodiens) (Lantern Demonstration). FRED WISE and HOWARD J. PARKHURST, New York.
16. Xanthoma Tuberosum Multiplex in Childhood with Visceral Involvement. FRANK CROZER KNOWLES and HENRY M. FISHER, Philadelphia.
17. The Toxin Treatment of Dermatitis Venenata. ALBERT STRICKLER, Philadelphia.

Friday, June 10—2 p. m.

Election of Officers

SYMPOSIUM ON MALIGNANCIES

18. The Therapeutic Aspect of Radiation in Superficial Malignancies (Lantern Demonstration). ALBERT SOILAND, Los Angeles.
19. A Clinical Study of Carcinoma of the Nose. RICHARD L. SUTTON, Kansas City, Mo.
20. Primary Sarcoma of the Lip (Lantern Demonstration). SAMUEL E. SWEITZER and HENRY E. MICHELSON, Minneapolis.
    Discussion to be opened by MARTIN ENGMAN, St. Louis.

SYMPOSIUM ON DERMATOPHYTES

21. Epidermophytosis. CHARLES J. WHITE and ARTHUR M. GREENWOOD, Boston.
22. Studies on the Culture of Cutaneous Fungi. FRED D. WEIDMAN and THOMAS M. MCMILLAN, Philadelphia.
23. Treatment of Ringworm of the Scalp and Beard with Special Reference to Roentgen Ray. HOWARD FOX and THOMAS B. H. ANDERSON, New York.
    Discussion to be opened by JAMES H. MITCHELL, Chicago, and GEORGE M. MCKEE, New York.
24. Porokeratosis, with Report of a Case. CARROLL S. WRIGHT, Ann Arbor, Mich.
    Discussion to be opened by GROVER WENDE, Buffalo.
25. Biochemical Studies in the Diseases of the Skin: II. Acne Vulgaris. OSCAR L. LEVIN and MAX KAHN, New York.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

MEETS IN HARVARD MEDICAL SCHOOL

OFFICERS OF SECTION

Chairman—JOHN D. MCLEAN, Philadelphia.
Vice Chairman—CLARENCE D. SELBY, Toledo, Ohio.
Secretary—WALLER S. LEATHERS, University, Miss.
Executive Committee—CLARENCE ST. CLAIR DRAKE, Springfield, Ill.; JAMES A. HAYNE, Columbia, S. C.; JOHN D. MCLEAN, Philadelphia.

(Stenographer—MR. H. A. EDGECOMB, BOSTON)

Wednesday, June 8—9 a. m.

1. Chairman's Address. JOHN D. MCLEAN, Philadelphia.
2. The Health Work of the American Red Cross.
   LIVINGSTON FARRAND, Washington, D. C.
   Discussion to be opened by ALLEN W. FREEMAN, Columbus, Ohio; HAVEN EMERSON, New York; CHARLES J. HATFIELD, Philadelphia, and DONALD B. ARMSTRONG, Framingham, Mass.
3. Cooperation Between a Central State Laboratory and Local Municipal and County Laboratories.
   AUGUSTUS B. WADSWORTH, Albany, N. Y.
   Discussion to be opened by WILLIAM H. PARK, New York, and OLIN WEST, Nashville, Tenn.
4. Measures for Increasing the Supply of Competent Health Officers. JOHN A. FERRELL, New York.
   Discussion to be opened by MILTON ROSENAU, Boston; DAVID L. EDSALL, Boston, and WILLIAM H. WELCH, Baltimore.
5. Public Health and Private Practice.
   LESLIE L. LUMSDEN, Washington, D. C.
   Discussion to be opened by FRANK BILLINGS, Chicago, and VICTOR VAUGHAN, Ann Arbor, Mich.
6. The Relation of the Child to Hospital Social Service.
   HENRY DWIGHT CHAPIN, New York.
   Discussion to be opened by HENRY I. BOWDITCH and FRITZ B. TALBOT, Boston; WILLIAM A. EVANS, Chicago, and J. ROSS SNYDER, Birmingham, Ala.
7. Obstetric Deaths—Their Cause and Control.
   BARTON COOK HIRST, Philadelphia.
   Discussion to be opened by OSCAR DOWLING, New Orleans, and JAMES A. HAYNE, Columbia, S. C.

Thursday, June 9—9 a. m.

8. The State's Standard of Child Health.
   EDITH B. LOWRY, St. Charles, Ill.
   Discussion to be opened by RICHARD M. SMITH, Boston; SARA JOSEPHINE BAKER, New York, and MERRILL E. CHAMPION, Boston.
9. The Control of Communicable Diseases: Federal, Municipal and State.
   ALLAN J. MCLAUGHLIN, Washington, D. C.
   Discussion to be opened by ENION G. WILLIAMS, Richmond, Va., and SAMUEL J. CRUMBINE, Topeka, Kan.
10. Communicable Diseases of Childhood and Their Control.
    HUGH O. JONES, Chicago.
    Discussion to be opened by EUGENE KELLY, Boston, and ARTHUR T. MCCORMACK, Louisville, Ky.
11. Sequelae of the Communicable Diseases of Childhood.
    ISAAC A. ABT, Chicago.
    Discussion to be opened by MATTHIAS NICOLL, JR., Albany, N. Y., and JOHN DILL ROBERTSON, Chicago.
12. Morbidity Conclusions with Reference to the Diseases of Childhood. WILMER R. BATT, Harrisburg, Pa.
    Discussion to be opened by FREDERICK L. HOFFMAN, Newark, N. J., and WALTER A. PLECKER, Richmond, Va.
13. How to Arrest the Increasing Degeneracy of the Race.
    WALTER O. HENRY, Los Angeles.
    Discussion to be opened by HOWARD A. KELLY, Baltimore, and WILLIAM J. ROBINSON, New York.

Friday, June 10—9 a. m.

Election of Officers

14. Three Years of Progress in Health Organization in Ohio.
    ALLEN W. FREEMAN, Columbus, Ohio.
    Discussion to be opened by OTTO P. GEIER, Cincinnati, and ROGER G. PERKINS, Cleveland.
15. Diphtheria Control. BERNARD W. CAREY, Boston.
    Discussion to be opened by JOHN T. BLACK, Hartford, Conn., and C. ST. CLAIR DRAKE, Springfield, Ill.
16. Laryngeal Diphtheria. JOHN F. HOGAN, Baltimore.
    Discussion to be opened by SAMUEL W. WELCH, Montgomery, Ala., and CHARLES F. DALTON, Burlington, Vt.
17. Fundamental Factors in the Control of Tuberculosis with Special Reference to the Sanatorium.
    HENRY BOSWELL, Sanatorium, Miss.
    Discussion to be opened by WATSON S. RANKIN, Raleigh, N. C., and DAVID R. LYMAN, Wallingford, Conn.
18. The Relation of Unrecognized Infections to the Production of "Carriers" of Pathogenic Organisms.
    CHARLES F. CRAIG, Washington, D. C.
    Discussion to be opened by HENRY J. NICHOLS, Washington, D. C., and CHARLES C. BASS, New Orleans.
19. Medical Results of the Framingham Community Health and Tuberculosis Demonstration.
    DONALD B. ARMSTRONG and PHILIP C. BARTLETT, Framingham, Mass.
    Discussion to be opened by ROGER I. LEE and EDWARD O. OTIS, Boston.

SECTION ON UROLOGY

MEETS IN TALBOT HALL

OFFICERS OF SECTION

Chairman—RICHARD F. O'NEIL, Boston.
Vice Chairman—JOSEPH HUME, New Orleans.
Secretary—HERMAN L. KRETSCHMER, Chicago.
Executive Committee—WILLIAM F. BRAASCH, Rochester, Minn.; WILLIAM E. LOWER, Cleveland; RICHARD F. O'NEIL, Boston.

(Stenographer—MRS. IRENE H. SNYDER, CHICAGO)

Wednesday, June 8—9 a. m.

1. Urology and the General Practitioner (Lantern Demonstration). E. OTIS SMITH, Cincinnati.
   Discussion to be opened by WILLIAM C. QUINBY, Boston, and OLIVER LYONS, Denver.
2. Pneumoperitoneum as an Aid in the Roentgenologic Diagnosis of Lesions of the Urinary Tract (Lantern Demonstration). LE ROY SANTE, St. Louis.
   Discussion to be opened by WILLIAM H. STEWART, New York.
3. The Value and Reliability of Guinea-Pig Inoculations in Renal Tuberculosis.
   ABRAHAM HYMAN and LEWIS T. MANN, New York.
   Discussion to be opened by JAMES D. BARNEY, Boston.
4. Modern Methods of Diagnosis and Treatment of Pathologic Conditions of the Urinary Tract in Children (Lantern Demonstration).
   WILLIAM E. STEVENS, San Francisco.
   Discussion to be opened by HERMAN L. KRETSCHMER, Chicago.
5. Findings Outside the Urinary Tract as the Doubtful Causes of Urinary Symptoms.
   LOUIS E. SCHMIDT, Chicago.
   Discussion to be opened by ALBERT L. CHUTE, Boston, and JOHN GERAGHTY, Baltimore.
6. Factors Which Influence the Results and Mortality of Kidney Surgery (Lantern Demonstration).
   JOHN R. CAULK, St. Louis.
   Discussion to be opened by BENTLEY SQUIER, New York.
7. A Study of the Phenolsulphonephthalein Concentration in Urine After Intravenous Injection, with Special Reference to Urines Obtained by Ureter Catheter.
   EDWARD L. KEYES, JR., and HERBERT MOHAN, New York.
   Discussion to be opened by JOHN T. GERAGHTY, Baltimore.
8. The Rôle of Foci Infection in Cases of Pyelonephritis (Lantern Demonstration).
   HERMAN C. BUMPUS and J. C. MEISSER, Rochester, Minn.
   Discussion to be opened by ERNEST G. CRABTREE, Boston.
9. Lavage of the Renal Pelvis—An Experimental Study (Lantern Demonstration).
   VINCENT J. O'CONOR, Chicago.
   Discussion to be opened by WILLIAM C. QUINBY, Boston.

Thursday, June 9—9 a. m.

10. Experience with Young's Perineal Prostatectomy (Lantern Demonstration).
FRANK HINMAN, San Francisco.
Discussion to be opened by HUGH H. YOUNG, Baltimore.

11. The Clinical Expression of Internal Secretion of the Prostate in Prostatic Hypertrophy.
HOMER G. HAMER and HENRY O. MERTZ, Indianapolis.
Discussion to be opened by EDWARD L. KEYES, JR., New York, and HARRY A. FOWLER, Washington, D. C.

12. Prostatectomy in Bad Surgical Risks (Lantern Demonstration). HENRY G. BUGBEE, New York.
Discussion to be opened by HERMAN L. KRETSCHMER, Chicago.

13. Adenocarcinoma of the Bladder with Report of a Case (Lantern Demonstration).
ROBERT H. HERBST and ALVIN THOMPSON, Chicago.
Discussion to be opened by OSWALD S. LOWSLEY, New York.

14. The Technical Treatment of Carcinoma of the Bladder and Prostate by Electrocoagulation and Radium Implantation (Lantern Demonstration).
BENJAMIN A. THOMAS and GEORGE E. PFAHLER, Philadelphia.
Discussion to be opened by JOHN GERAGHTY, Baltimore.

15. The Radium Therapy of Teratoid Tumors of the Testis (Lantern Demonstration).
BENJAMIN S. BARRINGER, New York.
Discussion to be opened by EDWARD L. KEYES, JR., New York.

Friday, June 10—9 a. m.

Election of Officers

16. The Structural Basis for Congenital Valve in the Posterior Urethra: An Etiologic Study (Lantern Demonstration).
ERNEST M. WATSON, Buffalo.
Discussion to be opened by WILLIAM C. QUINBY, Boston.

17. Urethroscopic Findings in Functional Disorders of the Genito-Urinary Tract.
ABRAHAM L. WOLBARST, New York.
Discussion to be opened by LEO BUERGER, New York, and CHARLES M. HARPSTER, Toledo, Ohio.

18. Seminal Vesiculitis. Symptomatology, Differential Diagnosis, Treatment and Bacteriologic Studies.
EDWARD W. WHITE, Chicago, and RUTHERFORD B. H. GRADWOHL, St. Louis.
Discussion to be opened by ROBERT H. HERBST, Chicago, and GEORGE R. LIVERMORE, Memphis, Tenn.

19. Study of Cases of Bilateral Renal Calculi. Indications and Contraindications for Operation (Lantern Demonstration). JOHN T. GERAGHTY, Baltimore.
Discussion to be opened by JOHN H. CUNNINGHAM, Boston, and FRANCIS R. HAGNER, Washington, D. C.

20. The Technic of Aseptic Nephro-Ureterectomy and Its Indications (Lantern Demonstration).
EDWIN BEER, New York.
Discussion to be opened by WILLIAM F. BRAASCH, Rochester, Minn., and BRANSFORD LEWIS, St. Louis.

21. Vesical Calculi. JOHN L. CRENSHAW, Rochester, Minn.
Discussion to be opened by JAMES D. BARNEY, Boston.

22. A New Nonoperative Procedure for the Removal of Impacted Calculus in the Urethra (Lantern Demonstration). PHILLIPS A. JACOBS, Cleveland.
Discussion to be opened by EDWIN BEER, New York.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN PAUL REVERE HALL

OFFICERS OF SECTION

Chairman—MELVIN S. HENDERSON, Rochester, Minn.
Vice Chairman—H. WINNETT ORR, Lincoln, Neb.
Secretary—HENRY BASCOM THOMAS, Chicago.
Executive Committee—EMIL S. GEIST, Minneapolis; GEORGE W. HAWLEY, New York; MELVIN S. HENDERSON, Rochester, Minn.
(Stenographer—MISS EDITH B. PHELPS, New York)

Wednesday, June 8—2 p. m.

1. Report of Two Cases of Kohler's Disease.
GEORGE I. BAUMAN, Cleveland.
Discussion to be opened by EDWARD S. HATCH, New Orleans; ARTHUR T. LEGG, Boston, and HENRY W. FRAUENTHAL, New York.

2. Stabilizing the Hip After Suppuration.
BENJAMIN P. FARRELL, New York.
Discussion to be opened by HENRY J. FITZSIMMONS, Boston, and WALTER G. STERN, Cleveland.

3. Osteomyelitis of the Pelvis.
EMIL S. GEIST, Minneapolis.

SYMPOSIUM ON FRACTURES OF THE HIP

4. Anatomic Treatment of Fractures Through the Trochanter and Neck of Femur.
CHARLES E. RUTH, Des Moines, Iowa.

5. Demonstration of the Abduction Method as Exponent of Radical Reform in Treatment of Fracture of Neck of Femur (Lantern Demonstration).
ROYAL WHITMAN, New York.

6. Results of Fracture of the Neck of the Femur Without Treatment. JOHN RIDLON, Chicago.
Discussion of papers 4, 5 and 6 to be opened by CHARLES E. THOMSON, Scranton, Pa.; OLIVER J. FAY, Des Moines, Iowa; ARTHUR A. LAW, Minneapolis; REGINALD H. SAYRE, New York; WILLIS CAMPBELL, Memphis, Tenn.; AURELIUS R. SHANDS, Washington, D. C.; LEROY C. ABBUTT, Ann Arbor, Mich., and EDWIN W. RYERSON, Chicago.

7 End Results of Whitman Operation for Ununited Fracture of the Neck of the Femur (Lantern Demonstration).
ARMITAGE WHITMAN, New York.

8. Bone Transplant in the Treatment of Ununited Fractures of the Neck of the Femur. CHARLES DAVISON, Chicago.
Discussion of papers 7 and 8 to be opened by ELLIOTT G. BRACKETT, and FREDERIC J. COTTON, Boston; EDWARD MARTIN, Philadelphia; MELVIN S. HENDERSON, Rochester, Minn., and HUBLEY R. OWEN, Philadelphia.

Thursday, June 9—2 p. m.

9. Operative Treatment of Scoliosis, with Report of Cases.
ROBERT E. HUMPHRIES, New York.
Discussion to be opened by RUSSELL A. HIBBS, New York; A. MACKENZIE FORBES, Montreal; ALBERT H. FREIBERG, Cincinnati, and EMIL G. GEIST, Minneapolis.

10. Iliosacral Joints. HORACE R. ALLEN, Indianapolis.
Discussion to be opened by JOEL E. GOLDTHWAITE, Boston, and WALLACE BLANCHARD, Chicago.

11. Lumbosacral Spine (Lantern Demonstration).
JAMES ARCHER O'REILLY, St. Louis.
Discussion to be opened by JEFFERSON D. GRIFFITH, Kansas City, Mo., and EDGAR D. OPPENHEIMER, New York.

12. Chairman's Address: Bone Transplantation; Its Use and Value. MELVIN S. HENDERSON, Rochester, Minn.

13. The Treatment of High Dorsal Scoliosis with Its Accompanying Serious Deformity.
JACQUE CALVÉ, Berck, Plage, France.
Discussion to be opened by SIR ROBERT JONES, Liverpool; NATHANIEL ALLISON, St. Louis; GEORGE B. PACKARD, Denver; JOSEPH BRENNEMANN, Chicago, and HENRY F. HELMHOLZ, Rochester, Minn.

14. Operative Treatment of Old Fractures and Dislocations of the Elbow. WILLIS C. CAMPBELL, Memphis, Tenn.
Discussion to be opened by H. WINNETT ORR, Lincoln, Neb., and JOHN L. PORTER, Chicago.

15. The Treatment of Tuberculosis of the Ankle.
FREDERICK J. GAENSLEN, Milwaukee.
Discussion to be opened by MICHAEL HOKE, Atlanta, Ga., and WALLACE COLE, St. Paul.

16. Whitman's Loop Operation (Lantern Demonstration).
SAMUEL KLEINBERG, New York.
Discussion to be opened by ARTHUR D. KURTZ, Philadelphia; ARMITAGE WHITMAN, WILLIAM L. SNEED, CHARLTON WALLACE and LEO MEYER, New York, and STERLING BUNNELL, San Francisco.

Friday, June 10—2 p. m.

Election of Officers

17. Value of Bone Pin Arthrodesis in the Treatment of Flat Foot (Lantern Demonstration).
ROBERT E. SOULE, Newark, N. J.
Discussion to be opened by JAMES W. SEVER, Boston; H. WINNETT ORR, Lincoln, Neb.; SAMUEL E. ROBERTSON and EDWARD J. ILL, Newark, N. J., and ROBERT B. COEFIELD, Cincinnati.

18. Fractures of the Spine of the Tibia.
JOSEPH J. KURLANDER, Cleveland.
Discussion to be opened by ROLAND HAMMOND, Providence, R. I.; FREDERICK C. KIDNER, Detroit; S. FOSDICK JONES, Denver, and CHARLES H. PHIPER, Chicago.
19. Sclerosing, Nonsuppurative Osteomyelitis as Described by Garrè, with Roentgenographic and Pathologic Findings. S. FOSDICK JONES, Denver.
Discussion to be opened by EDWIN W. RYERSON, Chicago; CLARENCE B. FRANCISCO, Kansas City, Mo.; ROBERT D. SCHROCK, Omaha, and MURRAY S. DANFORTH, Providence, R. I.
20. Muscle Educational Treatment and Results of Orthopedic Work on the Upper Extremity.
ARTHUR STEINDLER, Iowa City.
Discussion to be opened by ROBERT W. LOVETT, MARK H. ROGERS and FRANK R. OBER, Boston.
21. Operative Lengthening of the Femur.
VITTORIO PUTTI, Bologna, Italy.
Discussion to be opened by SIR ROBERT JONES, Liverpool; WILLIAM L. KELLER, U. S. Army, and ROLAND HAMMOND, Providence, R. I.
22. Fractures of the Vertebrae, and Their Treatment.
CHARLES E. THOMSON, Scranton, Pa.
Discussion to be opened by CHARLES F. PAINTER, Boston; EDGAR STURGE, Scranton, Pa.; GEORGE W. HAWLEY, Bridgeport, Conn.; ZABDIEL B. ADAMS, Boston, and MARCUS H. HOBART, Evanston, Ill.
23. Some Principles of Arthroplastic Operations.
WALTER I. BALDWIN, San Francisco.
Discussion to be opened by VITTORIO PUTTI, Bologna, Italy; MURRAY S. DANFORTH, Providence, R. I.; ARTHUR STEINDLER, Iowa City, and CHARLES F. EIKENBARY, Spokane, Wash.
24. A New Method of Diagnosing the Functioning Foot.
ROLAND O. MEISENBACH, Buffalo.
Discussion to be opened by EDWARD A. RICH, Tacoma, Wash., and ANSEL G. COOK, Hartford, Conn.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS IN HARVARD MEDICAL SCHOOL

OFFICERS OF SECTION

Chairman—LOUIS J. HIRSCHMAN, Detroit.
Vice Chairman—H. W. SOPER, St. Louis.
Secretary—FRANKLIN W. WHITE, Boston.
Executive Committee—WILLIAM M. BEACH, Pittsburgh; FRANK SMITHIES, Chicago; LOUIS J. HIRSCHMAN, Detroit.
(Stenographer—MISS MARGARET I. MALONEY, Chicago)

Wednesday, June 8—2 p. m.

1. Chairman's Address: The Teaching of Gastro-Enterology and Proctology. LOUIS J. HIRSCHMAN, Detroit.
2. A Study of the Gastric Digestion of Foods in the Normal Individual (Lantern Demonstration)
MARTIN E. REHFUSS and PHILIP B. HAWK, Philadelphia.
3. Enzymatic Activity of Duodenal Contents in Normal Men.
CHARLES W. MCCLURE and A. S. WETMORE, Boston
4. Some Observations on the Fractional Analysis of the Duodenal Contents in Normal Individuals.
JULIUS FRIEDENWALD and JOSEPH SINDLER, Baltimore.
5. Experience with the Fractional Examination of the Duodenal Contents in Peptic Ulcer.
MAX EINHORN, New York.
6. The Interpretation of Digestive Symptomatology.
ERNEST GAITHER, Baltimore.
7. Subjective Gastric Indigestion.
JOHN M. BLACKFORD, Seattle.
8. The Dietetic Treatment of Headache.
THOMAS R. BROWN, Baltimore.

Thursday, June 9—2 p. m.

9. Association of Gastric and Duodenal Ulcer with the Tabetic Crises of Syphilis.
BURRILL B. CROHN, New York.
10. The Malignancy or Nonmalignancy of Gastric Ulcer.
LEWIS GREGORY COLE, New York.
11. The Causes of Unfavorable Symptoms After Gastro-Enterostomy and Their Treatment.
LOGAN CLENDENING, Kansas City, Mo.
12. Diagnostic and Therapeutic Aspects of Late Sequelae of Gastric Surgery.
GEORGE B. EUSTERMAN, Rochester, Minn.
13. The Phenoltetrachlorphthalein Test of Liver Functions.
ABRAHAM H. AARON, Buffalo.
14. The Meaning of Jaundice. CHARLES G. STOCKTON, Buffalo.
15. Nonsurgical Drainage of the Biliary Tract: Its Usefulness Diagnostically and Therapeutically.
FRANK SMITHIES, CLYDE F. KARSHNER and RICHARD BARTLETT OLESON, Chicago.
16. Biliary Tract Disease—Some Lessons Learned from Duodenobiliary Drainage—Future Problems.
B. B. VINCENT LYON and HENRY J. BARTLE, Philadelphia.

Friday, June 10—2 p. m.
Election of Officers

17. Diaphragmatic Hernia of the Stomach.
PHILEMON E. TRUESDALE, Fall River, Mass.
18. The Normal Incidence of Visceroptosis, as Determined by 1,966 Observations on 290 Postmortem Sections of All Ages and Both Sexes. JOHN BRYANT, Boston.
19. A Case of Giardia Intestinalis Infestation Successfully Treated by Transduodenal Lavage.
SIDNEY K. SIMON, New Orleans.
20. Chronic Ulcerative Colitis.
FRANK C. YEOMANS, New York.
21. A Method of Shortening the Elongated Cecum by Unabsorbable Stitches in the Taeni Coli—Also in the Inner Peritoneal Reflection; Report of 200 Cases Covering a Period of Six Years. ANGUS MCLEAN, Detroit.
22. Rectocolonic Diverticula, Diverticulitis, and Peridiverticulitis. SAMUEL G. GANT, New York.
23. The Two Stage Operation for Ischiorectal Abscess and Fistula. WALTER A. FANSLER, Minneapolis, Minn.
24. The Surgical Therapy of Cancer of the Rectum.
JEROME M. LYNCH, New York.

SECTION ON MISCELLANEOUS TOPICS

MEETS IN RECEPTION HALL, MECHANICS BUILDING

OFFICERS OF MEETING ON ANESTHESIA

Chairman—JAMES T. GWATHMEY, New York.
Vice Chairman—ELMER I. MCKESSON, Toledo, Ohio.
Secretary—F. HOEFFER MCMECHAN, Avon Lake, Ohio.

Wednesday, June 8—2 p. m.

1. Chairman's Address: Current Progress in the Science and the Practice of Anesthesia.
JAMES T. GWATHMEY, New York.
Discussion to be opened by ELEANOR SEYMOUR, Los Angeles, and JOSEPH E. LUMBARD, New York.
2. The Acapnia Theory, Now.
RAYMOND C. COBURN, New York.
Discussion to be opened by YANDELL HENDERSON, New Haven, Conn.; JOHN J. BUETTNER, Syracuse, N. Y., and FREEMAN ALLEN, Boston.
3. A Classification of Anesthetic Signs and Effects Upon Cardiovascular System of Ethyl Chlorid in Anesthetic Dosage in Man.
ARTHUR E. GUEDEL, Minneapolis, Minn.
Discussion to be opened by F. HOEFFER MCMECHAN, Avon Lake, Ohio, and S. GRIFFITH DAVIS, Baltimore.
4. Some Anesthetic Aids in Surgery.
ELMER I. MCKESSON, Toledo, Ohio.
Discussion to be opened by ISABELLA C. HERB, Chicago, and F. L. RICHARDSON, Boston.
5. Anesthesia for Nose, Throat and Abdominal Surgery by the Nitrous Oxid-Oxygen Chloroform Ether Combination. H. E. G. BOYLE, London, England.
Discussion to be opened by HARRY HARRISON, Norfolk, Va., and CHARLES H. SANFORD, New York.
6. Anesthetic Units of Measurement.
ALBERT H. MILLER, Providence, R. I.
Discussion to be opened by LINCOLN F. SISE and BORIS RAPOPORT, Boston.



That humanity would make a "beaten path" to the door of the man who creates a "better mouse-trap" is a fine sentiment. However, in our modern economic scheme, the idea does not work out. The "beaten path" for the "better mouse-trap" usually leads to the door of the corner grocer, and "mouse-trap" making may involve the development of new manufacturing processes; the solving of problems of business organization and financing, and the maintaining of an elaborate system of distribution; in short, manufacturing today is a complicated matter and often it is a far cry from the idea or invention to the finished product in the hands of the user.

When one considers that hundreds of skilled and versatile men are devoting their entire efforts to the manufacture of articles used in the practice of medicine, the value of the Commercial Exhibits at the approaching Convention becomes apparent. These exhibits will bring together in one orderly, unified exposition, the best things that these men have been able to produce. They will afford an opportunity to see not only the articles themselves, but to talk with factory representatives, research workers and skilled technicians.

All visitors are cordially invited to spend as much time as possible in the Exhibit Hall. A profitable plan is to visit a part of the exhibits each day rather than to attempt to "do" all the exhibits in one day. As in the past, Exhibit Hall will be a favorite place to meet friends or to fill in time between meetings of the various sections. No one need to feel obligated by stopping at a booth and asking questions or seeking information. No one will be unduly urged to buy.

Exhibit Hall will be open from 8:00 a. m. to 6:00 p. m. daily. Following are brief descriptions of some of the exhibits. The list is not complete, but will afford a good idea of the interesting displays in store for those who visit the various booths.

APPARATUS



The A. S. Aloe Company exhibit in Spaces 141-142. This exhibit will include a large number of desirable specialties, among which will be the well-known Lightning Electro-Therapeutic Cabinet. This company will also have a fine display of new, high grade imported instruments, selected from shipments just received direct from their European buyer during the past few weeks.

The Frank S. Betz Company will show a full line of steel furniture with several new items, tables and cabinets. The exhibit will also include a most complete line of surgical instruments, showing many special instruments which have been imported from Europe, together with surgical merchandise and medical supplies as required by the physician in every-day practice. Booths 69-70.

The Foregger Company will offer a few new additions to their line of anesthesia appliances such as the "Coburn Cup" for pharyngeal inhalation anesthesia, the "Cotton Analgesia Bottle," the "Cotton Mask" (used with Cotton Process Ether), and various attachments to the "Gwathmey Apparatus" for "Synergistic Anesthesia." The Booth number is 97.

Green & Bauer, Inc. will exhibit four models of the Standard Sphygmomanometer. The prominent features of the Standard Sphygmomanometer are: accuracy, a metal scale, triple-distilled mercury, and a wide bore manometer tube. Each Standard Spygmomanometer is tested against their Master Instrument which has been tested by the United States Government Bureau of Standards. Booth number 5.

Hanovia Chemical & Manufacturing Co. will exhibit both of their therapeutic appliances, the Alpine Sun Lamp and the Kromayer Lamp. These are now developed to that point which prompts the maker to call them both, instruments of physical and mechanical precision. The latest model Alpine Sun Lamp has remarkably clean cut lines; there are no thumb-screws or any adjustable pins that make for intricacy. The exhibit will be in Booth No. 28.

The Klett Manufacturing Co. will exhibit a full line of Colorimeters for every purpose, research, clinical and for the practicing physician, also the Danzer-Hooker Micro-Capillary Tonometer, Shahan's Electro-Thermophore and "Electric Bakers." This company has embodied some novel ideas in colorimeter construction. The Space number is 172 (Balcony).

The Kny-Scheerer Corporation of America will show in Spaces 94-95 late developments in Surgical Operating Tables, the Hawley Table for Orthopedic and Fracture work, also the late improvements in Sterilizing Apparatus and means for closely checking up the technique of the Sterilizing process. A feature of special interest will be their Surgical Operating Room light fixtures with both gas and electric attachments.

The Exhibition of E. Leitz, Inc., N. Y. C., will be located in Booth No. 66. Entirely new lines of the well known Leitz Microscopes and Microtomes, as well as a new Blood Counting Apparatus, will be exhibited. As a special feature may be mentioned the demonstration of the "Edinger" Drawing and Projection Apparatus, a universal instrument which permits drawing, reconstruction work, micro and lantern slide projection, micro photography, etc.

The Lungmotor Company will show by means of artificial lungs and sheep lungs, the exact action of the Lungmotor when used on subjects from new-born baby to largest adult, in cases of collapse, asphyxiation, drowning, electric shock, etc. The exhibit will be in Space 71.

The C. M. Sorensen Company, at their booths, Nos. 36 and 37, will display their latest achievement, The Sorensen Universal Specialist Chair. This chair combines a number of new and up-to-date features. As usual, they will also demonstrate the different models of Tankless Air Compressors, including the Yankauer Outfit for Tonsillectomy, The Coffin Apparatus and Sorensen Sinus Cleanser.

Wilmot Castle Company will exhibit office sterilizers suitable for industrial and small hospitals in Space No. 112. Interest this year will be centered in the improved pattern Castle-Rochester Electric Instrument Sterilizer. Two important changes have been made in the original design. A new sterilizing outfit combining this Instrument Sterilizer with the Water Sterilizer will be shown.

BOOKS



The American Institute of Medicine will have on exhibit in Space 34 some interesting material showing the methods used by their Library and Special Service Departments for keeping physicians in touch with the latest developments in the medical field. A large number of the staff members of the Institute will be on hand to personally explain the service rendered and to make the acquaintance of the profession.

D. Appleton & Co. will feature in Booth 20 the new set of gynecological and obstetrical monographs, just published; a new work entitled The Principles and Practice of Surgery by Dr. H. A. Haubold; a new completely revised edition of Osler's Practice of Medicine and several other recent volumes. The Appleton line of standard medical and surgical works including the works of Holt, Barker, Billings, Keyes, Williams, Foman, Rosenau and others will also be on display.

At the Blakiston booth, Space 149, there will be exhibited several new and interesting works: Bowlby and Andrewes, Surgical Pathology; Deaver and Ashhurst, Surgery of the Upper Abdomen; a new edition of Berkeley and Bonney, Difficulties and Emergencies of Obstetric Practice; Barr and Maloney, Types of Mental Defectives; a new edition of Binnie's Operative Surgery; a new edition of Webster's Diagnostic Methods, and many other valuable publications of the past few months.

Among new books shown by F. A. Davis Com- pany, may be mentioned Sajous' work on the "Internal Secretions" in two volumes. Dr. S. Calvin Smith's "Heart Affections: Their Recognition and Treatment." Dr. B. B. Grover's "Handbook of Electrotherapy for Practitioners and Students." The English translation from the French of the "Rational Treatment of Tu-

berculosis," by Dr. Charles Sabourin. McGrath's "Operative Surgery," Faught's "Essentials of Laboratory Diagnosis" and a treatise on the "Diseases of the Digestive System," in 2 volumes, by Dr. Anthony Bassler. Booth 90.

Paul B. Hoeber, New York, Space 13, will show the new monographs: Tilney & Riley, "Form and Functions of the Central Nervous System," Baetjer & Waters, "Injuries and Diseases of the Bones and Joints," Law, "Mastoids," Macleod, "Diseases of the Skin," Lewis, "Mechanism of the Heart Beat," Tilley, "Nose and Throat," and the journals, Annals of Medical History, The American Journal of Roentgenology and Neurological Bulletin. There will also be an interesting display of old and rare medical books.

The International Journal of Gastro-Enterology will be displayed and described in Booth 158 (Bal.). This is a new journal and is devoted to all problems related to the digestive system and the various organs influencing it. Copies of the first issue will be on display. Almost all practicing physicians will find something here that will interest them.

Lea & Febiger, Space 12, will have on exhibit numerous new books published in 1921: Aaron's Diseases of Digestive Organs, Ochsner's Surgical Diagnosis & Treatment, Vols. I & II ready, Vols. III & IV, shortly; Kanavel's Infections of Hand (4th edition); Ormsby on Skin (2nd edition); Carter's Clinical Dietetics (2nd edition); Dayton's Practice (4th edition); Holmes & Ruggles' Roentgen Interpretation (2nd edition); MacKee's Roentgen Therapy; Danysk & Rackemann's Evolution of Diseases; Morrey's Bacteriology (2nd edition); Park's Hygiene & Public Health.

The Massachusetts General Hospital exhibit, Booth 17, of the Case Records series will stand fundamentally for two main ideas, (1) constant contact with the life of a progressive hospital made possible for every physician and surgeon, and (2) a great principle of case teaching, daring and original, the result of years of experience of one of the brilliant pioneer minds of American medicine. The hospital believes it has a service to render to medicine in making these advantages available at a nominal cost to physicians and surgeons throughout the country.

The display of Oxford Medical Publications, Space 140, will be of peculiar interest owing to the near completion of the Oxford Loose-Leaf Medicine and the Loose-Leaf Supplementary Service for the Oxford Loose-Leaf Surgery. In addition to these recognized monumental works there will also be ready for delivery Sir Robert Jones' Orthopedic Surgery; Henry Head's Studies in Neurology; Major Gillies' Plastic Surgery of the Face; new editions of the famous Oxford Medical Classics, and the Oxford Periodicals, Medical Science, Abstracts and Reviews and The Quarterly Journal of Medicine.

The special feature of the exhibit of the W. F. Prior Company, Inc., Hagerstown, Md. (occupying Booth 31), will be the demonstration of the time-saving blue-print plan by which their ten-volume, loose-leaf Tice's Practice of Medicine was written, a plan which makes their publication different from any previous effort. In addition they will exhibit their medical services, corollary to Tice; viz., the International Medical Digest, and the Research Service.

The most attractive feature of the Rebman Company exhibit, Space 124, will be some paintings of flowers as perfect as nature lets them grow in the garden or the field. They are of wonderful, artistic workmanship and will prove a pleasure to the eye. The artist is a lover of flowers. His taste in arrangement, the perfection of his coloring, and realistic representation leave a most vivid and pleasing remembrance upon the mind of the onlooker.

The C. V. Mosby Company, publishers of medi- cal, dental and nursing books, will have a full and complete exhibit of all their publications at Exhibit Space 14. They will feature such new books as Horsley's General Surgery, Opie's Respiratory Disease, Rose's Physical Diagnosis, Sheffield's Diseases of Children, and their complete line of standard publications. The Booth number is 14.

W. B. Saunders Company will have an exhibit in Space 15. Among books shown will be Volumes 7 and 8 of Keen's Surgery. Other new books will be The Mayo Clinic Volume, just from the press; Sir Berkeley Moynihan's Essays on Surgical Subjects; Bandler's The Endocrines; Boyd's Preventive Medicine; two postgraduate bi-monthlies, The Surgical Clinics of North America and the Medical Clinics of North America; Ranson's Anatomy of the Nervous System; a small Primer for Diabetic Patients from The Mayo Clinic, by Wilder, Foley and Ellithorpe. Among the standard works will be Warbasse's 3 volume Surgical Treatment; Cabot's 2 volume Differential Diagnosis; Graves' Gynecology.

Wm. Wood & Co. emphasize the point that members may feel free to enter their booth, examine their various works and leave without obligating themselves. Their books will be there for the pleasure and profit of visitors; the representatives for their convenience. Some 50 new books and new editions have been produced since the last annual meeting. The exhibit will be in Booth 30.

All publications of the A. M. A. Press, including the various special Journals, the Quarterly Cumulative Index to Current Medical Literature, the new American Directory, as well as new editions of some popular and handy books, will be shown in the Balcony at head of stairs. Official buttons and automobile emblems will be available.

DIAGNOSTIC EQUIPMENT



The American Surgical Specialty Company, Booth 11. Special attention will be directed to their lamps for locating dental foci of infection as well as their new lamp for abdominal surgery. Cameron's Spudlite will prove of interest to those interested in the location and removal of foreign bodies from the eye. It furnishes illumination, magnification and instrumentation under control of one hand and leaves the other hand free for control of the patient.

W. A. Baum Company will exhibit the "Bau- manometer," a device for the determination of blood pressure. A corps of demonstrators will be in attendance. Practical demonstration of the mechanical aspects of blood pressure technique in relation to the end result will be a feature of this exhibit. Space 35.

Charles F. Hindle will have in Space 2 an exhibit of pertinent interest to all internists as well as general practitioners. This will be a showing of the electrocardiograph and its use in photographically recording the activities of the heart.

Sanborn Company, Spaces 32 and 33, will ex- hibit and demonstrate three instruments for the determination of the basal metabolic rate: the technically simple Sanborn Handy, the widely used Sanborn Benedict, and a modern Tissot apparatus. The heart specialist should be particularly interested in the new Sanborn Pulse Wave Recorder. The Sanborn Vital Capacity Spirometer will attract those physicians who treat either heart disease or pulmonary tuberculosis. The Sanborn Blood Pressure Outfit will also be shown.

Taylor Instrument Companies will exhibit in Spaces 55-56. Here will be shown the well-known Tycos Sphygmomanometers—Pocket and Office Sizes—as well as a useful line of high-grade Urinary Glassware and special Bath Thermometers. Tycos Blood Pressure Manuals and special Bulletins—"Humidity and the Physician," "Physiological and Therapeutic Action of Baths"—will be distributed.

C. M. Sorensen Company, Inc., will show, at Booth No. 38, a line of instruments, apparatus, glassware, standard solutions, reagents, chemicals and stains pertaining to blood chemistry. Of particular interest will be the complete outfit for the Basal Metabolism Estimations as designed by Dr. Cameron V. Bailey of the Department of Metabolism, New York Post Graduate Medical School and Hospital, consisting of a new model gasometer and special burettes for gas and water analysis.

PHARMACEUTICALS



The Abbott Laboratories in Space 21 will exhibit the results of recent chemical research on an important series of new local anaesthetics. Numerous Council-passed medicinal chemicals and surgical aids such as Acriflavine, Barbital, Benzyl-Benzoate, Chlorazene, and Parresine will also be shown. All conventionists are cordially invited to register for clinical samples of the Abbott preparations.

Armour and Company, Chicago, Space 29, will show a line of the Endocrine Gland and other Organotherapeutic preparations. Such things as Pituitary Liquid, Thyroids, Corpus Luteum, etc., will be featured. Sterile Surgical Catgut Ligatures, plain, chromic and Iodized will also be shown.

P. Astier Laboratories of Paris, France, Space 68, will again exhibit their Arheol Pearls, an improved oil of Santol preparation, as well as Riodine, an organic iodine compound. Mr. Albert Thouin with assistants will receive visitors and supply samples and literature.

B. B. Culture Laboratories, Space 41, will interest visitors in their Bacillus Bulgaricus, one of the less obstrusive members of the biological family. They will point out the field of usefulness of a culture of Bacillus Bulgaricus, giving its latest uses. A microscopic demonstration of the organism will also be shown.

Bethlehem Laboratories, Inc., Space 122, will feature the value of "Hyclorite" as a professional and personal antiseptic, germicide, and deodorant. One feature of the exhibit will be a huge tank of sodium hypochlorite in connection with spectacular electrical effects. Another will be the first showing of a novel drop-measuring device.

The Calco Chemical Co., at Space 81, will exhibit a full line of "Calco" products, featuring Cinchophen Calco, Tolysin, Salicaine, Acetannin Calco, Amidopyrine Calco. These are but a few of the entire line. They will also offer a pure white crystalline Benzidine for occult blood testing and other chemicals for diagnostic testing.

The Dermatological Research Laboratories, Philadelphia, will exhibit at Booth No. 40, Arsphenamine (606) and Neoarsphenamine (914) with intermediates, charts, formulae and reprints of experimental and clinical reports. The intensive studies and research work of the Laboratories will be outlined as a result of which an Arsphenamine and a Neoarsphenamine of superior efficiency have been elaborated.

The Maltbie Chemical Company, Space 19. Mr. B. L. Maltbie will be in charge of his "Calcreose" exhibit. Calcreose powder, Calcreose tablets and Calcreose solution will be shown, and every visiting doctor will be given something to take away with him from this exhibit that will make him remember "Calcreose" when indications for creosote therapy exist.

The Diarsenol Company, Space 67, will show a complete line of arsenicals, including Diarsenol (Arsphenamine), Neodiarsenol (Neoarsphenamine) Sodium Diarsenol, (Sodium Arsphenamine) and Silver Diarsenol, (Silver Arsphenamine). Those in charge of the exhibit will be glad to demonstrate any or all of these products to those interested. Literature and clinical reports will also be available.

Hynson, Westcott & Dunning, Spaces 22 and 27, will feature their demonstrations of the use and advantages of apparatus and reagents originated and perfected by prominent physicians for securing better diagnostic results. The colorimetric determination of the true acidity of gastric contents by the Shohl-King method—see the Johns Hopkins Hospital Bulletin, Volume XXXI, No. 351, pp. 152 to 162—will be the latest thing to claim visitors' attention. Benzyl Benzoate preparations and other interesting pharmaceuticals will also be shown.

The Jaeger-Bigelow Co., Balcony Space 166, will exhibit a new line of standardized ligature material, specializing strongly on im-

ported catgut from the Jaeger Raw Gut Factories, Markneukirchen, Saxony.

The Lowy Laboratory, Inc., will present new features in connection with their Solution Arsphenamine-Lowy, intended to simplify the physician's work and give him a safe means of obtaining full therapeutic value in his use of arsphenamine. Booth 85.

H. A. Metz Laboratories, Space 18, will have a replica of a well-ordered clinic for the treatment of syphilis, containing apparatus necessary for treatment. The features will be brought out so definitely that observers who carry out the thought of the laboratories will possess themselves of a most highly developed clinic, so far as the apparatus is concerned. In addition, there will be demonstrations of the method of preparing solutions from Salvarsan, Neosalvarsan and Silver Salvarsan. The booth will also show the other products handled by the laboratories, including Novocain in its various forms, Pyramidon, Orthoform, Parathesin, Albargin, etc.

Upsher Smith of St. Paul, grower of Digitalis, will be glad to explain the methods of culture and purification which he has worked out in his Digitalis fields, exhibiting interesting species of the plant in full flower, including D. lutea. The advantages of the Hatcher cat method of standardization are too well known to need emphasis, and Mr. Smith will be ready to discuss with visitors this and other phases of the subject. Space 132.

The Wilson Laboratories will have at Booth 63 a striking, instructive exhibit of the various animal glands and the methods of preparing the desiccated products and extracts. A knowledge of source and preparation of glandular products will materially assist the physician in getting results through endocrine medication. Visit this booth and get acquainted with the methods of preparation of the various desiccations.



Ambulatory Pneumatic Splint Mfg. Co., Space 110, will demonstrate their well-known Ambulatory Pneumatic Splint, for application of extension, counter extension, and immobilization in fractures of the hip, thigh and leg. They will show this as a reducing apparatus, as a bed splint, and as a walking splint. This company will also exhibit their Ambumatic Washable Abdominal Supporters with Adjustable Binders.

The exhibit of Berger Brothers & Co. will show the various styles of Spencer Corsets and corrective garments on forms. A corps of courteous, competent corset fitters will be in attendance. The extensive study which this firm has made in the field of corsetry enables their representatives to give authentic information regarding corrective garments. Space 7.

The Battle Creek Deformity Appliance Company will exhibit in Space 4 their patented supporter for Sacro-Iliac Sub-Luxation and abdominal support. This supporter is known as the "El-Ar" and is made in various styles, so as to meet every requirement when a supporter is needed. Visitors are cordially invited to stop and see this support.

The exhibit of the Carnes Artificial Limb Com- pany, in Space 121, will consist of men wearing Carnes Arms, giving a personal demonstration of what can be accomplished with the arm, and showing its general usefulness; also showing its natural appearance, the ease with which it is manipulated and a general explanation of its mechanism and quality.

Wm. H. Horn & Brother expect to show samples of Trusses, Abdominal Supporters and other Surgical Appliances. Partieular attention will be given to demonstrating the "Curtis" Support and "Hornbro" Seamless Elastic Hosiery. Space 120.

The Miracle Artificial Arm Company extends a cordial invitation to physicians and surgeons to witness a practical and interesting demonstration of their latest, up-to-date mechanical hand and arm on exhibition at Booth No. 110. They will present a complete historical record of artificial hands from the first one mentioned in history up to date. A rather interesting study.

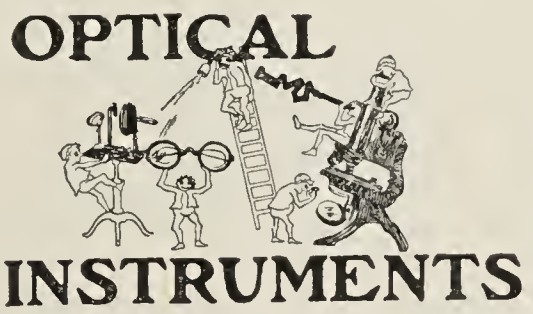


W. L. Cummings Chemical Co., Space 5, will exhibit their modern and approved tubular and needle radium applicators, including forceps and other instruments for the handling of radium applicators. The feature of the exhibit will be radium needles manufactured from non-corrosive alloy steel. These needles will have several very important features not contained in any needles previously manufactured and will be of considerable interest to the radium therapist.

The Radio Chemical Corporation, Space 6, will again exhibit a quantity of pure Radium salts and will demonstrate the penetrating power of the Gamma rays for the benefit of those who have never seen the precious metal. In addition, they will exhibit some new platinum needles and screens designed to concentrate a maximum of Radium in a minimum of space, at the same time affording complete protection from Beta radiation. Areas hitherto inaccessible to comparatively large amounts of Radium are rendered readily accessible by the use of these special needles and screens.

The Radium Chemical Company, of Pittsburgh, Space 104, will show new instruments, and the Technical Staff will demonstrate their use as a means of affording protection to the hands and person of the operator. If for no other reason, the exhibit will be of particular interest to radium workers.

The exhibit of the Radium Company of Colorado, Inc., Denver, Colo., will demonstrate that this organization is particularly well fitted to aid the physician in this respect. The instrument department of this company manufactures a large variety of "Standard Applicators and Accessories," and its experimental facilities are at the disposal of its clients. This firm has added a new feature to its information service by publishing and distributing, monthly, radium abstracts in card index form. Spaces 23-24-25.



Bausch & Lomb Optical Company will show a new visual acuity test apparatus of great precision, equipped with Ives Screens for continuously increasing and decreasing the size of detail of the test object; an ophthalmic test lens set, especially corrected to represent precise refraction. A new Stereo Campimeter; a new slit lamp for examination of the cornea and interior of the human eye; the latest models of microscopes, centrifuges, haemacytometers, colorimeters and miero lamps will also be exhibited. Spaces 72-73.

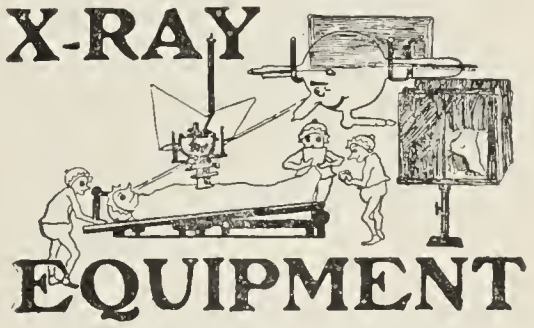
The General Optical Company exhibit in Space 101 will reflect in many ways the latest developments of scientific equipment for the refracting room. They will show many improved and original features in their ophthalmoscopes and retinoscopes, trial frames and universal ophthalmometer. The improved Hare-Marple Ophthalmoscope will be featured.

DeZeng-Standard Company will display in their Booth, number 92, a new type of ophthalmoscope for use by the general practitioner and the ophthalmologist. It has a new and superior type of illumination, whereby the interior of the eye is more readily and satisfactorily viewed. There will be on display also a new DeZeng retinoscope with an entirely new type of illumination. Every ophthalmologist will be interested in the entirely new DeZeng refracting and muscle testing instrument, which will be shown by able demonstration.

The Julius King Optical Company will exhibit in Space 80 a most complete line of ophthalmological apparatus, Eye, Ear, Nose and Throat instruments, Ophthalmometers, Perimeters, Test Cabinets, Specialists' Cabinets and Chairs, and some of the newest models of surgical instruments. Particular attention will be directed to Dr. Clyde E. McDannald's instrument for the removal of cataractous lenses by suction (phakoerisis).

The exhibit of the Spencer Lens Company will consist of a number of the latest types of Microscopes, especially high power Binocular microscopes, built on an entirely new plan, also a complete line of Microtomes. In this group will be an entirely new type of microtome, first shown at this meeting. Optical measuring instruments, refractometers, polariscopes, spectrometers as well as haemmeters and samples of Optical glass, made in America, will be featured. Space 175 (Balcony).

The Woolf Instrument Corporation, manu- facturers of ophthalmic appliances, will exhibit a model refracting room—The Skioptometer (an automatic trial case), a new chair for refractionists, and the Reeves Illuminated Test Letter Cabinet, the latter shown for the first time. This company has just published a text book: "Refraction and Muscular Imbalance Simplified," which may be examined at the booth. Space 118.



The Campbell Electric Co. first exhibited their portable X-ray and High Frequency coil which delivered currents of high and low voltage and high and low frequency at the A. M. A. meet in Boston, in 1906. Fifteen years have passed and the Campbell Electric Company again exhibits its product, showing the progress they have made in fifteen years in the development of X-ray and Electro Medical Apparatus and its accepted worth to the medical profession. Spaces 96 and 111.

The Eastman Kodak Co., this year, Spaces 125 and 126, will show representative results that may be obtained with their Dupli-Tized X-ray films and present day apparatus. The negatives exhibited will be representative of the work that interests the average physician. In addition to this they will show some of the other applications of photography in the medical field, for example, its use in obtaining clinical records and pictures of pathological specimens.

The Engeln Electric Company, Booth No. 57, will be adjacent to and in connection with the exhibit of Kelley-Koett Manufacturing Company, Spaces 53 and 54. There may be found the new Engeln Mobile Unit and the Bucky-Potter Diaphragm. The Mobile Unit has created much favorable comment and the Bucky-Potter Diaphragm is one of the later developments.

H. G. Fischer & Co., Inc., will hold forth in Spaces 86 and 87; their exhibit will consist mainly of their 2-B Interrupterless Transformer, being amply powerful for practically all radiographic work. Also their Military Model High Frequency, d'Arsonval and Diathermy Equipment, the type of apparatus much in evidence in Government Reconstruction Hospitals.

McIntosh Battery & Optical Co., Space 119, will bring out the many uses which physicians are making of the "Hogan" High Frequency

Apparatus. Don't miss their demonstration of this and other McIntosh specialties.

At the James Picker exhibit, Balcony Space 164, everything for the Roentgenologist from making the exposure to filing or mailing the finished result will be shown. Some interesting features will be The Potter Bucky Diaphragm, The Fluoroscopic Grid, The New Style Film Hanger, a Portable Apparatus. A good opportunity to get acquainted with a house whose foundation consists of Service.

Thompson Plaster Co. will demonstrate their new oil immersed, Style F, outfit that was built to meet the demand for a machine that could be operated continuously for treatment work. Specially built for Diathermy and Auto Condensation work, although it has a large number of other uses. They will also demonstrate a new X-ray transformer for hospitals and physicians who desire to do all grades of radiography and fluoroscopy. Spaces 86-87.

The Victor X-ray Corporation, Spaces 105, 106 and 107, has planned to introduce at the meeting a number of new devices which will be of special interest to every physician using the X-ray. Special interest will be centered in the Victor Coolidge Stabilizer which will mean a much higher efficiency for every Coolidge control system. The new Victor Vertical Roentgenoscope which will also be shown represents much time and thought on the part of the manufacturers in bringing apparatus of this type up to the point of utmost practicability. A visit to the Victor exhibit will prove interesting, instructive and helpful.

Waite & Bartlett Mfg. Co., Space 89, will feature their new "Solace" Vertical Fluoroscope and Fluoroscopic and Radiographic Table, which combination is fed from a single U. S. Army Bedside Transformer. The apparatus is especially designed for radiograph, and fluoroscopy. Their three way high tension switch makes this cost and space saving arrangement practical. The instrument affords the maximum of convenience, as the high tension current may be diverted instantly from one to another of the three tubes.

The Wappler Electric Co., Spaces 65, 75 and 76, will demonstrate their latest model National X-ray machine, designed for the general practitioner, and also their combination Portable and hospital ward type X-ray apparatus. This company is making a special display of X-ray plates possessing novel and striking features. The Wappler High Frequency apparatus will be shown and especially the Portable Telatherm as designed for the U. S. Army and which is used for bladder fulguration work. This company will also exhibit their well-known line of cystoscopes and ophthalmoscopes and other electrically lighted diagnostic instruments as well as Cautery apparatus.



The Bard Parker Company will have an attractive exhibit in Space 69 of their well-known Detachable Blade Surgical Knives. Surgeons interested in having an ever ready, sharp scalpel should see this demonstration. C. R. Bard will also display a useful line of urological articles.

The exhibit of Becton, Dickinson & Co., Space 62, will include several very interesting additions to their line of LUER Syringes and ASEPTO Syringes. It will also include the B-D Co. Thermometer with some modifications of the case. As usual, complete lines of YALE Needles and ACE Bandages will also be shown.

The DeVilbiss Company, Booth 79, will exhibit Atomizers, Nebulizers, Powder Blowers, Steam Vaporizers for every nose and throat requirement in both Physicians' and Patients' style. As this company's line of manufacture is confined strictly to these products, it is in a position to render real service to physicians interested in Atomizers.

August E. Fraass Company, Inc., will present in Booth No. 157 (Bal.) their line of surgical instruments for Eye, Ear, Nose and Throat. New ideas in construction will be featured.

T. J. Holmes Company, Space 155 (Bal.), will demonstrate their newly-developed NONSPIL Atomizer. The fact that this atomizer obviates leakage of liquid and also regulates weight of its spray should be of particular interest to visitors. All are invited to stop and examine carefully this new atomizer.

MacGregor Instrument Company will exhibit in addition to their regular line of Clinical Thermometers, Hypodermic Syringes, Needles, Operating Instruments, etc., a new and unique line of green glass Syringes made from a special emerald glass; a Syringe of particular interest to tonsil specialists; Clinical Thermometers showing an indelible pigment to resist ordinary sterilizing agents; also, a new outfit for Schick Diphtheria test. Space 50.

The Mahady Company's exhibit of sterile suture material will be found in Space 82. The laboratory in which this is prepared is located in the vicinity of the exhibition hall and visitors will be cordially welcomed. They will also feature many special instruments devised by local specialists, and will have a large display of the well-known Stille Swedish hand-forged instruments, and the Smith Bone Clamps.

E. B. Meyrowitz, Inc., New York, London and Paris, will exhibit with their complete line of Eye, Ear, Nose and Throat instruments a new model Ophthalmometer, a Trial Frame of fundamentally different design, the Morton Perimeter with which examinations may be made in much quicker time and an Eye Magnet that operates on the alternating current—something hitherto considered impossible. They will also show a complete line of equipment for specialists. Spaces 8-9-10.

V. Mueller & Co., Chicago, will occupy Spaces 145-146-147-148 with a complete display of surgical instruments and apparatus. A number of new patterns of instruments; a series of operating lamps for both office and hospital use; the Taylor Tidal Irrigator, for irrigating wounds, which device has caused much favorable comment; electrically lighted instruments for diagnostic and operative purposes, electrically operated surgical engines, thermophores, anaesthesia and aspirating equipment in a variety of models will be featured.

The F. H. Thomas Company of Boston, a firm well-known to doctors and hospitals throughout New England, will have a representative

(Continued on Adv. page 44)

List of Exhibitors

	Aisle and Space No.
Abbott Laboratories, Chicago	B-C—21
Aloe Co., A. S., St. Louis	E—141-142
Amb. Pneu. Sp. Mfg. Co., Chicago	K—110
Am. Inst. of Med., New York	C—34
Am. Surg. Spec. Co., Chicago	B—11
Amer. Surg. Inst. Co., New York	Bal. 174
Anatomik Footw'r Co., Elizabeth, N. J.	M—131
Appleton & Co., D., New York	B—20
Armour & Co., Chicago	C—29
Astier Laboratories, Paris, France	H—68
Bard Parker Co., New York	H—61
Battle Creek Def. Appl. Co., Battle Creek	L—4
Baum Co., Inc., W. A., New York	C—35
Bausch & Lomb Opt. Co., Rochester, N.Y.	I—72-73
B. B. Culture Lab., Yonkers, N.Y.	D—41
Becton, Dickinson & Co., Rutherford, N.J.	H—62
Berger Bros. Co., The, New Haven, Conn.	L—7
Bethlehem Labs., Bethlehem, Pa.	L—122
Betz Co., Frank S., Hammond, Ind.	H—69-70
Blakiston's Son & Co., P., Philadelphia	E—149
Brady & Co., Geo. W., Chicago	K—113
Burdick Cabinet Co., Milton, Wis.	G-H—52
Buzzell-Flanders Co., Boston	G-H—51-58
Calco Chemical Co., New York	I—81
Campbell Elec. Co., Lynn, Mass.	J-K—96-111
Carnes Artificial Limb Co., Minneapolis	L—121
Castle Co., Wilmot, Rochester, N.Y.	K—112
Churchill & Alden Co., Brockton, Mass.	J—98
Clinical Film Co., New York	Bal. 154
Colgate & Co., New York	L—123
Cummings Chem. Co., Lansdowne, Pa.	L—5
Davis Co., F. A., Philadelphia	J—90
Dayton Photo Products Co., Chicago	E—142A
Dennison Mfg. Co., Framingham, Mass.	H—60
DeVilbiss Mfg. Co., The, Toledo, O.	I—79
De Zeng Standard Co., Camden, N.J.	J—92
Dermatological Res. Lab., Philadelphia	D—40
Diarsenol Co., Inc., Buffalo	H—67
Dry Milk Co., The, New York	I—74
Earnshaw Knitting Co., Chicago	K—114
Eastman Kodak Co., Rochester, N.Y.	M—125-126
Edmands, Walter, Boston	G—48
Engeln Electric Co., Cleveland	H—57
Fischer & Co., Inc., H. G., Chicago	I—86-87
Foregger Co., The, N. Y.	J—97

	Aisle and Space No.
Fraas Co., Inc., Aug. E., New York	Bal. 157
General Optical Co., Mt. Vernon, N.Y.	J—101
General X-Ray Co., Boston	Bal. 170-171
Green & Bauer, Inc., Hartford, Conn	L—5
Hanovia Chem. & Mfg. Co., Newark, N.J.	C—28
Hansen's Lab., Chr., Little Falls, N.Y.	H—59
Hardy & Co., F. A., Chicago	J & K—100
Hindle, Chas. F., Ossining, N.Y.	L—2
Hoeber, Paul B., New York	A & B—13
Holmes Co., T. J., Boston	Bal. 155
Horlick's Malted Milk Co., Racine, Wis.	J—88
Horn & Brother, Wm. H., Philadelphia	L—120
Hospital Social Service, New York	Table space
Hygienic Fibre Co., New York	Bal. 160
Hynson, W'stc't., Dunning, Balto.	B & C.—22-27
Int. Jour. of Gastro-Enterology, N.Y.	Bal. 158
Intern. Surg. Instr. Co., New York	Bal. 159
Jaeckh Mfg. Co., The, Cincinnati	M—127
Jaeger-Bigelow Co., Boston	Bal. 166
Johnson & Co., Mead, Evansville, Ind.	D & E—42
Kayden, Popper & Klein, New York	K—115
Kelly Koett Mfg. Co., Covington, Ky.	G—53-54
King Optical Co., Julius, New York	I—80
Klett Mfg. Co., New York City	Bal. 172
Kloman Instr. Co., Washington, D.C.	L—1
Kny-Scheerer Corp., New York	J—94-95
Kolynos Co., The, New Haven, Conn.	J—102-103
Lea & Febiger, Philadelphia	A & B—12
Leitz, Inc., E., New York	H & I—66
Leonard, W. H., Boston	E—139
Linen Underwear Co., Greenwich, N.Y.	K—115
Lippincott Co., J. B., Phila.	M—133-134-135
Lowy Laboratory, Inc., Newark, N.J.	I—85
Lungmotor Co., Boston	I—71
MacGregor Inst. Co., Needham, Mass.	G—50
Macmillan Co., New York	J—93
Mahady Co., E. F., Boston	I—82
Maltbie Chemical Co., Newark, N.J.	B—19
Maltine Co., The, Brooklyn	I—78
Mass. General Hospital, Boston	B—17
McIntosh Bat. & Opt. Co., Chicago	L—119
Mellin's Food Co., Boston	K—116-117
Merrell-Soule Sales Corp., Syracuse, N.Y.	G—47
Metz Labs., Inc., H. A., New York	B—18
Meyrowitz, Inc., E. B., N.Y.	K & L—8-9-10
Miracle Artificial Arm Co., Chicago	K—110

	Aisle and Space No.
Morse-Chapman Company	Bal. 168
Mosby & Co., C. V., St. Louis	A & B—14
Mueller & Co., V., Chicago	E—145-146-147-148
Nelson & Sons, Thos., New York	M—129-130
New York Post-Grad. Med. School	Bal. 163
Norton Company, The John, Columbus, O.	J—99
Oxford University Press, New York	E—140
Partridge & Co., Boston	Bal. 167
Patterson Screen Co., Towanda, Pa.	E—143
Picker, James, New York	Bal. 164
Pierce, Harvey R., Philadelphia	Bal. 169
Prior Co., Inc., W. F., Hagerstown, Md.	C—31
Radium Chemical Co., Pittsburgh	J & K—104
Radium Co. of Colo., Denver	B & C—23-24-25
Radio Chemical Corp., New York	L—6
Rebman Company, New York	M—124
Safety Anaes. App. Con., Chicago	K—109
Sanborn Company, Boston	C & D—32-33
Saunders Co., W. B., Philadelphia	A & B—15
Scientific Apparatus Co., Hoboken, N.J.	Bal. 156
Smith, Inc., Upsher, Minneapolis	M—132
Sorenson Co., C. M., N.Y.	C & D—36-37-38
Southworth Co., Troy, N.Y.	M—128
Spencer Lens Co., Buffalo	Bal. 175
Squibb & Sons, E. R., N.Y.	I & J—83-84-91
Standard X-Ray Co., Chicago	Bal. 161-162
Stover & Bean Co., Lowell, Mass.	H—64
Surgeons' & Physicians' Sup. Co., Boston.	G—49
Taylor Inst. Co., Rochester, N.Y.	H—55-56
Thomas Co., F. H., Boston	G—44-45-46
Thompson Plaster, Leesburg, Va.	I—86-87
Thoro Corporation, The, Chicago	E—144
Toledo Technical Appl. Co., Toledo	C—26
Victor X-Ray Corp., Chicago	K—105-106-107
Welch Grape Juice Co., Westfield, N.Y.	E—138
Weissfeld Bros., New York	L—4
Waite & Bartlett Mfg. Co., Long Isl. City	J—89
Wappler Elec., L. I. City	H & I—65-75-76
Wiggins Son Co., H. B., Bloomfield, N.J.	L—3
Wilson Laboratories, Chicago	H—63
Wilson & Wilson, Boston	I—77
Winthrop Chem. Co., New York	I—77
Wood & Co., Wm., New York	C—30
Woolf Inst. Corp., New York	L—118
Yawman & Erbe Mfg. Co., Rochester, N.Y.	D—39
Year Book Publishers, Chicago	K—108

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HIGH BLOOD PRESSURE STASIS*

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CHICAGO

Whatever difference of opinion may exist regarding the factors concerned in the production of high blood pressure, general agreement must concede that when such a condition has come to pass it represents a state of circulatory strain. The net result of persistent high arterial blood pressure, after due allowance is made for physiologic factors of adjustment, is overwork to the dynamic side of the circulation—the heart and the arteries.

For a variable period, compensatory adjustment proves adequate to maintain circulatory equilibrium; but in the course of time, demands on the heart resulting from the stress and strain of a continuously elevated blood pressure outrun cardiac adaptability, and exhaustion of the heart muscle supervenes with circulatory failure. As observed clinically, this failure may manifest itself in several ways. The heart, perhaps without previously displaying grave indications of exhaustion, may suddenly break under the strain and death ensue quickly, with the phenomena of acute dilatation. This is, comparatively speaking, a rare form of circulatory falure in high pressure stasis, and is most often induced by severe and sudden physical or emotional overstrain. That it does not occur more frequently may perhaps be explained by the peculiar mechanism of adjustment at work in the circulation of these cases. The form of heart failure most frequently encountered is a gradual exhaustion of myocardial tonus, with the characteristic syndrome of progressive asystole and falling blood pressure. With this group may be included the occasionally observed instance in which the heart decline advances more rapidly, somewhat after the manner of the failure of the athlete's heart.

In still another group of cases the development of circulatory failure is attended by distinctly different phenomena. In such instances the blood pressure formula remains but little altered, despite the steadily increasing circulatory embarrassment; and until the inevitable antemortem fall in pressure supervenes there exists the anomaly of a failing ventricle with a sustained blood pressure. The name "high blood pressure stasis" has been applied to this condition. It is to a clinical consideration of this interesting development that I invite your attention. I am encouraged to do so by the fact that high blood pressure stasis constitutes a definite and clean-cut circulatory syndrome, and by the conviction that there is a general failure to visualize it and appreciate its significance and bearing on prognosis.

THE HEART IN HIGH BLOOD PRESSURE

There appears to be current a good deal of misconception regarding the heart in high blood pressure. This may be inferred from the frequency with which the terms "myocarditis" and "cardio sclerosis" are employed to characterize the high blood pressure heart state. An attentive study of the clinical course of any case of prolonged high blood pressure must throw grave doubts on the justification for employing either of these terms to describe the valiant and efficient organ that often for many years maintains an unequal fight against heavy mechanical odds. High blood pressure as a rule is of slow growth, and the heart and arteries are afforded time to adjust themselves to the ever-increasing strain. In place of the heart's becoming less efficient, it grows more adequate; and pressures so high that, were they suddenly imposed, they might perhaps disrupt the circulation are successfully borne for years, often practically without faltering. In the end, however, provided apoplexy or uremia or intercurrent illness does not terminate life, the heart sinks under the strain, its reserve exhausted. At necropsy in such a case there may appear no pathologic changes in the heart sufficient to explain its functional defeat. Provided, however, there does appear to be some myocardial fibrosis, is it appropriate that the cardiac diagnosis be announced "myocarditis," and if perchance the coronary arteries show the effects of strain shall we say that it is "cardiosclerosis" that has brought the heart to failure? Surely this would be confusing cause and effect.

I shall not attempt to revive the discussion as to whether the hypertrophied heart may not outrun in its enlargement the capacity of the coronary circulation to nourish it and consequently be foredoomed to degeneration. Provided constriction of the coronary paths does not occur, it is difficult to conceive of a failure of this important circuit to meet as efficiently as do other departments of the arterial system the slow imposition of excess demand. That myocardial fibrosis does take place in the high pressure heart is, of course, true; but it is an open question, as some have maintained, whether this may not be primarily a conservative process endowing the heart with an added element of resistance to strain. The comparative infrequency of acute heart dilatation may again be referred to, and the ability of the greatly hypertrophied heart to preserve its efficiency for long periods is common clinical experience. Whether it is appropriate to stigmatize the high pres-

* From Medical Service No. 2, St. Luke's Hospital.

* Read before the Society of Internal Medicine, March 27, 1921.

sure heart by the use of the term "cardiosclerosis" will depend on what is implied thereby. Clearly it infers the existence of sclerosis of the heart, thus bringing that organ into line with sclerosed vessels. Used in connection with high arterial pressure, the implication is plain that there exists a generalized vascular sclerosis in which both heart and artery share—a coordinated retrogression. Perhaps distinction between the cardio-arterial fibrosis of high pressure states and the vascular changes of atheroma and arteriosclerosis may in practice appear somewhat difficult and involved. The senile sclerosed artery does not lose its vasomotor tonus, and there is nothing to prevent the aged and atheromatous individual from acquiring a high blood pressure, should he develop nephritis or become subject to the toxic factors that induce arterial hypertonus. On the other hand, it is true that persistent high blood pressure induces certain changes in the walls of the arteries; but they are of the nature of a functional hyperplasia, the arterial wall undergoing a thickening or augmentation in the face of strain much the same and after the manner in which the high pressure heart increases in size and, for a time at least, in efficiency. The fact remains, however, that high arterial pressure is not a senile affair or especially involved with the retrogressive vascular changes of old age, and there is need for a good deal more care and discrimination in the use of the terms "arteriosclerosis" and "cardiosclerosis" in connection with high blood pressure. It is well to bear in mind what Allbutt points out—that in hypertension neither heart nor arteries are to blame. They are the sinned against, not the sinners, and we should clear our minds of the misconception that the heart of high blood pressure states is essentially a degenerated or sclerosed organ.

Whatever myocardial damage may eventuate from prolonged strain on the organ, when failure comes to pass it is ordinarily an exhaustion of cardiac reserve brought about by inveterate peripheral factors. Heart failure in high pressure states may perhaps differ little in clinical progression from the asystole of valvular disease or myocarditis, but the provocative factor is different. In this instance it is the existence of high peripheral resistance which produces slow but sure exhaustion of the heart's strength, and the presence of this factor materially influences the behavior of the blood pressure during failure. This is most strikingly apparent in the form of failure under consideration, i. e., high pressure stasis. In this condition the blood pressure remains high at both sides of the pressure formula, systolic and diastolic, until just before death, when the inevitable antemortem drop occurs. In certain instances restriction of pulse pressure appears to be from the diastolic rather than the systolic side, as occurs in ordinary ventricular decline.

In compensatory failure or asystole, it would appear *a priori* that the single constant feature is diminished cardiac power—insufficient systole. This being so, it should necessarily imply a falling systolic pressure. An explanation of the apparent anomaly of a high sustained systolic pressure in heart failure may rest in the fact that, in the presence of a high peripheral block (high diastolic), even a small systolic output from the laboring ventricle may suffice to maintain an elevated systolic pressure—in other words, decline in the mass movement of the blood results and the circulation becomes increasingly static.

HIGH PRESSURE STASIS

High pressure stasis appears to possess certain interesting and, I am inclined to believe, characteristic features. Chief among these are rapid pulse, gallop rhythm and pulsus alternans. The pulse rate in our experience has been invariably rapid, although rhythm is usually regular or at most broken by irregularly recurring premature contractions. Auricular fibrillation rarely if ever occurs. In not a single instance of the fifteen cases forming the basis of this study was fibrillation observed. Some decline in pulse rate follows rest and recumbency, but the pulse rarely returns to normal frequency even after digitalization. It is a fair assumption that this rapid rhythm is an effort on the part of the ventricle to compensate by rapidity of stroke for reduced volume output. The serious significance of persistent increase in pulse rate in high pressure stasis has not been sufficiently emphasized. Other things being equal, a change from the deliberate, slow and measured heart rate ordinarily present in high blood pressure to one more rapid than normal signifies the beginning of myocardial insufficiency. The radial sphygmogram presents fairly constant features. The predicrotic wave of the down stroke is abnormally short, and its curve of tension not as clearly indicated as might be anticipated in view of the heightened pressure and thickened artery. The dicrotic notch occurs at a higher point than normal and is shallow, while the postdicrotic descent of the downstroke is gradual, the rounded shoulder included between the postdicrotic wave and the base line being but faintly indicated or absent altogether. Electrocardiographic study of four of our cases has yielded but little information of particular interest.

Pulsus alternans is a frequent development in these cases and, once present, is usually permanent. Of the fifteen cases studied, eight displayed the alternating

OBSERVATIONS IN FIFTEEN CASES

Case	Sex*	Age	Nephritis	Gallop	Pulsus Alternans	Angina	Blood Wassermann Test	Average Blood Pressure: Systolic	Average Blood Pressure: Diastolic	Blood Nitrogen: Urea	Blood Nitrogen: Total N	Blood Nitrogen: Creatinin	Phthalein	Death	Period Under Observation
1	♀	60	0	+	+	+	0	179	115	24.61	48.8	.....	29.0	Asystole	9 months
2	♀	49	+	+	+	0	0	218	120	69.0	102.0	11.98	2.75	Uremia	7 months
3	♂	39	+	+	0	0	0	201	127	95.6	123.15	20.4	trace	Uremia	4 months
4	♂♀	49	+	+	0	0	0	237	152	75.6	98.62	4.72	9.3	Uremia	15 days
5	♂	39	+	+	+	0	0	235	149	35.49	60.0	3.1	29.0	Asystole	7 months
6	♂	60	0	+	+	0	0	210	125	32.19	55.0	1.9	52.0	.....	20 months
7	♂	67	0	+	0	0	0	217	136	37.26	48.16	....	....	.....	5 weeks
8	♂	56	0	+	+	+	0	200	120	27.21	39.71	....	....	Asystole	12 months
9	♂	41	0	+	+	0	0	204	134	29.11	44.1	....	41.0	Asystole	4 months
10	♂	52	0	+	0	0	0	230	152	.....	.....	....	60.0	Asystole	14 months
11	♂	60	0	+	0	0	0	151	97	15.2	21.0	....	72.0	.....	20 months
12	♂	55	0	+	+	0	0	183	124	.....	.....	....	45.0	.....	12 months
13	♂	53	0	+	0	0	0	181	96	15.22	34.11	....	5.0	Asystole	8 months
14	♂	53	0	+	0	+	0	160	90	.....	.....	....	60.0	.....	8 months
15	♂	38	0	+	+	0	0	188	121	26.85	38.95	....	24.0	.....	11 months

* In this column, ♂ indicates male; ♀ female.

pulse. The serious significance of this development is indicated by the death of five of these patients after an average period of observation of seven and a half months. In four, deaths occurred from asystole; in one, from uremia.

One of the most interesting and constant physical signs observed in high pressure stasis is the presystolic gallop rhythm. This peculiar type of heart rhythm was present sometime during the course of all cases studied. Sometimes designated "canter rhythm," it is most typical and persistent in the high pressure failure of Bright's disease. The French call it "rhythmus Brightique" for this reason. This gallop of the failing high pressure heart is not to be confused with the diastolic double sound so often heard in mitral stenosis. When the heart takes on this rhythm in high pressure stasis, it denotes grave muscle embarrassment. It is a distress signal from the overburdened heart, possessing much the same significance as the pulsus alternans with which it is frequently associated.

In our experience, when once established it never wholly disappears, and it has proved a sign of grave significance. Under the influence of rest and treatment it may temporarily recede, only to reappear following effort and activity. With the advent of edema, it may disappear, and as death approaches it is no longer to be heard. Our experience would appear to justify the statement that the appearance of gallop rhythm in high blood pressure signalizes the advent of the terminal stage. When the alternating pulse is associated with it, experience would indicate that the end is not far distant. Another symptom of grave significance observed along with gallop rhythm is Cheyne-Stokes respiration. This may be present even when the patient is active and about. Some degree of orthopnea is usually apparent, and exertion tests produce distress of breathing and cyanosis. Medullary dyspnea causes sleep to be broken and restless, and definite paroxysms of nocturnal cardiac asthma may occur.

In high pressure stasis occurring as one of the phenomena of the terminal stage of chronic nephritis, blood nitrogen accumulation, as might be expected, may attain high figures; whereas in non-nephritic cases but little waste nitrogen retention has been observed: indeed, no more than might be readily explained by the kidney decline of passive hyperemia. Four cases of nephritis are included in the series studied, three patients dying of uremia and the fourth of asystole. The average waste nitrogen figures for the three uremia cases was: blood urea, 80 mg.; total nonprotein nitrogen, 107 mg., and creatinin, 12 mg. The fourth nephritic patient dying of heart failure showed more moderate concentration: blood urea, 35.49 mg.; total nonprotein nitrogen, 60 mg., and creatinin, 3.1 mg. The series included eight non-nephritic cases in which blood chemistry studies were made, presenting the following averages: blood urea nitrogen, 26 mg.; total nonprotein nitrogen, 41 mg. The phenolsulphonephthalein kidney function index in this group averaged 45 per cent. for the two hour period. The foregoing figures furnish some support to the contention made by Dr. J. Lyle Williams in a recent report that blood chemistry studies may serve as a means of distinguishing between nephritic and non-nephritic cases of high blood pressure.

The most striking characteristic of the blood pressure formula is marked and persistent elevation of diastolic pressure. Diastolic pressures as high as 180 mm. have been observed in the present series. Diastolic values attain their maximum in nephritic circulatory stasis. The average pressure for the four nephritic cases included in this series was: systolic, 222; diastolic, 137 Average readings for eleven cases of nonrenal type were: systolic, 191; diastolic, 119.

A rather interesting feature of the state of advancing stasis is the general absence of edema. This is the more surprising in view of the fact that for long periods very pronounced splanchnic engorgement exists. The liver may be large and tender, the urine scanty and albuminous from renal cyanosis; basal pulmonary hypostasis is present, and yet the superficial veins do not appear engorged and no tissue soakage exists. It is usually not until the end draws near that fluid accumulates in the subcutaneous tissues and serous cavities. A brief note on the symptoms of this condition is all that time permits. The special subjective complaints which accumulate as the circulatory stasis progresses appear, in the main, to be distinctly abdominal in type. Examination will reveal their true stenocardiac character. These anguinal manifestations may at first be no more than a sense of oppression referred to the epigastrium following the principal meal of the day. This discomfort the patient may strive to relieve by belching and gulping. A common experience is that the effort after breakfast incidental to toilet necessities and hurrying to business induces precordial distress, which presently disappears not to recur until the following morning, or it may show itself again on first lying down at night, when an extra pillow under the head and shoulders is found to afford some relief and so orthopnea is ushered in. True attacks of angina pectoris are not frequent in this condition, but occasionally occur. Nitrites alone afford but moderate relief, morphin being usually required for the purpose. Sensorimotor phenomena appear, such as tenderness over the precordium, sensitiveness to pressure over the pectoral fold or shoulder muscles, and pains and paresthesia in the left arm. The patient may find that these symptoms yield temporarily to cathartics, and takes to purging himself. Their frequent time relations to meals may make him suspect that his food is wrong, and he begins to diet, loses flesh and is none the happier. Cough on exertion, dyspnea and precordial constriction become more and more severe; angina seems never very far off, and nocturnal asthma may occur. Finally, unless effective treatment stays the downward course, edema appears; and thereafter nothing may suffice greatly to delay final circulatory collapse.

The nature of the causes which contribute to bring about this form of circulatory failure renders the prognosis a serious one, increasing in gravity according to the degree with which the vicious circle as between heart and arteries becomes more firmly established. Once edema appears, the end is not far off; and the presence of gallop rhythm, pulsus alternans or Cheyne-Stokes breathing closes the door to any but temporary improvement. A more extended outlook on life may exist in those patients without nephritis. In nephritis, the signs of high pressure stasis go along with serious kidney insufficiency and impending uremia. Measures of treatment directed to the circulation may in some degree prove effectual in cases in which there is no nephritis; but when renal insufficiency exists, little reaction to treatment is apparent, the course proving steadily downward despite all efforts at control.

TREATMENT

There are but three measures of treatment that appear to me to exercise any control in this condition, and they are rest, venesection and digitalis.

As soon as it becomes apparent that the heart is yielding to the overload, complete physical rest should be enforced. In no other manner may cardiac reserve be restored. During complete physical relaxation, pressures decline and cardiac adequacy improves. Resumption of activity should be gradual and under strict supervision. Regulation of the diet on a low protein, low calory basis, together with measures to stimulate elimination, will supplement the good effects of rest. If there exist serious indications of high pressure stasis, considerable benefit may be secured by free venesection. The reduction of pressure, especially diastolic pressure resulting from abstraction of blood, may last for a considerable time and may suffice to avert the threatened stasis.

It is, perhaps, difficult to justify this procedure on physiologic grounds, for unquestionably the vessels fill again quickly and systolic pressure returns soon to former levels; but diastolic pressure returns more slowly, and there can be no doubt of the subjective and symptomatic improvement. Aside from the prompt relief at a crisis, there is something to be said for the employment of venesection as a gradual remedial measure repeatedly and systematically carried out over long periods of time in cases displaying tendency to stasis. My own experience with venesection employed in this manner has been, on the whole, satisfactory. The amount of blood taken during a crisis should, provided no anemia or other contraindication exists, be sufficient to produce a decided effect on diastolic pressure. From 600 to 900 c.c. will ordinarily be required to accomplish this. When bleeding is done as a repeated therapeutic measure, the amount should ordinarily not exceed 500 c.c. Too frequent repetition should be avoided; otherwise harmful depletion of the blood plasma may result. As a rule, the high pressure stasis of renal insufficiency is not appropriate for bleeding, and does not improve under its employment. A complete record of all venesections performed in the series of cases herewith reported is unfortunately not available. Accurate records of the last eight bleedings performed and their effects on blood pressure may be reported. The average amount of blood withdrawn was 520 c.c. A comparison of blood pressure levels at the time venesection was performed, with the pressures taken from twenty-four to thirty-six hours thereafter, shows an average reduction of 20 systolic and 16 diastolic. The relatively greater decline in diastolic pressure is apparent from these figures.

In high pressure stasis of nephritis, digitalis has proved ineffectual. In stasis without renal inadequacy, digitalis may help the heart to rally and should be employed, although rarely will there be secured in the same degree the satisfactory results apparent in other forms of failing heart. If the heart muscle is found to respond to digitalis, its continued employment in optimum dosage appears necessary to maintain myocardial tonus. Such a heart, working ever on the verge of breakdown, cannot be trusted to take care of itself without support.

CONCLUSION

Experience appears to warrant the statement that, while at all times and in all types of high blood pressure, the advent of circulatory stasis introduces a situation of the utmost gravity, when it is associated with renal function failure it proves to be virtually a terminal development, which no treatment proves effectual to control.

30 North Michigan Avenue.

THE CONSTITUENTS OF CHAULMOOGRA OIL EFFECTIVE IN LEPROSY

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HONOLULU

In a previous paper[1] the results of the use of certain derivatives of chaulmoogra oil at the Kalihi Hospital have been reported. The data for the fifteen months preceding Jan. 1, 1920, were summarized and from them it appeared that forty patients had been paroled from the hospital during that time. The period referred to covered a transition in the methods of handling the patients from a time when treatment was voluntary and had to be asked for by the patient to whom it was to be given, to one in which all patients were automatically put on the treatment as soon as admitted. Furthermore, during that time the use of mixtures of chaulmoogra oil with olive oil and various drugs for injection purposes was abandoned and the so-called "standard treatment" adopted.

As a result of these changes in policy and treatment, the period formerly reported on is not as representative of the valuable results which can be secured by the use of chaulmoogra oil derivatives in leprosy as the time which immediately followed. During the period from Jan. 1, 1920, to the middle of March, 1921, some fourteen and one-half months, practically all patients were under regular treatment, and the great majority of them were receiving our standard treatment. The exceptions, which will be noted later in this paper, were patients who were on special experiments. In these special experiments, however, weekly injections were given of various ethyl esters derived from the fatty acids of chaulmoogra oil so that all of the treatments given during this recent period have included as their most essential feature intramuscular injections of one or more of the ethyl esters.

The standard treatment to which reference has been made consists of weekly intramuscular injections of the mixed ethyl esters of chaulmoogra oil carrying 2 per cent. of iodin in chemical combination. This is supplemented by the oral administration of the fatty acids and combined with 2.5 per cent. of iodin. The latter material is placed in capsules and given three times a day according to a graduated dosage, which has been previously described.[1] Only one change has been made in our standard treatment since its adoption. Recently the ethyl esters have been distilled under high vacuum before being combined with the iodin. This gives a purer product, which is somewhat more fluid and is believed to be more readily absorbed.

A summary of the results during this recent period of fourteen and one-half months ending the middle of March, 1921, is given in Table 1.

As has been previously pointed out, there is no way of demonstrating that any person has been absolutely cured of leprosy, but these patients who are paroled are believed to be free from the disease. Up to the present time no one of the patients paroled since

1. McDonald, J. T., and Dean, A. L.: The Treatment of Leprosy, Pub. Health Rep. **35**: 1959 (Aug. 20) 1920.

Oct. 1, 1918, has shown a recurrence. It is probably to be expected that occasional cases will show recurrence and have to return for a second course of treatment. It is believed, however, that the percentage of such returns is going to be low.

The data presented above show that 50 per cent. of the patients who have been in the hospital at all during the period from Jan. 1, 1920, to March 15, 1921, have recovered and been paroled. Most of the eighty-seven in residence, March 15, 1921, are comparatively recent arrivals. It has not been necessary to transfer any patients from the Kalihi Hospital to the settlement on Molokai since June, 1919. It would appear that we have methods in hand for holding the disease under control. Because of the widespread knowledge in the Territory of Hawaii that entrance to Kalihi Hospital does not necessarily mean a life of exile, there is now little tendency to conceal lepers and allow them to reach advanced stages before discovery. On the contrary, more and more of the arrivals are voluntary, and many of the patients are waiving the right to an examination by a board of three physicians, to which they are legally entitled, and enter the hospital quite

TABLE 1.—RESULTS OF TREATMENT

Number of patients, Jan. 1, 1920		72
New patients received, Jan. 1, 1920, to March 15, 1921		116
Total number of cases		188
Deaths	7	
Paroled	94	
Total departures		101
Patients on hand, March 15, 1921		87

willingly, knowing that they have leprosy. This means, of course, that from now on the great majority of the cases will be in the early stages and consequently much easier to control.

Certain questions have arisen from the work at Kalihi, and this paper is devoted in the main to the answers to three of these:

1. What is the relative value of the oral administration of chaulmoogra compounds as practiced in our standard treatment?
2. What are the therapeutic agents in chaulmoogra oil?
3. Is the combined iodin of the standard treatment essential?

TREATMENT BY INJECTIONS ONLY

In the former paper [1] a brief account was given of the beginning of a test on ten patients by intramuscular injections without the oral administration of any chaulmoogra oil or its derivatives. The injections were the same as those given in the standard treatment; but instead of receiving the capsules three times a day containing the fatty acids, the patients received a small dosage of strychnin or other tonic. The ordinary dosage of strychnin was 1/60 grain of the sulphate three times a day. The ten patients used for the test exhibited different types of the disease and varying degrees of severity. They were not selected on any other basis than the fact that they were recent arrivals in the hospital, and during treatment they received no further chaulmoogra derivatives except the injections of the preparation called "H I," which consists of the mixed ethyl esters from chaulmoogra oil carrying 2 per cent. of combined iodin. The experiment began, Aug. 8, 1919, and Table 2 gives the results up to March 15, 1921. Detailed descriptions of the cases are given in the appendix.[2]

It will be noted from the results in the table that of the ten patients in this experiment, one died of intercurrent disease; but at the time of his death, his leprosy

TABLE 2.—RESULTS OF INTRAMUSCULAR INJECTIONS

Case No.	Age	Sex*	Nationality	Character of Disease	Results
1826	23	♂	Hawaiian	Nodular	Lesions nearly gone, ear lobes still swollen
1827	26	♀	Hawaiian	Neural	Paroled, 11/11/19
1841	29	♀	Hawaiian	Nodular	Paroled, 7/6/20
1842	9	♂	Hawaiian	Nodular	Paroled, 3/3/21
1843	25	♀	Chinese-Haw.	Nodular	Paroled, 3/3/21
1845	17	♂	Hawaiian	Nodular	Paroled, 3/3/21
1847	50	♂	Korean	Mixed	Paroled, 7/6/20
1848	28	♀	Hawaiian	Mixed	Paroled, 3/3/21
1849	29	♂	Japanese	Nodular	Died, 4/11/20
1867†	10	♀	Hawaiian	Neural	Paroled, 11/11/19

* In this column, ♂ indicates male and ♀ indicates female.
† This patient began treatment while still in the "suspect ward," before formal admission; consequently the serial number is higher than the others.

had shown a very marked improvement. One of the patients still remains in the hospital. His lesions have cleared up with the exception of the somewhat swollen lobes of the ears. These ear lobe infiltrations are frequently very slow in disappearing. It is expected that this patient will be ready for parole in a few months. The other eight patients have all been sent out from the hospital after varying periods of treatment.

In order to have a basis of comparison, the ten cases immediately following Case 1849 may be considered. Of these ten patients, two were paroled, July 6, 1920; five were paroled, March 3, 1921; two still remain in the hospital, and one died of typhoid fever. It appears that these ten patients have done no better than those which did not receive capsules. It is very doubtful whether the inconvenience and expense attached to the oral administration is justified in view of the results obtained. The individual on standard treatment receives about six times as much material in capsules as he does by injection, and in spite of this fact it would appear that it is the injected material which is almost wholly responsible for arresting the disease. The preparation of the material which goes into the capsules, and the filling of them, entail considerable expense which does not appear to be justified.

TESTS OF HYDNOCARPIC AND CHAULMOOGRIC ACIDS

Our first accurate knowledge of the constituents of chaulmoogra oil was due to the work of Power and his collaborators. They isolated chaulmoogric and hydnocarpic acids, determined their properties, and established their constitutions. These two acids are the only known members of a unique series of fatty acids. Constitutionally they are remarkable for the five carbon ring, and they are differentiated from other fatty acids by their property of rotating the ray of polarized light.

In seeking to account for the therapeutic action which chaulmoogra oil doubtless possesses in leprosy, we have previously advanced the working hypothesis that the peculiar type of fatty acid represented by chaulmoogric and hydnocarpic acids is specific in leprosy, and that it is due to acids of this group that it is possible to control the disease. In order to test the

2. Because of lack of space this is omitted here; it will be included in the authors' reprints.

validity of this hypothesis it became necessary to treat groups of lepers with pure hydnocarpic and chaulmoogric acids or their derivatives. No very great inconvenience was encountered in preparing moderate quantities of chaulmoogric acid, but the preparation of pure hydnocarpic acid was a problem which presented some difficulties. The methods by which it was isolated in quantities adequate for chemical investigation did not prove serviceable when used for the preparation of quantities sufficiently large for our clinical experiments. The methods which were developed by Dr. Richard Wrenshall and one of us have been detailed elsewhere [3] and need not be entered into here. It is sufficient to say that it proved feasible to make considerable quantities of pure crystallized chaulmoogric and hydnocarpic acids. These pure acids were converted into their ethyl esters, and in recent months these have been distilled in order to get them in the highest state of purity. Iodin was not added.

Ten patients were taken in the order in which they entered the hospital, and it was intended that they should represent unselected cases just as they were admitted without any attempt to choose favorable or unfavorable examples. The first five were given weekly intramuscular injections of the ethyl ester of chaulmoogric acid; the second five were given injections of the ethyl ester of hydnocarpic acid. They received no chaulmoogra derivatives by way of the mouth, but did receive some tonic, such as strychnin or arsenic. The general results are given in Table 3, and the detailed descriptions of cases may be found in the appendix.

TABLE 3.—RESULTS OF TREATMENT WITH PURE CHAULMOOGRIC AND HYDNOCARPIC ACIDS

Case No.	Date Admitted	Material Injected	Age	Sex	Nationality	Character of Disease	Results
1933	4/22/20	Ethyl ester, chaulmoogric acid	17	♀	Hawaiian	Nodular	Paroled, 3/3/21
1934	4/16/20	Ethyl ester, chaulmoogric acid	18	♀	Hawaiian	Neural	Improvement, slow
1935	5/ 7/20	Ethyl ester, chaulmoogric acid	12	♂	American-Hawaiian	Mixed	Marked improvement
1936	5/ 7/20	Ethyl ester, chaulmoogric acid	27	♂	Filipino	Nodular	Marked improvement
1937	5/10/20	Ethyl ester, chaulmoogric acid	5	♀	Hawaiian	Neural	Paroled, 3/3/21
1938	5/11/20	Ethyl ester, hydnocarpic acid	13	♂	Hawaiian	Mixed	Improvement
1939	5/11/20	Ethyl ester, hydnocarpic acid	11	♂	Hawaiian	Neural	Paroled, 3/3/21
1940	5/13/20	Ethyl ester, hydnocarpic acid	25	♀	Hawaiian	Neural	Paroled, 3/3/21
1944	5/28/20	Ethyl ester, hydnocarpic acid	51	♂	Portuguese	Nodular	Paroled, 3/3/21
1945	5/30/20	Ethyl ester, hydnocarpic acid	12	♂	Hawaiian	Mixed	Marked improvement

It will be noted that all of the patients have shown improvement, that two of those receiving chaulmoogric acid have been paroled after less than a year of treatment, and that three of the patients on hydnocarpic acid have been paroled. For purposes of comparison, the five cases preceding 1933 and the five following 1945 may be cited. Of these ten patients, four have been paroled and six still remain in the hospital. The results establish the fact that pure chaulmoogric acid and pure hydnocarpic acid given in the form of intramuscular injections of their ethyl esters, without the use of iodin, and without the use of any chaulmoogric derivatives by way of the mouth, are able to arrest the progress of leprosy and cause the evidences of the disease to disappear. On the basis of these results it is justifiable to conclude that acids having the peculiar structure and properties of chaulmoogric and hydnocarpic acids will arrest human leprosy.

MORE HIGHLY UNSATURATED ACID IN CHAULMOOGRA OIL

In the paper on "Fractionation of Chaulmoogra Oil," [3] it was pointed out that from the high boiling portion of the fatty acids, fractions were obtained with iodin numbers much higher than that of chaulmoogric acid: with the chaulmoogric acid fractions there appears to be relatively little optically inactive material, but some materials which raise both the iodin value and the indexes of refraction, indicative of more highly unsaturated acids.

In the preparation of quantities of chaulmoogric acid in accordance with the methods outlined in the paper just mentioned, there was accumulated from the highest boiling fraction a liquid portion with an iodin number of about 125. This is some 35 points higher than the iodin value of chaulmoogric acid; and if it be assumed that this liquid fraction is a mixture of chaulmoogric acid with an acid containing one more unsaturated linking and of about the same molecular weight as chaulmoogric acid, it would mean that this liquid fatty acid material was about 60 per cent. chaulmoogric acid and about 40 per cent. of another acid with an iodin value of about 180. If this hypothetic unsaturated acid with the iodin value of 180 were of the ordinary type of fatty acid, and therefore optically inactive, the rotation of this fraction would drop far below that of chaulmoogric acid. As a matter of fact, it proves to be about the same. The indications are that we are dealing with a compound similar to chaulmoogric acid in that it is optically active and probably has the five carbon ring characteristic of the chaulmoogric series, but is more highly unsaturated than either chaulmoogric or hydnocarpic acids.

The investigation of this material with a view to isolating the hypothetic acid is being prosecuted, and the results obtained so far indicate that an acid of the character suggested above is present. Meanwhile, it was decided to put a group of five patients on this liquid fatty acid material with the iodin number of approximately 125. Consequently these liquid fatty acids were esterified and the ethyl esters used on a group of patients who received no other chaulmoogra derivatives. Originally five patients were taken, serial numbers 1970 to 1974, admitted in the period from Aug. 12 to Sept. 1, 1920. Later on another patient had to be substituted for 1974, who was a blind old man and very irregular in taking injections. One of the other four patients was paroled, March 3, 1921, after a residence in the hospital of a little less than six and one-half months. The other three patients have improved with unusual rapidity, and there are indications that this more highly unsaturated material is particularly efficient. At the present time, however, we are in a position to make only a preliminary report.

RESULTS

The results obtained with those patients who have received no chaulmoogra oil or its derivatives by way of the mouth, but have received injections of the ethyl esters, have shown conclusively that the oral administration is by no means necessary. These results are

3. Dean, A. L., and Wrenshall, Richard: Fractionation of Chaulmoogra Oil, J. Am. Chem. Soc. **42**: 2626-2645, 1920.

in harmony with the experience extending over many years when chaulmoogra oil was given only by way of the mouth. Not only was there intolerance of the oil taken this way, but even with those patients who were able to retain the oil, its effects were slow and uncertain, so that although chaulmoogra oil was regarded for many years as a useful drug in the treatment of leprosy, it was by no means considered as a satisfactory remedy or one that could be relied on.

It is not clear why the use of the oil in this way is not followed by more beneficial results. In our recent practice we have administered the oil in the form of its fatty acids so that no digestive hydrolysis was necessary, and these acids should have been promptly absorbed. It is possible that the absorptive mechanism of the intestinal tract rejects these fatty acids, or it is possible that during the process of absorption they undergo molecular rearrangements which destroy for the most part their peculiar properties. It is difficult to see why, if they should once pass into the blood stream from the alimentary canal, they should not exert the same effect that they exert when injected. Whatever the reasons, however, the fact remains that intramuscular injections are effective and that the auxiliary use of oral administration is of doubtful utility.

As far as we are aware, the results communicated in this paper are the first that have been obtained by the use of pure compounds of chaulmoogra oil in leprosy. In some of the earlier work reported from this station, patients were given what was known as fraction "A", which consisted of the ethyl ester of chaulmoogric acid. Unfortunately, however, these patients were at the same time receiving crude chaulmoogra oil in capsules by way of the mouth, and we were unable to draw final conclusions as to the efficacy of the chaulmoogric acid. No such uncertainty surrounds the results communicated now. It is true that five cases on each of the two acids is not a large number, and if the results had been conflicting one would not be justified in drawing conclusions. As a matter of fact, however, the results are not conflicting or uncertain since each one of the patients has shown improvement, although only a part of them have as yet shown a complete disappearance of the clinical evidences of leprosy. Curiously enough, the case in which the slowest improvement was shown was in many respects the mildest of them all, but even in this case there is a distinct improvement in the functioning of the nerves which were affected, and we expect the patient completely to recover.

So far as it is possible to make any comparison on the basis of the results yet obtained, we incline to the view that hydnocarpic acid is more effective than chaulmoogric acid, and we suspect that as one goes down in the chaulmoogric acid series the acids of lower molecular weight will prove more active. We have at present no way of testing this out because no acid of the series of lower molecular weight than hydnocarpic is known to occur in nature, and the artificial shortening of the side chain has not been accomplished. Sir Leonard Rogers has experimented with intravenous injections of mixtures of the sodium salts derived from cod liver oil, and on the basis of his results intimates that therapeutic action in leprosy and perhaps in tuberculosis may be a somewhat general property of unsaturated fatty acids. Rogers' work with cod liver oil derivatives has yet to be confirmed, and the in vitro results obtained by Walker and Sweeney would not tend to support his views. It will be remembered that Walker and Sweeney demonstrated the high bactericidal value of chaulmoogra compounds on acid-fast bacteria. They were not able to show that the cod liver oil fatty acids had a similar power.

Certainly the investigation of the physiologic effects of unsaturated fatty acids deserves further study. Whether or not it shall transpire that fatty acids other than those belonging to the chaulmoogric series are effective in leprosy or other diseases, this much we do consider to be established. The fatty acids of the chaulmoogric series are specific in leprosy.

In their experiments on the bactericidal properties of chaulmoogra derivatives, Walker and Sweeney reported that the salts of chaulmoogric and hydnocarpic acids were less effective than those of the mixed fatty acids from chaulmooga oil. This they ascribe to a greater solubility of the salts of the mixed acids than of the individual ones, on the general principal that mixtures are frequently more soluble than pure compounds. It is true that the pure salts, especially that of chaulmoogric acid, show a tendency to gelatinize, which may be interpreted to mean that they form colloidal solutions in which aggregates of several molecules are the units rather than individual molecules. If it be true that chaulmoogra oil contains one or more liquid fatty acids having the same general structure as chaulmoogric acid, but more highly unsaturated, it is conceivable that these more highly unsaturated acids are in part at least responsible for the more marked bactericidal action which Walker and Sweeney noted for the mixed acids. We have too little data to draw any final conclusions respecting the relative efficiency of the preparation containing the more unsaturated acid; but such results as have been obtained and which have been communicated above lead us to suspect that this more unsaturated material is unusually rapid and effective in its action.

The patients on the ethyl esters of chaulmoogric acid, hydnocarpic acid and the more highly unsaturated mixture have received no iodin. They do not appear to have suffered from its absence. Although no strictly comparable cases are available on which to base final conclusions, we may infer that the rôle of the iodin is at most a minor one.

It is clear that there are still before us numerous problems connected with the chemistry of chaulmoogra oil and the therapy of its compounds in leprosy. One of these has to do with the more unsaturated compounds of chaulmoogra oil, and work on this is being actively prosecuted by Dr. Wrenshall and may be expected to yield conclusive results in the not distant future. The chemical problems connected with the production of acids with shorter side chains than hydnocarpic acid, or the artificial production of acids of this type, are attractive and should be attacked. In the clinical use of the remedies, one of the most serious handicaps is the tendency to eruptions which certain patients show. We have already pointed out that something like 10 per cent. of the patients are unable to take injections continuously, but tend to break out with swellings which may perhaps be a form of toxemia, as suggested by various authors, or may be an anaphylactic reaction, as originally suggested by Sinclair.[4] Although these are not especially serious, they do interrupt the progress of treatment and make it much slower for these patients. The control of this reaction is therefore highly desirable and offers a field for further investigation. We have not experimented with injections other than the intramuscular injections with

4. Sinclair, A. N.: Tr. M. Soc. Hawaii, 1919.

ethyl esters. We have proceeded on the general principle that it is good practice to let well enough alone. It may be, however, that in the form of emulsions these ethyl esters will be more readily absorbed and more efficient in action.

It is not claimed that our present practice, successful as it appears to be, is the last word in the administration of chaulmoogra oil derivatives to lepers. The whole problem of the physiologic mechanism involved in these treatments has yet to be attacked. The rather obvious inference from the work of Walker and Sweeney is that the chaulmoogra compounds attack and destroy the bacilli of leprosy. It is permissible to hope that further study of this whole problem may result not only in fuller knowledge, but also in more efficient treatment.

ROENTGEN RAY AND TUBERCULOSIS IN INFANTS AND CHILDREN

A STUDY OF FORTY-FOUR CASES *

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The trend of present day medicine is primarily toward prevention of disease and, failing in that, to obtain early diagnosis in order that curative measures may be applied in season. In the work along these lines, perhaps no disease has been to the forefront more than tuberculosis, the prevention and early diagnosis of which in childhood assume a most important rôle. Baldwin [1] has proposed a rather generally accepted theory that "the natural infection of human beings takes place largely in childhood." The enthusiastic public health worker has propounded the slogan, "If we can control the child, the tuberculosis problem will take care of itself."

As an application of these ideas, witness the open-air schools, nutrition clinics, social service centers and work in the homes of the poor. The results of these efforts have been real and valuable. But not yet has the ubiquitous tubercle bacillus been stopped in its vicious circle of infection-disease—disease-infection. Not yet may the general medical man fail to be conversant both with the protean manifestations of tuberculous disease in children and also with all the tried and approved methods of accurate diagnosis.

A theoretical controversy has long existed between the so-called "laboratory man" and the clinician concerning the most accurate methods of diagnosing tuberculous infection and disease. The theoretical controversy has often become real; and the trained roentgenologist has been classed by the clinician as a "laboratory man," and the roentgen ray but an uncertain adjunct to diagnosis in intrathoracic conditions.

The controversy is being settled as regards adult and childhood tuberculosis. The use of the roentgen ray in the latter has increased until it is now a routine measure and is endorsed by clinicians.

During the course of routine roentgen-ray examinations of infants and children at the Boston Consumptives' Hospital, we became impressed by the relatively large number of cases referred with a clinical diagnosis of chronic pulmonary tuberculosis. In order to check this impression by figures, and also, to compare and correlate the more common clinical findings with roentgen diagnosis, we have made a study of forty-four consecutive cases.

SOURCE OF MATERIAL

The children's ward of the Boston Consumptives' Hospital is maintained in a building entirely separate from the main hospital group, where are treated far advanced cases of adult phthisis. The children's ward is both a hospital and a preventorium. The average number of fifty cases includes bed and ambulatory patients from infants of 5 months up to boys and girls of 16 years. Many of these are sent from poor homes and tuberculous parents merely as undernourished children, others with frank tuberculosis. By clinical and laboratory studies these children are classed as nontuberculous or as having bone, tracheobronchial lymph node or pulmonary tuberculosis. Because of lack of facilities, but few bone cases are received at the hospital. Therefore, we shall deal only with intrathoracic conditions.

AGE GROUPS

Writers in general divide tuberculosis of infancy and childhood into age groups. One group includes individuals below 2 years, a second, those between 2 years and 6 or 10 years, while a third contains all children above 6 or 10 years, when adult forms are said to appear.

In the present series of forty-four cases, we arbitrarily made the same groupings for ease in comparative and statistical study of the methods of diagnosis and types of tuberculosis found.

By thus dividing, we found three patients under 2 years of age, eleven between 2 and 6 years inclusive, twenty between the years of 7 and 10, and ten over 10 years of age.

Final clinical diagnosis in any given case was the result of a composite estimate of general constitutional findings, such as weight, fever or cough, and of various standard tests, including the von Pirquet and intradermal tuberculin reactions, D'Espine's sign for tuberculosis of the tracheobronchial lymph nodes, sputum examinations and physical signs, including percussion, breath sound changes and râles.

To this was added the roentgen ray, each case being carefully studied from plates. Fluoroscopy was not much used, as we have found it to be of less value than the permanent record of the roentgenogram. Roentgen-ray diagnosis considered all hilum thickenings and peribronchial and parenchymatous changes in the lung fields, viewed from the standpoint of the patient's age and past history. Changes due to acute infections were ruled out by a history sent with the patient to the roentgen-ray room, although in reading plates diagnosis was first made from the roentgen-ray evidence alone and later correlated with the history for greater accuracy.

Leaving out of the present study the constitutional symptoms, we will discuss each of the clinical tests mentioned, first by itself and then in conjunction with the roentgen-ray findings.

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*Read before the Norfolk District Medical Society, Boston, March 29, 1921, and New England Roentgen Ray Society, Boston, April 2, 1921.

1. Baldwin, E. R.: Immunity in Tuberculosis, with Special Reference to Racial and Clinical Manifestations. Reprint from Harvey Lectures, Series X, 1914-1915.

VON PIRQUET AND INTRADERMAL SKIN TESTS

Accepting the von Pirquet and intradermal reactions as tests for infection, but not for active tuberculous disease, Fishberg [2] summarizes the findings of many observers, all of whom found that the reaction increases from negative in infancy up to adult life, when from 75 to 94 per cent. give positive reactions. "Clinically," says Fishberg (p. 321), "the test is important in showing the wide dissemination of tuberculous infection among civilized humanity. . . . In children it shows whether they have been infected with tuberculosis, and in infants it even points to active disease, but in adults it is of no clinical value at all."

In the present series a total of thirty-five reacted to the von Pirquet and thirty-six to the intradermal test; one out of three in the age group under 2 years; nine in eleven from 2 to 6 years of age, and fifteen from a possible sixteen from 6 to 10 years; while in those children over 10 years of age, all reacted positively. These observations are confirmatory of those noted by others.

It is of interest to compare the roentgen-ray findings with these clinical tests of tuberculous infection. If these skin tests indicate the presence somewhere within the body of the host of an infectious process, in how many cases will this infection be found to show itself in the lungs, as demonstrated in roentgenograms?

We found that a total of twenty-six having a positive von Pirquet and intracutaneous reaction also were shown to have structural changes in the lung hila or lung fields consistent with a pathologic condition due to implantation of tuberculous infection.

In ten cases of a positive skin test the roentgen ray detected no evidence of change within the lung fields, thus giving no visible clue to the site of the infection.

Seven patients did not give a positive skin test, and yet the roentgen ray noted characteristic changes in the intrathoracic picture. Ruling out changes due to acute respiratory disorders, variations in technic of applying the test, etc., no explanation is offered for this observation. It is worthy of note, however, that one negative skin test, like one negative blood Wassermann test, is to be viewed like the latter—itself negative as a diagnostic guide.

Much has been said of late as to the more frequent use of the von Pirquet tuberculin test, some advocating that children be tested every year until a positive reaction is obtained. In this way the positive reaction would indicate, within a time radius of a few months, the date of implantation of the active bacilli and possible reaction of the child to them. Then, if any untoward, concomitant, constitutional symptoms were to arise, the medical observer would be doubly warned that clinical tuberculosis was perhaps just beneath the surface.

If it be true that the von Pirquet test points out implantation of infection and growing sensitization of the host, it is also true the roentgen ray can in many cases show the site of infection, if it be intrathoracic, and give the clinician an estimate of extent and type, whether hilum, peribronchial or parenchymatous, thus aiding prognosis in a given case. The latter point is worth consideration by the general medical man and the hygienist, raising, as it does, the question of wisdom of more frequent roentgen-ray examinations of children.

2. Fishberg, Maurice: Pulmonary Tuberculosis, Philadelphia, Lea & Febiger, 1916.

D'ESPINE'S SIGN AND TRACHEOBRONCHIAL TUBERCULOSIS

In diagnosis of tuberculosis of the tracheobronchial lymph nodes, "the one clinical sign upon which the most emphasis has been laid is that described by D'Espine. This sign consists of a prolongation of the whispered voice over the upper dorsal vertebrae, occasionally it being heard as low as the eighth dorsal. Some believe D'Espine's sign is pathognomonic of enlarged tracheobronchial lymph nodes; others, while attaching great importance to its presence, state that it is heard at times in the absence of any such enlargement. Morse, in a study of 666 children of wealthy and well-to-do classes, was able to elicit the sign in but 6 per cent." [3]

In our series, D'Espine's sign has been found of relatively little value. It appears to be evanescent, heard one day and absent a few days later, with no satisfactory explanation.

Four in our 2 to 6 year group, five between 7 and 10 years of age, and two over 10 years of age, or a total of eleven patients, were found to have a D'Espine sign, six of these being called nontuberculous from a clinical standpoint.

Turning to the roentgen ray for correlation in making a diagnosis of tracheobronchial lymph node tuberculosis, we find a divergence of opinion and findings in our series.

MacGowen [4] points out that in children the roentgen ray "is a most valuable and reliable evidence, and a negative result is more important than a positive." Reporting on a series of 210 children roentgenographed for intrathoracic glandular tuberculosis, he found sixty-seven positive on clinical examination and 112 positive by the roentgen ray, eighty-one doubtful clinically, and forty-one doubtful by the roentgen ray.

Our present series shows only four diagnoses of clinical tracheobronchial lymph node tuberculosis, two each in the 2 to 6 and 7 to 10 year age groups, the remaining seven positive D'Espine signs not being considered sufficient evidence to clinch diagnosis. Three of these clinical diagnoses were checked by the roentgen ray, the fourth showing nothing by the roentgen ray.

In the absence of a clinical D'Espine sign or positive diagnosis by the clinician, the roentgen ray diagnosed seven cases of tracheobronchial lymph node tuberculosis, four of these also showing peripheral lung field involvement. Hilum thickenings appeared in twenty-eight cases, fifteen being in conjunction with further lung involvement.

In the 2 to 6 years age group, six out of eleven showed hilum thickening, sixteen out of twenty in the 7 to 10 years age group, while six in ten in the group over 10 years had thickened hila.

Fishberg says (p. 267) that "early tuberculous lesions, slightly enlarged bronchial glands, unless caseated or calcified, as well as mucous secretions, usually permit the rays to pass through without casting any shadows on the plate."

If this be accepted, then we can feel that our large percentage would be even less than the total number of tracheobronchial infections present in our patients.

Therefore, from a roentgen-ray standpoint, in our series, the D'Espine sign showed itself neutral or nega-

3. Norris, G. W., and Landis, H. R. M.: Diseases of the Chest, Philadelphia, W. B. Saunders Company, 1917.

4. MacGowen, J. C.: Early Diagnosis of Tuberculosis in Children, Brit. J. Tubere. **12**, No. 4 (Oct.) 1918.

tive, so far as it clinically demonstrated enlarged tracheobronchial lymph nodes in children. George, Boutwell and Floyd,[5] reporting a series of children studied for bronchial adenopathy, also concluded that D'Espine's sign is of less value than most of the other signs.

SPUTUM

In clinching a diagnosis of pulmonary tuberculosis in children, emphasis has been laid both on the difficulty of obtaining a positive sputum and in most cases of obtaining any sputum at all. The former was for us the more difficult task, for in only three cases in the whole series could the tubercle bacillus be demonstrated. In some cases there are recorded more than fifty careful examinations, extending over many months and years in a few cases.

Heise and Sampson,[6] on comparing sputum examinations and roentgen-ray types, found that only 7 per cent. of their peribronchial tuberculosis patients had positive sputum, as opposed to 65 per cent. of parenchymatous types. This observation has no bearing on our cases of childhood tuberculosis. Seventeen of the cases were of the peribronchial type alone, and sixteen showed parenchymatous involvement by the roentgen ray. The three positive sputum cases were peribronchial.

CLINICAL TYPES OF CHILDHOOD TUBERCULOSIS

In reading various writers on childhood tuberculosis, we found that not only were age groups outlined carefully, but also only certain types of the clinical disease were believed to obtain within each age limit.

During the first two years, Holt[7] says that tuberculosis most frequently involves the lungs and bronchial nodes. After the second year, tuberculosis of the bones, cervical and mesenteric lymph nodes, peritoneum and intestine becomes more frequent. MacGowen[4] states that bronchial adenopathy holds first place in this early childhood period.

Pulmonary tuberculosis in children is said to take usually the miliary form or tuberculous bronchopneumonia, both very active and acute processes. Holt believes that under the seventh or eighth year, "nothing corresponding to the chronic phthisis of adults is found (p. 1027).

Norris and Landis[3] say: "It is not altogether easy to fix definitely the age period at which the signs peculiar to children cease. From my own experience, ten years would be more nearly correct."

Fishberg[2] found, in his experience of many years, dealing with the tuberculous and their families, not a dozen cases of pulmonary tuberculosis in children from 4 to 12 years of age.

According to Griffith,[8] "chronic pulmonary tuberculosis or 'phthisis' is rarely found in infancy and early childhood. Sawyer, in a physical examination of 8,000 children under 15 years, found only fifteen in whom a diagnosis of phthisis could be made with reasonable certainty."

In working with our cases at the Boston Consumptives' Hospital we had formed a rather definite idea that we did have more of the adult phthisical form than textbooks would lead us to believe. Admitting that our cases were, so to speak, a concentration of pulmonary types, nevertheless, we felt the need of tabulating by clinical and roentgen-ray findings to check our general impression.

Tracheobronchial tuberculosis has already been discussed under the D'Espine sign. Only one patient with clinical tuberculous bronchopneumonia was in the hospital at the time the study was made.

In the 2 to 6 years of age group we found two cases called chronic pulmonary tuberculosis from clinical signs. These were dulness, bronchial breathing and râles, findings like those of adult phthisis. Both of these cases were confirmed by roentgen-ray examination.

In the 7 to 10 years group we found seven cases of clinical pulmonary tuberculosis, all showing the positive signs mentioned. All but one of these was checked by the roentgen ray.

Half of the ten patients over 10 years of age had chronic pulmonary tuberculosis of the adult type, the roentgen diagnosis concurring in all of these save one, in whom changes noted were thought to be not characteristic of tuberculosis.

We find, then, a total of fourteen cases of chronic pulmonary tuberculosis occurring in a group of forty-four children under 16 years of age. Nine of these were under 10 years, and two less than 6 years old.

These figures justify the observation that phthisis of adult form does occur in very early childhood sufficiently often to warrant its careful consideration by clinicians.

ROENTGEN-RAY TYPES

It is commonly accepted that the roentgen ray usually shows structural changes of much greater extent than physical examination would suggest. It has also been noted that in many cases in which the physical examination is negative, the roentgenogram is positive.

This finding was amply corroborated in our series. Fifteen cases were given a negative diagnosis by clinical examination, yet showed structural lung changes consistent with pulmonary tuberculosis. In seven of these the picture was that of infiltration of certain portions of the lung fields. One patient under two years, negative clinically, had infiltration of both apexes.

What importance shall we attach to these findings? In the first place, of course, we must consider the individual history very carefully in order to rule out other infections which might be misread as tuberculosis.

Lapham[9] examined 150 children by roentgenograms, none of the children presenting clinical features of tuberculosis. Many had changes typical of the disease as shown by the roentgen ray. Lapham gives warning against calling all these changes tuberculosis, because capillary and peribronchial changes following influenza and other acute respiratory infections may lead one astray.

One case is of special interest as emphasizing the need for careful history taking and the correlation of history with all other means of diagnosis before a definite classification is made:

A boy, aged 10 years, was admitted to the Boston City Hospital in November, 1918, with a story of having swallowed a tack. The roentgen ray confirmed this, and four unsuccessful attempts were made to remove the foreign body in the bronchus. The patient then was sent to Philadelphia, where the tack was removed by Dr. Chevalier Jackson in

5. George, A. W.; Boutwell, H. K., and Floyd, C.: The Diagnosis of Thoracic Adenitis, Internat. Clin. **3**: 130, 1916.
6. Heise, F. W., and Sampson, H. L.: A Comparison of Physical Signs, Symptoms and X-Ray Evidence Obtained in Pulmonary Tuberculosis, Am. Rev. Tuberc. **1**: 709 (Feb.) 1918.
7. Holt, L. E.: Diseases of Infancy and Childhood, New York, D. Appleton & Company, 1911.
8. Griffith, J. P. C.: Tuberculosis in Children, New York M. J. **109**: 485 (March 22) 1919.
9. Lapham, Mary E.: Tuberculosis and Roentgen Plates, New York M. J. **107**: 294 (Feb. 16) 1918.

larch, 1919. Since the operation the boy has remained nderweight and has had a persistent cough. A roentgeno-ram was taken in December, 1919, which suggested a lung bscess in the left pulmonic field. In November, 1920, physical xamination revealed a percussion note and bronchial breath-ng at the left apex, and crepitant and medium moist râles ver the lower left back. Strangely enough, the roentgen ay shows a moderately thickened right hilum with parenchy-natous change throughout the right lung field, and a roent-gen-ray diagnosis of tuberculosis is made.

However, having carefully ruled out history of other espiratory disturbances, we have still before us the oentgen-ray evidence of a pathologic condition. Deal-ng with adults, we have no special concern if we now there is no constitutional sign of activity. But what of children with well marked lung changes? Shall we consider them as potential or so-called subclin-ical tuberculosis and thus poor futurity risks? The issue vitally concerns the clinician and the public health worker.

It seems to us that the ultimate answer is largely to be determined by the social and economic status of the child as the years pass, and that time alone can give us the solution. However, on the law of human chances we feel that too much emphasis cannot be laid on the importance of carefully checking such children as time goes on.

True it is, as one writer has said, that apparently tuberculosis does invade, infect, make mildly sick and then be overcome and completely arrested, mean-while the true nature of the whole process remaining unrecognized. However, to ignore evidence put clearly before our eyes seems to be to neglect our duty as medical men.

As we advocated the more routine use of the roent-gen ray in a way analogous to the tuberculin skin tests, so we believe that all positive roentgen-ray cases in childhood should be checked from time to time and any indicated prophylactic measures taken to avoid a later outbreak of greater severity than the first, result-ing, as it would, in economic loss to the individual and to society. By so doing we attack more vitally the vicious circle of the tubercle bacillus.

CONCLUSION

As a result of a statistical study of forty-four infants and children at the Boston Consumptives' Hospital we found that:

1. (*a*) The von Pirquet and intracutaneous skin reactions are reliable guides to infection with tuber-cle bacilli, and the number of positive reactions increases from infancy up through childhood, over 10 years of age, all patients reacting. (*b*) In twenty-six of thirty-six positive skin reactions, the roentgen ray disclosed the site of infection to be intrathoracic.

2. D'Espine's sign as a clinical index of tubercu-losis of the bronchial lymph nodes is of relatively little value, being elicited only eleven times, as against roentgen-ray evidence of glandular enlargement in twenty-eight cases.

3. Three cases of positive sputum were found in fourteen diagnoses of chronic pulmonary tuberculosis.

4. Fourteen cases of chronic pulmonary tuberculosis of the adult type were found. This suggests that the so-called phthisis is more common in children than has been stated by writers of textbooks.

5. Fifteen cases, negative clinically, showed definite roentgen-ray signs of marked structural changes con-sistent with tuberculous infection. This raises the question as to whether these children are to be regarded as more likely to develop clinical tuberculosis and should thus be watched carefully and roentgenographed at fairly frequent intervals.

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THE SOCIAL RESPONSIBILITIES OF MODERN MEDICINE*

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The problems of social medicine are peculiar to the present generation; their development is due to the change that has taken place in the relations between physicians and the public. Up to the middle of the last century, medical practice was individual. No one consulted a doctor until afflicted with some specific disorder. The only interest that the physician had in the patient was a personal one. Little was known regarding the cause of disease, the method of its transmission or the means for its prevention. If a physician was called to see a patient suffering from typhoid fever, he treated that patient until he recovered or died. There was no way of knowing how the patient had acquired the disease, or how any other individual could acquire the disease from him. The physician had no responsibility to the community, since there was no act of his, the performance or omission of which could in any way affect society, either favorably or unfavorably. All that he could do was to care for his patient and, so far as possible, in the case of those diseases which experience had shown to be infectious, to prevent others from contracting them. As Sir George Newman, the chief medical officer of the British Ministry of Health, says, up to 1850 the medical profession had no public or social functions or responsibilities except the enforce-ment of such crude methods of quarantine as had been developed through experience. Public health work up to the last half century was largely accidental and empiric.

Today an entirely different situation exists. Modern medicine has a social value as great as, if not greater than, its individual importance. The development of the natural sciences during the nineteenth century has increased our knowledge of diseases and their pre-vention more rapidly during the last fifty years than in the preceding 1,800 years of the Christian era. The development of preventive medicine since 1870 is too well known to need recounting. Today, if a physician is called to see a patient and makes a diagnosis of typhoid fever, while he will naturally do everything possible to promote the comfort and recovery of his patient, yet the determination of the source of the disease and the prevention of the development of other cases from the initial case as a focus, i. e., the social aspects of the problem, are of as great if not greater importance than the treatment of the individual patient. This becomes increasingly true as the disease increases in rarity and severity. Suppose a single case of bubonic plague were discovered tomorrow in New York City. The correct-ness of the diagnosis in this single case would affect directly or indirectly every man, woman and child of the millions in New York and of the many millions in the

* Read before the Medical Association of the State of Alabama, Montgomery, April 20, 1921, and before the Medical Society of the State of North Carolina, Pinehurst, April 26, 1921.

eastern half of the nation. A single case of Asiatic cholera unrecognized in one of our seaports might easily change the currents of trade and affect millions of dollars of capital and innumerable human beings. Modern scientific medicine is today one of the most vitally important and indispensable factors in modern life, and we have as yet only seen the beginning. We cannot now appreciate or realize the possible benefits which our present and future knowledge of diseases and their control will have on the well being and happiness of the human race.

For half a century our knowledge, as Tennyson says, has "grown from more to more," but our professional habits have remained the same. The social value of medical services is now equal to, if not greater than, the value of medical services to the individual, yet the medical profession is, in its methods, as individualistic today as it was fifty years ago and as it has been for the last five hundred years. In spite of the rapid development of public health administration as a function of municipal, state and national governments and the constantly increasing demand for properly trained and qualified men to serve in official positions, medical students are still trained almost exclusively for the treatment of individual patients. Practically nothing is taught regarding social medicine. If after graduation a physician has an opportunity to take up public health work, he is forced to get his training at the expense of the community after he has been appointed to office. It is only in the last few years that any differentiation has been undertaken between the training necessary for individual practice and that required of a man who desires to devote himself to the service of the community or the state.

What is true of our medical colleges is also true of our medical societies. Papers on public health questions or on social and economic problems are read to a handful of listeners, while the majority of the members flock to some surgical amphitheater to see a surgeon operate on an individual gallbladder, or to listen to papers on the diagnosis and treatment of individual patients. Questions of public policy and legislation, involving the welfare of an entire state, arouse little general interest and are left to a small group of public spirited physicians. Our professional standards are based on the same methods of valuation. An individual's standing or success in the profession is estimated largely by the number of patients he has seen, the number of clinical cases he has reported, or the number of operations he has performed. So long as the profession was limited entirely to individual services, these were natural standards. Today these standards are in need of revision.

If it be argued that in the development of social medicine the physician has contributed his full share of services, often at considerable sacrifice to himself, it can be replied that this is perfectly true and that as health officer or member of a local or state board of health at a ridiculously small and inadequate salary, or as an attending physician or surgeon to a public institution, or free clinic, the great majority of physicians give valuable services worth large sums of money. But it is at the same time equally true that these contributions, magnificently generous as they are, have been contributed by the physician as an individual rather than as a professional participation in a definite social program.

The explanation of this apparently paradoxical situation lies in the fact that today, as for centuries past, the physician makes his living by charging individual patients for individual services; and so long as individual services are the principal source of income of the majority of physicians, there naturally will his chief interest lie. While the development of scientific knowledge in the last fifty years has produced an entirely different conception of the relation of disease to society, of the duty of society to the individual and of the individual to society in the control and prevention of disease, the economic relation of physicians, both as individuals and as a body, to their patients is still practically the same individualistic relation that it has been for hundreds of years past. The medical student of today still gives the greater part, if not all of his time to the study of disease as an individual phenomenon, while the practicing physician gives the bulk of his time and all of his interest to the treatment of individual patients. It is essential that physicians recognize that the treatment of diseases of the community and of social conditions which produce disease and impair efficiency are as much functions of the medical profession as are diseases of the individual, and that they endeavor to qualify for the same services in the social field that they have so magnificently performed and are now performing in the individual field.

If we fail to do so we must expect to see this field taken over by nonmedical workers; as has actually occurred in the last few years in social welfare organizations, made up almost entirely of men and women without medical knowledge and in many cases without scientific training. While an effort has been made to put their theories and practice on a sound basis, the subject is too new, the data too incomplete, and the workers as a rule too little trained to entitle social welfare to recognition as a science. Yet there has been no lack of suggestions from this class of workers as to the remedies which they consider appropriate for existing social conditions.

To attempt to discuss all of the schemes which have been proposed for the improvement of health through social methods would be impossible. The two which have, so far, aroused the most interest and discussion are compulsory health insurance and rural health centers. As remedies for our supposed social ills they require careful consideration.

COMPULSORY HEALTH INSURANCE

Compulsory, state supervised, industrial insurance, social or health insurance as it is variously called, originated in Germany in 1883. Responsibility for it is generally attributed to Bismarck, at that time chancellor of the German Empire. Various forms of state insurance, partial or complete, compulsory or voluntary, have in the last thirty-five years been adopted in many European countries. To discuss the details of this movement in each country is impossible within the limits of this paper.

In this country the subject was first taken up by the American Association for Labor Legislation, which had previously been active in securing the passage of workmen's compensation laws in forty-two states. In December, 1912, it organized its social insurance committee, which in 1914 prepared a tentative draft of a health insurance act. This was introduced in Massachusetts, New York and New Jersey. In 1917, the bill was introduced in twelve other state legislatures. None of these fifteen states adopted the bill. Eight of them, California, Massachusetts, New Jersey, Connecticut, Illinois, Ohio, Pennsylvania and Wisconsin, appointed

ommissions to investigate the subject. In Massachusetts and California, two successive commissions were appointed, making in all ten official bodies, which have made surveys, collected evidence, held hearings and issued reports on this question. In New York a reconstruction commission, appointed by the governor, also considered it. In Massachusetts, the first commission reported in favor of compulsory health insurance, and the second commission reported adversely. In California, both commissions reported in favor of the plan, but on a referendum to amend the state constitution to permit the establishment of compulsory state health insurance, it was defeated by a vote of 358,324 to 38,858. In New Jersey and Ohio the commission reported favorably. In Connecticut, Wisconsin and Illinois the majority of the commission reported against it. In Pennsylvania the commission recommended further study and investigation. In New York, the governor's commission reported favorably, but the bill failed to pass. Up to the present time it has been introduced in fifteen states and passed in none. Contrary to general expectation, it was introduced in only a single state legislature during the last winter, that of New York, where it has so far remained in committee.

What is this proposed plan, stated in its simplest terms? The standard bill drafted by the American Association for Labor Legislation provides that all employees earning less than $100 per month shall be entitled to medical, surgical, hospital and nursing care, dental treatment, maternity benefits, cash benefits and funeral allowances. These services are to be paid for out of a fund of which two fifths are to be contributed by the employee in the form of compulsory payments of a certain percentage of his wages, variously estimated at from 3 to 7.5 per cent., two fifths are contributed by the employer in the form of compulsory payments of about the same percentage of his payroll, and the remaining fifth is contributed by the state. This fund is to be administered by a local board for each group of 5,000 employees, to be composed of an equal number of representatives of employers and employees, all the local boards to be under a state commission, which determines the conditions of medical treatment, terms of compensation to physician, etc.

Details vary in different bills, but do not affect the principles involved. The maximum annual income as fixed by the British law was approximately $800 a year. That is, only employed persons whose gross annual income was $800 or less came under the compulsory provisions of the law. This has since been raised to $1,200. In the model bill drafted by the American Association for Labor Legislation, the maximum amount is $100 a month. In the present New York bill the limit is $600 per year. The proportionate amounts to be contributed by the three parties also vary in different bills. The amount contributed by each employee is fixed by a sliding scale in accordance with which the amount contributed by the employee decreased and that contributed by the employer increased as the weekly earnings decreased in amount. Employees receiving less than $5 a week pay nothing, the employer pays 80 per cent. and the state 20 per cent. Medical and surgical attendance is provided either by the apppointment of certain physicians as whole time insurance physicians or by the creation of a panel or list of physicians in each district willing to care for those insured. Proposals for the compensation of physicians differ. The payment to each physician of a fixed salary, division among all the physicians on the panel of the amount appropriated for medical and surgical services for the district, and a capitation system by which each physician is paid in accordance with the number of persons treated or the amount of work done during the year, are among the methods proposed.

OBJECTS OF HEALTH INSURANCE

Such is the plan in its briefest terms. Endless discussion has taken place regarding details with the result that the fundamental issues have been lost sight of. What are the arguments in favor of it?

The brief on the model bill prepared by the American Association for Labor Legislation makes the following claims: There is a disproportionately large amount of sickness among the employed. This causes immediate loss of time and wages, and results eventually in incapacity and poverty. There are as nearly as can be ascertained 3,000,000 persons in the United States sick at any one time. Each of the 30,000,000 wage earners loses approximately nine days a year through illness. The resultant annual wage loss amounts to half a billion dollars. The wages paid American working men are inadequate to enable them to meet the expense of sickness and to bear the losses consequent on sickness and incapacity. It is, therefore, it is claimed, necessary to distribute this burden among three parties, viz., the employee, the employer and the state. The objects of the proposed plan are, primarily, two, viz., to reduce to a minimum the amount of time lost by workmen through sickness, and to divide between the state and the employer 60 per cent. of the cost of the illness of employees, leaving 40 per cent. for them to carry as their share.

It would be interesting, if time permitted, to discuss in detail the evidence produced by the advocates of social insurance in support of their proposition. It can only be pointed out here that the arguments in favor of the plan rest on estimates or opinions, and not on facts. The evidence is not "overwhelming," nor does it clearly indicate the need for social insurance. On the contrary, the evidence is fragmentary, incomplete and unconvincing, and many of the conclusions drawn are not justified by the facts. There are no figures showing the death rate in the United States from different causes or in different social and industrial classes, the amount of sickness in the United States for any given period or class, the average income of workmen in the United States, or the average amount of time lost by workmen through illness. Statements made by advocates of the plan are, in the main, based on studies of small groups, the conclusions drawn from these groups being applied at proportional rates to the entire population. Such methods are clearly fallacious. There are no reasonbly complete or convincing data which would justify the sweeping generalization made by the advocates of the scheme. The only way in which convincing evidence can be secured is by a survey made, not to secure evidence to support a preconceived theory, but to obtain facts as to existing conditions as a basis for whatever constructive action may be found necessary. Such a survey has not yet been made in any state.

WHAT HEALTH INSURANCE FAILS TO DO

Let us now examine the plan to determine what it is not. In the first place, it is not insurance. The essential principle of insurance is the distribution of loss from any cause among a large number of persons subject to the same risk, so that the loss of one will be borne proportionately by all. For example, 100,000

men owning houses, either by mutual agreement or by taking out policies under an insurance company, prorate among the entire number any losses that may arise to any one of the number, so that the loss of each one is distributed among the entire group rather than borne by the individual. That is insurance. The proposed plan is not insurance, since it does not distribute the loss among those exposed to the same risk, but brings in two parties in no way sharers of the risk, viz., the employer and the state. If the proposed plan provided for distribution of the entire cost of illness of employees among themselves, either mutually or through a supervising corporation or the state, then it would be insurance. As it is, it is simply a method of taxing all the citizens of the state, either directly or indirectly, in order to maintain the productive efficiency of part of the population. All the cost will ultimately come on the consumer. Neither the employee nor the employer as such will bear any part of the expense involved.

What would happen if such a plan were adopted in any state? The workman, finding that a certain amount was deduced from his wages each week, would immediately demand that his wages be increased enough to make good this deficit. This increased wage would be added to the operating expense of the plant. The employer would hardly be expected to pay his assessment out of his profits. He would add his share to the operating expense account. So that the cost of production and ultimately the cost of the product to the consumer would be increased by the addition of whatever amount the employee and the employer are compelled to pay, and would be paid by the consumer as an indirect tax, as a part of the price of the commodity. The one fifth contributed by the state could only be paid out of money secured by taxation. The proposed plan, therefore, is not insurance at all, but is simply a plan for providing medical, surgical and hospital care for employed persons in order to increase the industrial output and so benefit a portion of the population at the expense of the entire citizen body, through direct and indirect taxation.

In the second place, the proposed plan is not health insurance. The object is not the maintenance of health, but the maintenance of productive efficiency. It is neither a medical nor a public health proposition. It is purely an economic measure, intended to maintain the efficiency of the employee and the productiveness of the industrial plant at the highest possible point. There is no evidence that the proposed plan would have any public health value. The best and most reliable information from England is that after ten years' trial in that country it has had no effect on the public health. The term health insurance, therefore, is a misnomer. Instead, it should be called taxation for the increase of industrial production.

In the third place, contrary to popular conception, the proposed plan is not intended for the relief of poverty and unemployment. In England, which has probably the most elaborate system of poor relief laws of any country, the operation of the poor laws has not been altered by the adoption of social insurance. The proposed plan only cares for those who are employed and who are drawing wages. Those unemployed at the time such a law would go into effect, and those incapable of supporting themselves, are in no way provided for under such a plan and would be cared for through voluntary philanthropy or by state charitable institutions, as at present.

In the fourth place, it is unsuited to social, econon and political conditions in this country. It is unde ocratic in that it substitutes governmental care for p sonal responsibility, and creates a definite class employees. In European countries, classes are fix and stationary. A man is born into a certain class a remains in it through life. If he is born into a wag earning family, he becomes a wage earner and ge erally remains one. In this country we have no su class distinctions. The employee of today is t employer of tomorrow and the member of the leisu class of the day after. He is not only able and willi but eager to bear his own responsibilities, to assur the burden of his own mistakes and misfortunes a to reap the result of his own enterprise and energ He does not need or desire governmental supervisio

THE BURDEN OF PROOF

When carefully analyzed, the proposed plan is se to rest on four propositions, all of which must proved in order to establish a case. These are:

1. There is a disproportionate amount of sickness amo employed persons, causing financial loss, incapacity and pover greater in proportion than that sustained by the average pe son, and requiring special methods of relief. Until this proved there is no reason for special laws for employees.

2. The financial burden caused by sickness is heavier th the average employee is able to bear. Until this is prov there is no reason to assume that he cannot carry his ov burden.

3. Present methods of promoting public health and co trolling diseases are not adequate. Until this is proved the is no need of devising any new plan.

4. Compulsory state supervised sickness insurance is t best remedy for this condition. Until this is proved it possible that some other remedy may be better.

The burden of proving these four propositions lie with the advocates of social insurance. No one of the has yet been proved. Nor is there at present any co clusive evidence or any mass of statistics or data b which any one of them can be proved. It is not know how much illness or incapacity exists, either amon employed persons or among any other class of ou population. It is not known what is the average wag It is not known whether the burden of illness is or i not heavier than the average employee can bear withou assistance. It is not known whether existing agencie are adequate or not. Statements as to the numbe of persons sick in the United States at any one time among wage earners, or any other class, or among th population as a whole, or as to the amount of tim or money that is lost through sickness are estimate in many cases are mere guesses, based on generali zations from incomplete and inadequate data and no on facts.

Of the four essential propositions on which the pro posed plan rests, the first three cannot be proved, owin to insufficient knowledge. But even if it could b shown that employees as a class are suffering from a undue amount of illness, that the financial cost is greate than they can bear without assistance, and that presen methods for remedying this situation are inadequate, i still remains to be proved that the plan proposed is th best remedy. The claim that health insurance is th best remedy for existing social ills is a pure assumption At least five alternatives must first be considered They are:

1. An increase in the wages paid to the employed, so tha each will be able to bear his own burdens.

2. The development of state, municipal and local health agencies to a point where preventable diseases will be reduced to a minimum and the burden on the individual limited by reducing the amount of sickness.

3. The development of voluntary thrift and saving habits among employees to a point where, through increased thrift and foresight, they may be able to provide for their own emergencies.

4. The development of voluntary industrial insurance on the part of employees and employers in industrial corporations.

5. The development on the part of wage earners and employees themselves of voluntary assessments and benefits through trades unions, benefit associations, etc., for their own protection.

All of these are possible alternatives to compulsory insurance involving the development of methods already in operation. Naturally, existing remedies must be considered and tried before a new and untried scheme is adopted. Just as the surgeon would consider every alternative before advising a radical operation, so the inadequacy of existing methods must be proved before taking up any new and experimental scheme.

The attitude of the organized medical profession on this question has been officially determined. The American Medical Association at the New Orleans session in April, 1920, adopted by a practically unanimous vote a resolution declaring its opposition to any plan of compulsory contributory insurance against illness or any other plan of compulsory insurance, provided, controlled or regulated by any state or the federal government. A number of state associations have adopted similar resolutions. The organized medical profession is, therefore, unqualifiedly opposed to compulsory state health insurance.

HEALTH CENTERS

The second plan for improving the conditions of medical service is generally known under the name of health centers and is an effort to concentrate in one institution in each county or rural community all of the forces for better health conditions. Two forms of such an organization have so far been proposed. The first is that proposed by the American Red Cross, following the close of the war. Before the war, the Red Cross was a limited semi-official organization for the temporary relief of communities in times of disaster. During the war, it developed into an enormous popular organization of 22,000,000 members. Its work both in this country and in Europe is deserving of the highest praise. After the armistice, however, it was one of the few war-time organizations which did not revert to its peace-time status; on the contrary, it has endeavored to retain its war-time membership and public support. In order to do this it was necessary to formulate and present plans for peace-time activities which would be commensurate in importance with the size of the membership and the amount of its income.

Two main projects were announced: rural health centers and public health nursing. The official announcement issued by the American Red Cross, Sept. 25, 1919, defines a health center as a physical headquarters for the public health work of the community, and states that the mobilization of the Red Cross interests and influence in every community should be utilized for the establishment of such health centers. The pamphlet vaguely discusses the various activities of such a center, suggesting as possible features a tuberculosis clinic; a child welfare bureau; community headquarters with reading and rest rooms; headquarters for the district nurse; baby health contests; social hygiene clinical and educational work; industrial health clinics and instruction on the prevention of accidents and industrial illnesses; dental and general clinics, etc.

The other proposed plan for health centers originated in New York, largely as a substitute for health insurance. The Sage-Machold bill, introduced in the New York legislature in March, 1920, divided the state into health districts and provided for a health center in each district. The bill did not pass. The Robinson-Moore bill, now before the New York legislature, is practically the same bill as far as health centers are concerned, but omits the provisions regarding health districts. The object of the bill is to provide the residents of rural districts and all others who cannot otherwise secure such privileges with adequate medical treatment, hospital and dispensary facilities and nurse's care; to assist local physicians by providing laboratory and other service and to improve the public health by authorizing a county or city to create and maintain health centers. The board of supervisors in any county is authorized to establish one or more such health centers. City centers may be established by municipal authorities. The centers are to include a general hospital with special pavilions for tuberculosis and other communicable diseases, children and maternity cases, and mental diseases. There are also to be clinics for outpatients, clinical, pathologic, bacteriologic, chemical and roentgen-ray laboratories auxiliary to the laboratory of the state department of health; public health nursing service; headquarters for voluntary public health agencies; medical laboratories; facilities for medical inspection and supervision of school children, and periodic medical examination of such inhabitants of the district as may desire it. The health center is to be under a board of managers consisting of the county judge, two practicing physicians, one woman and three other members. All persons residing in the district may avail themselves of the health center facilities. Those who are unable to pay are to be given examination, care and treatment free. Others are to pay such charges as may be fixed by the superintendent. Each paying patient shall be treated by the physician he selects. Funds are to be derived from charges for patients able to pay, local public funds, gifts, donations, and bequests from the state aid. Grants from the state are to include: one-half the cost of construction, not to exceed $750 a bed; seventy-five cents per day for each free patient; one-half the cost of installation of each outpatient clinic, not to exceed $5,000; 50 per cent. of the cost of free treatment, not to exceed an average of 20 cents per treatement; one-half the cost and maintenance for the laboratory, not to exceed $3,000, and $1,500 for the initial installation and equipment of each laboratory. Health centers are to be inspected and standardized by the state department of health, and state aid is to be given only to those centers which are approved by the state commissioner of health. This bill at the time of writing is before the finance committee of the state legislature. The plan is, as yet, too indefinite to permit of specific criticism or comment.

Of the two remedies proposed, health insurance is economically, socially and scientifically unsound, while the health center idea as yet exists only on paper. It is not sufficiently developed to admit of definite criticism. Health centers have been developed in a few cities under local leadership, but the plan is as yet too vague to be regarded seriously as a possible solution for a national problem.

A LARGER PROBLEM

While this disposes of the specific questions of health insurance and health centers, a larger problem at once presents itself. Does the rendering of an adverse verdict on these two proposals constitute the whole duty of physicians? Let us apply the same situation to the more familiar field of private practice. Suppose any one of us was called as a consultant in the case of an individual patient. After careful examination of the patient, we find that both the diagnosis and the treatment are wrong. Is our full duty as a consultant performed when we have stated these conclusions to the patient or to his friends? Under such circumstances should we not immediately be asked to furnish the correct diagnosis in place of the erroneous one, and to supply a proper method of treatment as a substitute for the one we have condemned? And should we not all admit that if we refused to do so, there was no alternative remaining but to confess that the case was beyond our ability and knowledge and to withdraw and give place to a more capable consultant?

In the case under discussion the patient is the social body. That it is suffering from certain ills is probably not questioned by any one. The exact nature and extent of these ills, in other words, the diagnosis, is the question at issue. Until an exact diagnosis is made, any proposed method of treatment must necessarily be empiric rather than scientific. We have questioned the views of those who claim to be competent and qualified to diagnose and prescribe for our social ills. We have opposed the treatment which they have prescribed as unscientific and inadequate. Does not this situation constitute a direct and unavoidable challenge to the medical profession, either to furnish a correct remedy for such ills as may be demonstrated or to admit that the case lies outside our province and to withdraw in favor of a better qualified authority?

I think we will all agree that both the making of a diagnosis and the prescribing of the treatment of the diseases of society are at present beyond the ability and knowledge of any one man, either physician or layman. We are at present without the exact knowledge of social conditions necessary for accurate diagnosis of social ills, nor will such a diagnosis be possible until we exert the same energy, ability, industry and perseverance in the study of social ills that the medical men of our own and previous generations have shown in investigating the disease of the individual. But the assumption of this task is an assertion of our belief that the study and treatment of social ills are just as much functions of the modern physician as are the diagnosis and treatment of the ills of the individual. Are we as physicians willing to take this position and abide by its consequences?

READJUSTMENT OF PROFESSIONAL METHODS TO SOCIAL NEEDS

It is important that physicians should understand clearly the significance of the present agitation for social reforms in the health field. To regard this movement as an isolated and single phenomenon would be a serious error. On the contrary, it is due to a series of causes which spring from the same sources as the development of scientific medicine. The medical profession itself, through its labors and progress, is very largely responsible for the present situation. For fifty years we have been so busy extending our knowledge that we have not had time to adjust our methods to conform to changing conditions. While we possess scientific knowledge which enables us to render service of greater value than any other professional group can offer, we have continued to do business on the old basis of so many dollars for so many calls on the individual patient. Yet the medical services which can be rendered and which in the future must be rendered to the community by physicians are of far greater value than any service which we can render to the individual. Medical services have grown in value until, under present methods, modern, up-to-date medical attention is beyond the reach of the majority of persons unless they secure it through charity. Health insurance is only one of the schemes proposed whereby adequate medical services can be put within the reach of the average workman. The fact that this particular plan is economically unsound and that it probably would be ineffective in operation does not relieve us of the immediate necessity of devising some method by which adequate medical services can be made available for every individual needing them.

The proponents of the proposed plan, instead of first studying the situation in this country and devising a plan suitable to existing conditions, endeavored to transplant entire from Germany by the way of England a plan unsuited to this country and out of harmony with our social institutions and economic conditions. But condemnation and defeat of health insurance brings us no nearer the solution of the real problem than we were before. There still remains the need, as imperative as ever, of remodeling the economic methods of practice now existing in the medical profession and of substituting for the method of individual services to individual patients some plan whereby each individual as a part of his social right will secure every protection for his health and well-being that modern medical knowledge can give him. The efforts for the adoption of health insurance should be recognized as the beginning of an effort to readjust professional methods to social needs.

RESPONSIBILITY OF PHYSICIANS

In the discussion of this method there are always three distinct groups: First, the conservatives, who desire only that things shall remain as they are; second, the radicals, who look forward with eager vision and often without accurate discrimination to what they hope will be better conditions and who favor any proposed change in the existing status; and third, the mass of the medical profession who have accepted conditions as they found them and have made the best of them, who are willing to adopt new methods if their value can be demonstrated, who are neither wedded to the past, as are the conservatives, nor plunging rashly into the future, as are the radicals. I take it that 75 per cent. at least of our profession belongs to the third class. To you, therefore, I wish to submit what is to my mind the most important and fundamental question in the whole discussion. Briefly stated, it is this: Is social medicine a function of physicians? Is the physician of the future to restrict himself to the treatment of individual patients as he has in the past, or is he to assume the responsibility for the treatment of society and of humanity in the mass as well as of the individual? If he is, then he must qualify himself for this work. If he is not, then he cannot complain if others take up the work which he refuses to do.

I assume there is no difference of opinion as to the answer to this question. The medical profession owes it to society as well as to the individual to render

the best service and to do the best work of which it is capable. It is inconceivable that the highest type of medical service, whether individual or social, shall be rendered by any other than scientifically trained men. But if physicians are going to assume this responsibility, especially if we are going to demand control of this field, as we have of the field of the treatment of individual ills, then we must qualify for social leadership just as thoroughly as we are now qualifying for individual service.

If we are going to assume leadership, then we must have a definite policy, and this policy must be based on knowledge, and not on prejudice and selfish interests. If the medical profession is to undertake responsibility for social service as a part of its professional functions, then social medicine and its problems must be studied and discussed in our medical organizations and medical publications as carefully as the problems of individual medicine. If social medicine is to be one of the functions of the medical profession of the future, then the medical student of the future must be given broad and adequate instruction regarding its problems. He must be taught social anatomy, pathology, diagnosis and treatment as thoroughly as he is now taught the diagnosis and treatment of individual diseases. We must begin in our medical schools to teach the medical student social medicine and to develop in the physician of the future an instinct and a capacity for social leadership.

The issue is plainly before us. Shall we adhere to the methods and practice of the past until we are forced to abandon them, or shall we broaden our methods to keep pace with the ever widening bounds of scientific knowledge? The question must be answered by those who are practicing medicine today, for in their hands lies the future of scientific medicine.

INJECTION OF THE BILE DUCTS WITH BARIUM *

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Having seen nothing like it in our experience, and having been unable to find anything like it in the literature, we deem this case of sufficient interest to be reported.

REPORT OF CASE

History.—Mrs. L. S., aged 42, the mother of three healthy children, who was admitted to the Johnson-Beall Hospital, Nov. 22, 1919, and whose family history and past history were unimportant, had had no previous serious illnesses, and the only history of an infectious disease was influenza in December, 1918. Her digestion had been good up to the onset of her present illness. This began in August, 1919, with a gnawing pain in the epigastrium. This pain was intermittent in character, had no relation to the taking of food, and would frequently wake her at night. She did not try food or soda at this time to relieve the pain. About four weeks before she was admitted, the pain became much more severe and nearly constantly present, and she began to have nausea and vomiting. She had seen no blood in the vomitus. Since the vomiting began, she had had fever constantly. She did not think that there was much before. For two or three weeks the patient had had numerous chills, sweats, an irregularly high fever, incessant, heavy, dull pain in the epigastrium, and most of the time an extreme degree of nausea and vomiting. There had been no jaundice and no special disturbance with the bladder or bowels.

Examination.—The patient looked extremely ill. She was much emaciated, the face was pinched, and the skin and mucous membranes were pale. He head, mouth, throat and chest were negative. The abdomen was not distended; it was soft in the lower part, but resistant above the navel and very tender. The tenderness extended across the upper abdomen, and was not more marked on one side than on the other. No masses were felt. The patient's temperature on admission was 102; pulse, 112 and of low tension; respirations, 22; leukocytes, 7,000, with 87 per cent. polymorphonuclears. The urine was negative except for a trace of albumin.

Clinical Course.—The patient had two chills in the first twenty-four hours after admission, her temperature ranging from 99 to 102. She vomited practically all nourishment given. Her bowels moved several times.

The day after admission, roentgenograms were taken of the stomach and intestine. The first picture, taken immediately after barium in buttermilk, disclosed a normal stomach. A second picture, taken at the end of six hours, revealed the stomach nearly empty, the duodenum outlined, and above the duodenum irregular branched projections of the barium which



Fig. 1.—Appearance of patient six hours and twenty minutes after barium meal and after more barium had been taken into stomach.

we thought at first might be due to barium which had escaped through a perforation near the pylorus. In order to study this further, more barium was given. A third picture (Fig. 1), taken about thirty minutes after the second, showed what seems to be an injection of the bile ducts with the barium, even to many of the finer radicles in the right lobe. Later pictures offered nothing of special interest.

Operation and Result.—It was three days before the patient's consent could be obtained for an operation. During this time her condition remained about the same, there being much vomiting, and the temperature ranging from 99 to 103. November 26, with a diagnosis of upper abdominal abscess, probably from a perforated gastric or duodenal ulcer, the patient was operated on. The stomach and duodenum apparently were normal, and the gallbladder and ducts were normal in appearance. The gallbladder, when palpated, felt as if it contained air. The pancreas was felt as a hard, enlarged mass behind the stomach, being especially large toward the tail. The lesser peritoneal cavity was opened through the gastrocolic omentum. The upper and left part of the cavity was obliterated by adhesions. These were separated with the finger, and an abscess containing about 3 ounces of thick, creamy, odorless pus was opened. A large rubber tube was put into the abscess cavity, the gastrocolic omentum sutured

* Read before the Texas Surgical Society, Nov. 9, 1920.

tight about the tube, and the tube sutured to the skin. The gallbladder was opened and drained. No stones were found. The bile was clear and green, and the presence of gas was not demonstrated, though we are sure it was present. A diagnosis of acute pancreatitis, with abscess and insufficiency of the papilla of Vater was made.

The patient did well at first. Vomiting ceased, and the temperature was steady at 99 for five days. The drainage became clear and limpid, and caused marked irritation of the skin. December 1, the patient's temperature went up to 102, and she complained of feeling weak and of difficulty in breathing, though her respirations were not much increased in rate. The next day there was a chill with a temperature of 105, the patient's pulse became weak and very rapid, and she was delirious. She never rallied, and died, December 6. No abnormal signs were found in the lungs. Necropsy was refused.

COMMENT

For comparison, we have roentgenographed the injected bile ducts of a necropsy subject (Fig. 2). In making the injection, enough force was used to rupture



Fig. 2.—Necropsy subject with bile ducts injected with barium. Gallbladder ruptured and barium forced into abdominal cavity.

the gallbladder, causing a spilling of the barium in the abdominal cavity. Injection was made through the papilla of Vater after the duodenum had been opened. While the two cases show a somewhat different arrangement of the ducts in the liver (which can be explained on the grounds of individual peculiarities), the similarity is enough, without the added clinical evidence, to make it certain, we think, that we really had an injection of the bile ducts in this case. In our case the barium did not go into the gallbladder; but the similarity of the tortuous cystic ducts in the two cases is striking.

In the absence of a necropsy study, any theory as to why the papilla of Vater should have been patent would be idle speculation; but the thought has occurred to us that this may be a common condition. Had it not been that the patient under consideration was vomiting frequently, which we think is what forced the barium into the bile ducts, the condition of the ducts would never have been discovered. Then, too, it is unusual to take stomach pictures in persons who are vomiting excessively. Might it not, then, be possible that many patients with a similar condition are roentgenographed and the condition not discovered because the vomiting is not present to force the barium into the ducts? And if an insufficiency of the papilla of Vater should prove to be of common occurrence, may we not have to reconstruct our ideas of the etiology of acute pancreatitis, about which the proponents of the theories of obstruction to the ducts and of lymphatic extension from the gallbladder have had so much to say in recent years?

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PANCREATIC CYST FOLLOWING CHOLECYSTECTOMY

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AND
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DETROIT

The case here reported shows clinically pancreatitis, cholelithiasis, cholecystitis and, subsequent to cholecystectomy, the development of a pancreatic cyst:

REPORT OF CASE

History.— A. L., a man, aged 46, a janitor, first seen by us, Sept. 2, 1920, whose family and personal history showed nothing of importance in regard to the present condition, except for a dull pain in the epigastrium of short duration some time in January, 1920, had felt well until June 17, 1920. On that date he was suddenly seized with severe pain in the epigastrium. This lasted twelve hours.

Three days later, a similar pain started, "doubling him up," so that he went home in a cold sweat. The pain radiated from the epigastrium down the left side of the abdomen. It was severe for forty-eight hours, but he was in bed three or four days before it wore off completely.

He then felt well until July 7, 1920, when he had another attack. Dr. Robert C. Moehlig saw him then. The pain was in the epigastrium and down the left side of the abdomen as before, but there was also sharp radiation to the right and to the back. Next day the pain was well localized in the right upper quadrant, and radiated to the right side of the back. This attack lasted two days.

For the next few weeks he frequently had dull pains across the epigastrium, chiefly to the left of the midline; gastric ulcer was suggested by one consultant. On August 25 there was another severe seizure. At this time he had a sharp right abdominal colic.

Roentgenoscopy, September 3, by Dr. W. A. Evans, was negative as to ulcer and gallstones. The duodenal cap was drawn down.

Examination.—The patient was well developed, with a slight subicteric tint. There was a small area of tenderness in the epigastrium and toward the right, and indistinct rigidity over the gallbladder region. The urine was negative. The Wassermann reaction was negative.

First Operation.—September 13, the patient was operated on. The gallbladder appeared as an elliptic, distended tumor four by three inches in diameter. It was tightly filled with stones, even in the cystic duct, and the wall was greatly thickened and edematous. The common duct was exposed, but contained no stones. Cholecystectomy was performed, with one gauze drain and one rubber drain to the stump of the cystic duct. The excised gallbladder was gangrenous, greenish, and contained stones and pus. Microscopic section revealed marked acute and chronic cholecystitis.

Postoperative Course.—There was moderate purulent discharge from the place of drainage, with occasional slight retention. The patient was discharged, September 29.

October 1, two days after leaving the hospital (two and a half weeks after the cholecystectomy), he had an attack of epigastric pain which radiated far down into the left iliac region, where it localized and remained for twenty-four hours. October 12, he had a similar, but sharper, attack. These two attacks were like those preceding the operation, except that the pain traveled deep into the left iliac region, and remained there.

October 15 he began having backache, chiefly in the lumbar region, and he noticed a rounded tumor forming in the mid-epigastrium. About this time he also noticed that he could not eat as much as before. No foods disagreed with him, but "the more he got into his stomach, the more his back would ache." After his abdomen started swelling, he had no further sharp pain attacks. Toward the end of November "he could eat a small potato, and a bit of meat, but then he could not finish a cup of tea, because his back would ache." Drinks caused more discomfort than solid food.

Examination, November 27, revealed a prominent tumor in the upper abdomen, more to the left than to the right of the midline. It was larger than a man's head, having increased very rapidly under observation during the last two or three weeks. It was firmly fixed posteriorly, fluctuating, and clearly cystic in character. To the left it extended far into the hypochondrium; in the midline it reached the xiphoid process; and to the right, the outer edge of the right rectus abdominis, while its inferior margin could be appreciated 3 inches below the umbilicus. The percussion note over the height of the tumor was dull. About the periphery there was tympany (Fig. 1). There was a transmitted pulsation in the tumor, but no audible or palpable thrill.

On roentgen-ray examination by Dr. E. G. Minor, November 15, the cardiac portion of the stomach was observed to fill readily; then there was a slight delay, and the pyloric end filled, the meal passing from the cardia to the pylorus in a thin stream. A plate made several hours later showed the barium in the small intestine, but this surrounded a large central circular area where no barium filled loops were visible (Fig. 2).

Second Operation.—December 1, a 2-inch incision was made in the midline between the xiphoid and the umbilicus. The stomach immediately appeared, being located just in front of the tumor, flattened between it and the anterior abdominal wall. (An exploratory abdominal puncture would have entered the stomach before entering the cyst.) The veins along the greater gastric curvature were enormously dilated. The large cystic tumor came closest to the anterior abdominal wall between the stomach and the colon, distending the gastrocolic ligament The gastrocolic ligament was incised in an area free from vessels, and the cyst punctured with a trocar. Four quarts of brownish, thin fluid were evacuated, and a piece of cyst wall was resected for pathologic examination. A large tube was sewed into the cyst, and the abdominal cavity protected by strips of gauze about the tube.

Pathologic and Chemical Examinations.—The cyst wall was 3 mm. thick and showed a dense hyaline structure. The fluid was dark brown, neutral to slightly acid, and contained bile pigments and bile acids. Amylase was very actively present, trypsin present but weaker. There were many red cells and an occasional white blood cell.

Postoperative Course.—There was profuse brownish drainage for several days (December 2, 12 ounces; December 12, 3 ounces); then the cavity closed slowly. The skin was protected by a wax mixture to prevent digestion. March 16, 1921, there still was a narrow sinus 2 inches in depth, with a scanty mucoid, saliva-like discharge.

Summary.—A man, aged 46, had four attacks of severe epigastric pain, generally radiating to the left, and twice typically radiating to the back and right shoulder, during three months. A gangrenous gallbladder with stones far down the cystic duct was removed. Two and a half and four weeks after cholecystectomy there were two colics, radiating down the left anterior abdomen to the iliac region. Shortly afterward the symptoms of an epigastric tumor began, with gradually increasing pressure on the stomach and retroperitoneal regions. At the second operation, two and a half months after the first, a pancreatic cyst was drained. It held 4 quarts of brownish fluid, which contained pancreatic ferments and bile.

PANCREATIC CYSTS AND PANCREATITIS

The pancreas is an actively secreting gland overlying the spine. It has a thin capsule, and, especially in thin abdomens, and when the stomach and colon are empty, is very liable to trauma. A heavy blow on the abdomen, a kick from a horse, a crushing injury, as a cart wheel passing over the abdomen, have been followed by collections of fluid in the lesser peritoneal cavity. These are often attached to the pancreas only at one place—where the capsule ruptured. They may be filled with blood.

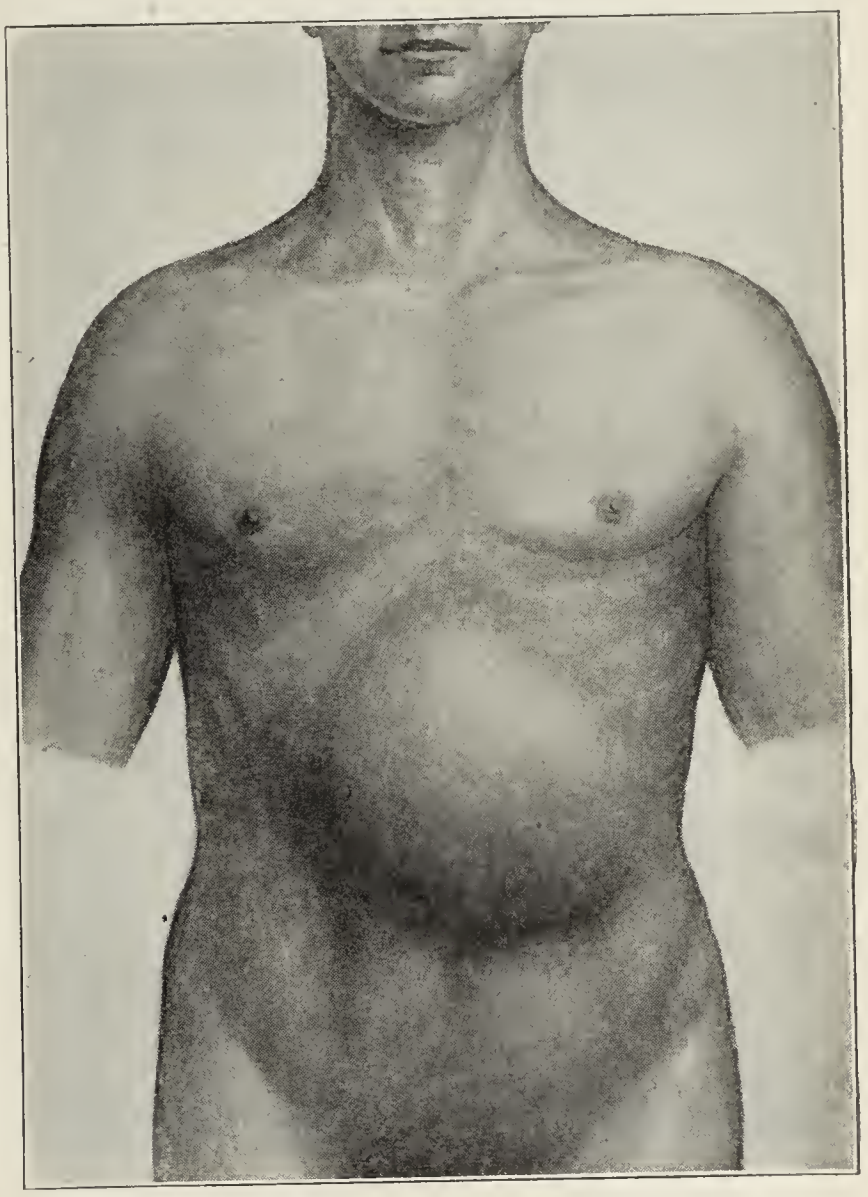


Fig. 1.—Tumor formation caused by pancreatic cyst.

Obstruction to the outflow of the gland is the cause of most of the chronic pancreatic cysts coming to operation. The obstruction may be in the excretory duct (stone, tumor, stricture, adhesions about the pancreas, swollen lymph glands), or "by a combination of compression from without and obstruction from within. The most frequent cause is chronic interstitial pancreatitis; compression and constriction of the ducts result from the development and contraction of connective tissue, thus leading to stagnation of the secretion." [1]

The association of gallstones and pancreatitis is variously given as between 50 and 65 per cent.[2] Mayo [3]

1. Mayo-Robson, A. W., and Cammidge, P. J.: The Pancreas, Its Surgery and Pathology, Philadelphia, W. B. Saunders Company, 1907, p. 488.
2. Heyd, C. G.: Association of Pancreatitis and Biliary Affections, Buffalo M. J. **72**: 488 (May) 1917.
3. Mayo, W. J.: The Surgical Treatment of Pancreatitis, Surg., Gynec. & Obst. **7**: 607 (Dec.) 1908.

reported that in 80 per cent. of operations on the pancreas, disease was due to or accompanied by gallstones.

STASIS AND INFECTION

In disease of the gallbladder, and its relation to the pancreas, there are two factors—stasis and infection.

Stasis.—Meltzer [4] has emphasized the importance of stasis as a potential factor in diseases of the gallbladder. Bile is secreted continuously, but discharged into the intestine only after meals, the discharge being controlled by the sphincter of Oddi in the duodenal papilla. Abnormal retention must surely be an easy, if not frequent, occurrence. Reasoning by the analogy of the effects of stasis elsewhere, as in the appendix and the urinary bladder, stasis in the biliary tract must also



Fig. 2.—Schematic outline roentgenographic finding of pancreatic cyst. Flattened outline of stomach and barium-filled small intestine surround a space free of intestine, occupied by the cyst.

be of great pathologic significance. In fact, patients with pancreatitis and biliary fistula without actual obstruction in the ducts have been cured by simply eating every two hours (traitement alimentaire de fistules biliaires of Doyen). This brings about a practically continuous flow of bile into the duodenum, and hence allows of no retention. Archibald [5] has produced all grades of pancreatitis by allowing bile to flow intermittently into the pancreas under varying pressures (inflow tube fastened into the gallbladder.)[6]

Infection.—Most cases of pancreatitis follow cholecystitis rather than cholelithiasis. While gallstones are four times as common in women as in men, pancreatitis is three times as frequent in men as in women.[2] Speaking of the clinical differences between gallbladder disease in men and women, Rothschild and Wilensky [7] say: "In men, infection frequently dominates the field: cholecystitis is found more often, and stone formation is secondary."

Nordman [8] thus demonstrated the dual rôle of stasis plus infection: With the papilla of Vater closed by a ligature (dogs), thus allowing bile to flow into the pancreas, he could not produce pancreatitis. If, however, bacteria were now injected into the gallbladder, pancreatitis was produced, though bacterial injection without ligation of the papilla produced no result.

The rôle of infection, however, is thought by Archibald and others to be that infection deprives the bile of its mucus, thereby rendering it more toxic; for bile from the hepatic ducts (which does not contain mucus) causes a more virulent pancreatitis than that from the gallbladder, and bile acids are the most toxic of all.

RELATION OF PANCREATITIS TO PANCREATIC CYSTS

There are numerous instances of collections of fluid about the pancreas following pancreatitis. Körte [9] speaks of acute pancreatitis when operation is performed during the first week as showing hemorrhagic areas and sometimes pus in the pancreas: but when operation is performed during the fourth week, a peripancreatic collection of discolored fluid is frequently found.

EXPLANATION OF THE CASE REPORTED

Though the association of cysts of the pancreas and pancreatitis is often commented on, and the relation of gallbladder disease and pancreatitis is fairly well established, we could find no reference in the literature to a pancreatic cyst following so soon after cholecystectomy.

The history of our case suggests that pancreatitis existed before the cholecystectomy. There had been frequent attacks of left abdominal pain. As has been fairly well established by Deaver, Körte and others, left sided pain is characteristic of pancreatitis. A swollen pancreas is a frequent finding in operating for gallbladder disease, when acute left abdominal pain is complained of.

Two or three weeks after the cholecystectomy the pancreatitis pains recurred, and with increased severity. Four weeks after the operation, symptoms of the development of the cyst were noted, and the acute left sided abdominal pains ceased.[10]

Accordingly, the pathologic sequence was:

1. Acute purulent cholecystitis and cholelithiasis, with concomitant severe pancreatitis.
2. Cholecystectomy, followed by some interference to the biliary outflow.
3. Recurrence and accentuation of pancreatic inflammation, with breaking down of pancreatic tissue, and followed by

4. Meltzer, S. J.: The Disturbance of the Law of Contrary Innervation as a Pathogenic Factor in the Diseases of the Bile Ducts and the Gall-Bladder, Am. J. M. Sc. **153**: 469 (April) 1917.
5. Archibald, E.: The Experimental Production of Pancreatitis in Animals as the Result of the Resistance of the Common Duct Sphincter, Surg., Gynec. & Obst. **28**: 529 (June) 1919.
6. When our cyst was incised, there was a large quantity of bile mixed with the cyst contents. Rehling, on incising the pancreas for acute pancreatitis, also found profuse biliary discharge (Heyd, Footnote 2). This is significant of the rôle assumed by retrojection of bile into the pancreas in pancreatitis.
7. Rothschild, M. A., and Wilensky, A. O.: Studies in Cholelithiasis, 1, The Disturbances of the Cholesterin Metabolism as a Factor in Gall-Stone Formation, Am. J. M. Sc. **156**: 239 (Aug.) 1918.
8. Nordman, O.: Experimente und klinische Betrachtungen über die Zusammenhänge zwischen acuter Pankreatitis und Erkrankungen der Gallenblase, Arch. f. klin. Chir. **102**: 66, 1913.
9. Körte, W.: Surgical Treatment of Acute Pancreatitis, Ann. Surg. **55**: 23 (Jan.) 1912.
10. There is no record of the pancreas having been thoroughly examined at the time of the first operation, but certainly any large cyst of the pancreas would not have been overlooked.

leakage of pancreatic secretion and bile into the lesser peritoneal cavity, i. e., pancreatic cyst.

PROLONGED DRAINAGE IN PANCREATITIS

Drainage extended only to the stump of the resected cystic duct, not into the common duct. In our experience this procedure will permit of biliary discharge in cases of common duct obstruction. The question might be considered: Should this case be an argument for more frequent and prolonged common duct drainage after cholecystectomy in cases of infection of the gallbladder? Pancreatitis is now known to be more frequent in these cases than was formerly thought, and unless this is remedied, the patient still has symptoms. Kehr,[11] and more recently Judd,[12] have noted that clinically cholecystectomy per se frequently cures pancreatitis. With the gallbladder reservoir removed, the bile dams up in the extrahepatic ducts, and causes marked dilatation. Dilatation continues until there is enough hypertrophy in the wall of the ducts to overcome the duodenal sphincter, and then bile flows continuously into the duodenum. This allows for continuous drainage of the pancreas secretion and its infection. Our case is one in point. However, cholecystectomy did not cure the pancreatitis.

McWhorter[13] has just raised this point: The sphincter of Oddi normally withstands a pressure of 650 mm. of water. With the expulsile force of the gallbladder removed, the pressure in the extrahepatic ducts is lowered to between 250 and 350 mm. of water —the biliary secretory pressure. Until the biliary pressure rises above the normal figure which the sphincter can withstand, there will be no dilatation. "Consequently cholecystectomy might aggravate a pancreatitis before the sphincter resistance is lowered." That is evidently what happened.

Many surgeons advise drainage of the gallbladder without its removal for pancreatitis. Archibald[14] is emphatic in the statement that in all cases of pancreatitis associated with cholecystitis—in fact, in all cases in which the pancreas shows any induration—there should be prolonged drainage of the common bile duct. In following a series of thirty-five operations on the gallbladder in which the pancreas was noted as enlarged, he concluded that "the shorter the drainage of bile, the more likely to persist were symptoms similar to those complained of before operation; and when the drainage was prolonged for four weeks or more, all such patients were cured permanently." He has advocated as much as three months' drainage for the average case of hard pancreas associated with gallstones.

CONCLUSIONS

Although drawing conclusions from one experience is hazardous, if our clinical reasoning is correct we certainly have seen pancreatitis associated with gallstones recur following cholecystectomy, and in this instance go on to cyst formation. This does not militate against the assertion that cholecystectomy frequently cures pancreatitis, but it *is* evidence that this does not always happen. Perhaps the conclusion is justified that in cases of pancreatitis complicating gallbladder disease, especially if there is pronounced infection, one of two methods should be followed: (*a*) cholecystostomy with drainage for several weeks, or (*b*) cholecystectomy with additional drainage of the common duct.

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11. Kehr: Gallenwege Chirurgie, München, 1913.
12. Judd, E. S., and Mann, F. C.: The Effect of Removal of the Gall-Bladder, Surg., Gynec. & Obst. **24**: 437 (April) 1917.
13. McWhorter, G. L.: The Surgical Significance of the Common Bile-Duct Sphincter, Surg., Gynec. & Obst. **32**: 124 (Feb.) 1921.
14. Archibald, Edward: Effect of Prolonged Bile Drainage in the Cure of Subacute and Chronic Pancreatiits, J. A. M. A. **71**: 798 (Sept. 7) 1918.

DISLOCATION OF THE SACRO-ILIAC JOINT

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The sacro-iliac ligaments are so strong that it hardly seems possible that dislocation of the joint could occur; it would seem much more likely that violence sufficient to cause rupture of those ligaments would lead to fracture of the pelvis in preference, and in most cases would cause death. In most cases of this injury which have been placed on record, the majority have been fatal or have been accompanied by fracture of the pelvis. Dislocation of the sacro-iliac joint has also been noted as a complication of diastasis at the symphysis pubis. One case recorded by Dubreuil showed diastasis at the symphysis accompanied by dislocation at both sacro-iliac joints. Cotton states that "all cases of double diastasis up to date have been fatal from associated intrapelvic and intra-abdominal injury, or tearing of the iliac vessels." Cotton further states that he has no personal experience of the lesion, and that the recorded cases give little detail as to the results. With such a scant amount of material on record, it seems worth while to give details of a case that came under my observation.



Separation of sacrum from ilium on left side.

REPORT OF CASE

K. S., a boy, aged 8, referred by Dr. Pickard of Oxbow, Sask., was in an automobile, Sept. 5, 1920, which was struck at right angles by an express train at a level crossing. The car was somehow picked up and carried on the front of the engine. The other occupant of the car was merely bruised. The patient was severely injured. During the first twenty-four hours he nearly died. He had retention of urine for three days with "quite a quantity of blood on the first catheterization." There was a slight rise of temperature and, for the first three days, a good deal of vomiting. From September 8 onward, the bowels moved and urine was passed voluntarily. The diagnosis of dislocation of the left sacro-iliac joint was made by Dr. Pickard.

When seen by me, September 11, there was considerable subcutaneous ecchymosis in the left lumbar region. There was also a large swelling in the left lumbar and left iliac regions, probably extravasation of blood from injury to the left kidney. Pronounced bruising was present over the left posterior superior spine, and this bony prominence was projecting distinctly. Routine examination of the nervous system disclosed that the patient was unable to extend the left leg on the thigh. The weakness of the extensor muscles was thought to be due to interference with the anterior crural (femoral) nerve by pressure from the surrounding blood clot. There was also slight weakness of the hamstring muscles on the left side, but no paralysis. A roentgenogram showed distinctly the separation on the left side between the sacrum and the ilium. No fracture of the pelvis was made out. It was decided to wait until the effects of the bruising had settled down, and then attempt to fix the sacrum to the ilium. By September 21, power had returned to the extensors of the thigh, and on September 23, operation was performed. A curved incision exposed the region of the injury from behind, and with an electric saw, the portion of the ilium which projected posteriorly was removed. The adjacent portions of bone—sacrum and ilium—were then freshened, and the detached piece of bone was jammed in between them, no sutures being used to keep the graft in place.

The patient was returned to bed with a pelvic binder, and was kept recumbent for two months. November 15, a roentgenogram showed the graft in position. November 22, the patient was allowed to walk, and a week later he was sent home.

In a letter from this patient dated March 14, 1921, he states that he can walk and run as well as he ever could. He has no pain and no stiffness in the hip region. He does not feel as strong as before the accident, but is steadily improving.

COMMENT

It is difficult to see what could be done for this condition other than what was done in this case. The recommendations of the textbooks, so far as they mention the lesion, are to apply a tight "pelvic swathe." So much, however, does the mechanism of the body in standing or walking demand a stable sacro-iliac region, that it seems preferable, if possible, to bring about a bony ankylosis, especially in the case of a male patient. In any case, the backward projection of the posterior superior spine is a deformity which is likely to be associated with considerable discomfort from pressure, so that the smoothing down of this body projection is in itself a desirable end.

The nature of the accident was such that it is impossilbe to tell with precision how the dislocation was brought about, but it is probable that a direct blow was administered over the sacrum, and that this bone was driven past the ilium, rupturing the sacro-iliac ligaments as it went, in much the same way as the base of the skull can be fractured by a fall on the feet from a height.



Fig. 1.—A drawing of a frontal section through the sphenoidal sinuses at the plane of the tip of the temporal lobes. The frontal walls and ostia of the sphenoidal sinuses are exposed. Particularly note the recess-like lateral expansions of the sphenoidal sinues beneath the cavernous sinuses to come in contact with the temporal lobes. 1, optic nerve; 2, temporal lobe; 3, lateral recess of sphenoidal sinus; 4, cavernous sinus; 5 frontal lobe; 6, sphenoidal sinus.

THE SPHENOIDAL SINUS AND THE TEMPORAL LOBE

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The sphenoidal sinuses very commonly pneumatize the entire sphenoidal body, even extending into outlying portions of the sphenoid and into neighboring bones: the pterygoid processes, the greater and lesser wings, the rostrum, and the anterior and posterior clinoid processes of the sphenoid are invaded. Extrasphenoidal extensions of the sphenoidal sinuses into the occipital, palate and ethmoid bones and the maxillae are not uncommon.

The sphenoidal sinuses vary greatly in size and shape. Asymmetry of the sinuses is the rule, the septum rarely being in the midsagittal plane throughout. The sinus frequently is not a simple chamber; incomplete septums, recesses and diverticula beset its walls. However, this note is intended simply to refer to the extension of the sinus sufficiently far into the great wing of the sphenoid beneath and lateral to the dural cavernous sinus to come into relationship with the temporal lobe of the brain.

It is generally believed that the only direct lateral relationship of the sphenoidal sinus is the dural cavernous sinus and its contained structures. Of the latter, the internal carotid artery and the abducens nerve are always intimately related. The optic nerve, not contained in the cavernous sinus, is found in the superolateral angle of the sphenoidal sinus. The very common lateral expansion of the sphenoidal sinus brings the foramen rotundum and the contained maxillary nerve into direct contact with the sinus. Excessive pneumatization of the sphenoidal sinus beneath the cavernous sinus occasionally leads to a direct relationship with the foramen ovale and the contained mandiular nerve.

The sphenoidal sinus may invade the great wing of the sphenoid beyond the point of the large foramina. In such cases the sinus and the temporal lobe are so intimately related topographically that one cannot ignore the sphenoidal sinus as a possible factor in temporal lobe abscess.

Cerebral abscess is rarely primary. However, in some cases the most painstaking postmortem examination fails to reveal an external source of the abscess. Of course, it is known that in some cases the extra-

cerebral source of the infection clears up before the cerebral condition is recognized or manifests itself. This occasionally leads to the belief that the abscess in question developed from causes in loco, when in reality an external factor was primarily operative. Late recognition of some brain abscesses may in part be due to the location of the lesion. The temporal (temperosphenoidal) lobe is important in this connection, since some of its portions represent what are often referred to as silent areas, e. g., there are no known functions. Moreover, it at times occurs that brain abscesses due to middle ear and paranasal sinus disease have no demonstrable connection with the initial location of the lesion.

Generally speaking, therefore, brain abscess is usually a secondary process, the result of a number of causes: (*a*) direct infection in head injuries; (*b*) metastases from distant foci; (*c*) direct extension of suppurative lesions in the middle ear, the mastoid cells and the related dural sinus, the paranasal sinuses, etc. It has been found that brain abscesses which arise by direct extension of suppurative foci in the extracranial cavities are chiefly situated in the white matter of the brain directly over the cavities concerned. Therefore, an appreciation of the topographic relation between the middle ear and the paranasal sinuses and the brain are of utmost importance in the localization of brain abscesses which are secondary to paranasal sinus disease, etc.



Fig. 2.—A photograph of a frontal section through the sphenoidal sinuses, brain, etc., at the level of the anterior poles of the temporal lobes. Note the incomplete osseous septums in the right and left sphenoidal sinuses, leading to recesses which extend laterad beneath the cavernous sinuses and come in contact with the temporal lobes. The exposure of the photograph is such that one looks toward the dorsal wall of the sphenoidal sinuses. 1, temporal lobes; 2, optic nerve; 3, cavernous sinus and contained structures; 4, septum between the right and left sphenoidal sinuses; 5, incomplete osseous septum partially dividing the right sphenoidal sinus; 6, lateral recess-like expansion of the left sphenoidal sinus; 8, nasopharynx.

Of the extracranial cavities the middle ear, when diseased, is most commonly at fault in giving rise to cerebral abscess, and the importance of the relationship is well known. The relations of the frontal sinus and the ethmoidal cells are also fairly well established in this regard. However, the sphenoidal sinus merits further study in this connection despite the fact that suppurative processes in its cavity seldom are said to give rise to cerebral abscess. Indeed, it is only when the sphenoidal sinus pneumatizes sufficiently far beneath the cavernous sinus and into the great wing of the sphenoid that the topographic relationship between the temporal lobe and the sphenoidal sinus is intimate and important. A knowledge of this occasional anatomic relationship may help in interpreting some of the obscure temporal lobe abscesses. In such cases careful rhinoscopic and roentgenoscopic examinations of the sphenoidal sinus should be made.

Coronary Arteritis in Cardiac Syphilis.—In fifty cases studied at necropsy a coronary arteritis of relatively greater degree than that present throughout the blood vessels of the body at large was found in thirty-five instances.—Harlow Brooks, *Am. J. Syphilis* **5**:223, 1921.

EFFECT OF INTRAVENOUS ADMINISTRATION OF ARSPHENAMIN, NEO-ARSPHENAMIN AND MERCURY

ON THE WASSERMANN TEST IN NORMAL SERUMS*

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In a recent paper, Strickler, Munson and Sidlick[1] have raised the question of the influence per se of intravenous injections of arsphenamin on the Wassermann test in normal individuals. Owing to the fact that, in any large syphilitic clinic, one may find a certain number of so-called Wassermann-fast individuals who, while clinically well, still give a positive Wassermann reaction in spite of vigorous intravenous therapy, their investigation was conducted to determine, if possible, whether or not a positive complement fixation reaction could be induced in nonsyphilitic patients as a result of intravenous arsphenamin therapy. Their clinical material consisted of thirty patients with various dermatologic conditions, all of whom complied with the following criteria: (*a*) The Wassermann reaction was negative; (*b*) they had a negative syphilitic history, and (*c*) the skin lesions were definitely nonsyphilitic.

Following the intravenous injection of arsphenamin, the report states that sixteen, or 66 per cent., gave at least one positive Wassermann reaction; fourteen, or 58 per cent., gave two or more positive reactions, and nine, or 38 per cent., gave reactions of + + or greater intensity. If these results are corroborated and confirmed, they will have a most important effect on the value of the Wassermann test as a guide to the progress and efficiency of treatment, and especially on the usefulness, value and interpretation of the provocative Wassermann tests.

While the experiments were undoubtedly carefully controlled and carried out, it remains a fact that satisfactory criteria of the absence of syphilis in the patients of a general clinic are difficult to obtain. A single negative Wassermann reaction may be, and not infrequently is, obtained in the presence of syphilitic infection, as the experience of serologists and syphilographers will testify; while the history of venereal cases is notoriously unreliable, and the presence of coincident, nonvenereal diseases is a not unusual concomitant.

* From the Laboratories of the Pittsburgh Hospital.

1. Strickler, Albert; Munson, H. G., and Sidlick, D. M.: A Positive Wassermann Test in Nonsyphilitic Patients After Intravenous Therapy, J. A. M. A. **75**: 1488 (Nov. 27) 1920.

Moreover, as pointed out by Kolmer,[2] if the intravenous injection of arsphenamin will give rise to a positive Wassermann reaction in nonsyphilitics, a similar change should occur in those with syphilis, since the reaction can only be due in the former case to chemical changes arising through the action of arsphenamin and causing the presence in the blood of lipoidal bodies capable of reacting with the antigens used in the Wassermann test. On the contrary, however, the experience of serologists and syphilographers conclusively indicates that a positive Wassermann in a syphilitic may be changed to a negative reaction by the intravenous injection of arsphenamin.

Kolmer also calls attention to the fact, well known to syphilographers, that the serum of a person with latent syphilis giving a weakly positive or even a negative reaction may yield a stronger reaction after the institution of treatment, occasionally accompanied by a symptomatic exacerbation of the disease and constituting a "serologic Herxheimer reaction," which he knows no reason to doubt as being due to the influence of the drug on the activities of *Spirochaeta pallida*.

In the same communication, Kolmer refers to experiments conducted by himself and Dr. Pearce on the effect of intravenous therapy in Wassermann negative rabbits, the drugs being without effect on subsequent Wassermann tests. Owing to the importance of this question and its direct relation to the provocative Wassermann test, these experiments have been repeated at Dr. Kolmer's suggestion and are herewith reported. Because it has been shown that the serum of normal rabbits, especially after heating to 55 C. for thirty minutes, may sometimes yield a positive complement fixation test, due care was used to select rabbits whose serum was consistently Wassermann negative. Pearce and Kolmer[3] have shown that, if the serum of a rabbit reacts negatively, it continues to do so for indefinite periods of time, and it was thought safe, therefore, to use animals whose serums were negative on two consecutive tests.

Following Kolmer's technic, these Wassermann negative rabbits were divided into three series:

Series A: These animals received three intravenous injections of arsphenamin solutions in doses of 0.01 gm. per kilogram of weight, equivalent to 0.6 gm. per 60 kg., or the weight of a young adult.

Series N: These animals received three intravenous injections of neo-arsphenamin solution in doses of 0.02 gm. per kilogram of weight, equivalent to 1.2 gm. per 60 kg.

Series M: These animals received intravenous injections of solutions of mercuric chlorid in doses of 0.00033 gm. per kilogram of weight, equivalent to 0.0193 gm. per 60 kg.

The drugs were given at weekly intervals, blood for the Wassermann test being withdrawn just prior to each injection, thus being taken one week after the preceding dose of each drug. The conditions, therefore, closely approximated those in the investigations of Strickler, Munson and Sidlick except that rabbits were used, thus excluding the possibility of syphilis and a provocative reaction.

The Wassermann reactions were performed by Kolmer's second method, using three antigens: cholesterinized extract of human heart; acetone-insoluble lipoids of human heart, and an alcoholic extract of syphilitic liver.

The results were uniformly negative, a positive Wassermann reaction not being produced in any animal of any series.

While these animals received less than the number of injections in Kolmer's series (from 6 to 10), and while it is conceivable that the effect of arsphenamin, neo-arsphenamin and mercury on the qualities of human serums may vary from that produced in the serum of the normal adult rabbit, these results are, nevertheless, believed to be of significance and to indicate the necessity for further and extensive investigations of this subject.

2. Kolmer, J. A.: The Question of Positive Wassermann Reactions Caused by the Intravenous Administration of Arsphenamin, Correspondence, J. A. M. A. **75**: 1796 (Dec. 25) 1920.

3. Pearce, R. M., and Kolmer, J. A.: Infect. Dis. **18**: 32 (Jan.) 1916, quoted by Kolmer, J. A.: Infection, Immunity and Specific Therapy, Ed. 2, Philadelphia, W. B. Saunders Company, p. 420.

CONTAMINATION OF THE HANDS AND OTHER OBJECTS IN THE SPREAD OF CONTAGIOUS DISEASES

FURTHER OBSERVATIONS ON SECONDARY INFECTIONS IN HOSPITALS FOR CONTAGIOUS DISEASES *

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A study of the rôle played by the contamination of hands and other objects in the production of secondary infection in hospitals for contagious diseases was made in 1919 by Weaver and Murchie[1] in the Durand Hospital of the John McCormick Institute for Infectious Diseases. They cultivated hemolytic streptococci from 9.3 per cent. and diphtheria bacilli from 3 per cent. of the hands of pupil nurses, rarely from the hands of specially trained nurses. The same organisms were also cultivated from door knobs.

During the last year similar observations have been continued, and extended in some directions. The technic has been essentially the same as that used in the former study. In the rooms occupied by diphtheria patients, diphtheria bacilli and hemolytic streptococci were sought on nurses' hands after washing in the routine way with soap and warm running water, on the soles of their shoes, on the floor and wall adjacent to the bed, on the door knobs and on other objects. In sixty-nine cultures thus made, diphtheria bacilli were not found, although organisms simulating them were frequently seen. Repeated frequent transfers of the suspected organisms on Loeffler's medium did not show an increase in the ratio of these organisms, and in only one instance could the suspected organism be isolated in pure culture. This culture was not virulent for guinea-pigs. This does not necessarily mean that diphtheria bacilli may not be found on surfaces liable to contamination by secretions, but it indicates that such contamination is not very frequent. These findings correspond to those of Hill.[2] In the same rooms, hemolytic streptococci were grown from the wall once in ten cultures, and three times in the seven cultures from the soles of nurses' shoes. No hemolytic streptococci were cultivated from the hands, floor, door knobs, hand brushes and electric light buttons.

* From the Durand Hospital of the John McCormick Institute for Infectious Diseases.

1. Weaver, G. H., and Murchie, J. T.: Contamination of the Hands and Other Objects in the Spread of Diphtheria, J. A. M. A. **73**: 1921 (Dec. 27) 1919.

2. Hill, H. W.: Proc. Thirteenth Annual Meeting, American Public Health Association, 1902.

One hundred and five cultures were made from the surroundings of patients with scarlet fever, and from the face masks, hands and shoes of nurses caring for these and examined for hemolytic streptococci. Cultures from face masks worn by the nurses as a routine were taken thirty-two times. The cultures were taken only of the external surface of the mask, cultured and in two, or 6.2 per cent., hemolytic streptococci were found. Cultures of the finger nails of the nurses were taken twenty-five times, in all instances after routine washing of the hands with soap and warm water, and once hemolytic streptococci were found. Four, or 28.5 per cent., of the fourteen floor cultures showed hemolytic streptococci, and in these instances several colonies were found on each plate. Of nine wall cultures, two showed hemolytic streptococci. Door knob cultures were negative in eight instances. Shoe cultures gave hemolytic streptococci in three of the six cultures taken. Dishes used by the patients are first washed and then sterilized by boiling. Cultures were made from the dishes of eleven patients before use and before cleaning after use. All were negative for hemolytic streptococci before use, while four, or 33 per cent., showed hemolytic streptococci after use.

The cultures of hemolytic streptococci which we have isolated have been further studied by Dr. Tunnicliff as to their fermenting powers, and their response to serum of animals immunized by injections of streptococci from fresh cases of scarlet fever. The complete results of her study will be reported elsewhere. Twenty-five per cent. of the strains reacted in a specific way, but all the organisms in question appear to correspond to those from human sources, and we may infer that the abundance or lack of them in the patient's immediate neighborhood is an index of the degree of dissemination of secretions. Hemolytic streptococci were found more frequently in the surroudings of persons with scarlet fever than in those of persons with diphtheria. This is not surprising, in view of the greater abundance of streptococci in the secretions of the former disease.

We have cultivated pathogenic bacteria much less frequently than did Weaver and Murchie. This may be ascribed to the better technic through which the hands of the nurses are more thoroughly cleaned. It is of interest to note in this connection that the number of secondary or crossed infections developing in the hospital during the time our cultures were made was less than during the period occupied by the former studies of Weaver and Murchie. In 1920, when we were taking cultures, secondary infections occurred in 0.24 per cent. of the patients; while in 1919, when cultures were made by Weaver and Murchie, secondary infections occurred in 1.77 per cent.

The finding of hemolytic streptococci on the floor and on the shoes of nurses calls attention to the possibility of shoes acting as mechanical carriers of infectious material. The frequent finding of hemolytic streptococci on eating utensils after their use by scarlet fever patients emphasizes the danger of such objects as carriers of infectious material when proper sterilization after use is not carried out. Cumming [3] has shown that in army camps the incidence of sputum-borne diseases (measles, influenza, pneumonia) was in the ratio of 1:6.2 in two groups of soldiers. In the first group, consisting of 3,115 men, the dishes used were sterilized by boiling, while in the second group of 2,865 men the dishes were washed in warm water. He [4] has shown that in civil life influenza occurred in the ratio of 1:26.6 among the employees of restaurants where dishes were washed by machine and sterilized by steam, and where they were washed by hand in warm water only; and in the ratio of 1:6.4 among the employees of department stores under precisely the same conditions. Furthermore, he [5] cultivated hemolytic streptococci from the wash water of dishes used by sick patients in 84 per cent., pneumococci in 63 per cent., *Streptococcus viridans* in 65 per cent., and diphtheria bacilli in 1.9 per cent. Saelhof and Heinekamp [6] cultivated pathogenic organisms frequently from dishes at various restaurants. Brown, Petroff and Pesquera [7] have also shown that in tuberculosis there is danger of transmission of tubercle bacilli by kissing, and by transference of bacilli through unclean eating utensils.

3. Cumming, J. G.: Military Surgeon, February, 1920, pp. 150-164.

CONCLUSIONS

The pathogenic bacteria present in the secretions of diphtheria and scarlet fever may be cultivated from the surroundings of the patients, but in the former disease less often than in the latter. Improperly sterilized eating utensils may readily serve as carriers of infectious material.

The thorough washing of the hands with soap and warm running water efficiently removes the secretions with which the hands may become contaminated. To facilitate this, the skin of the hands and nails requires special care in order to insure a smooth healthy surface and freedom from any local condition which may render thorough cleaning difficult or impossible.

Gauze masks protect the faces of the nurses from gross contamination with particles of air-borne secretions.

Cultures from the hands of attendants are a useful check on the individual technic of those caring for contagious diseases.

Cultural studies of the surroundings of patients with contagious diseases may serve to indicate the efficiency of the technic employed, and if applied at intervals they seem to stimulate attendants to greater efforts toward perfection.

4. Cumming, J. G.: Am. J. Pub. Health, January, 1919, pp. 25-38
5. Cumming, J. G.: Military Surgeon, April, 1920, pp. 391-402.
6. Saelhof, C. C., and Heinekamp, W. J. R.: Am. J. Pub. Health, 1920, **10**, pp. 704-707.
7. Brown, Petroff and Pesquera: Thirty-Fifth Annual Medical Report of the Traudeau Sanatorium, 1919.

CONGENITAL ATRESIA OF THE ESOPHAGUS

REPORT OF TWO CASES

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The rarity of congenital atresia of the esophagus and its interesting developmental variations prompts this report.

REPORT OF CASES

CASE 1.—Hazel D., admitted to Bellevue Hospital from the School of Midwives, with congenital pyloric stenosis, had vomited everything since birth and passed only meconium by bowel. There had been continual vomiting by mouthfuls of nonacid, frothy mucus. Food was taken with great eagerness but promptly vomited. The roentgen examination was entirely fluoroscopic. A soft catheter, passed under the fluoroscope, did not pass beyond a point above the level of the

arch of the aorta. The opaque mixture administered revealed a blind sac at this point, the esophagus being slightly dilated. Prompt regurgitation took place. There was no outlining of the bronchi. Gastrostomy was performed, but the infant died four hours after operation, Oct. 2, 1920.

At necropsy, congenital atresia of the esophagus was found.

There was hemorrhage into the peritoneal cavity (postoperative).

Uric acid infarction had occurred in the kidneys.

At the bases of the lungs there was slight atelectasis. The length of the child was 50 cm.; weight 6 pounds.

The alimentary canal from the cardiac end of the stomach to the anus was patent throughout. The esophagus was patent to the level of the fourth dorsal vertebra, where it ended blindly in a dilated pouch. From there it was continued as a fibrous band to within about 1 inch of the stomach, where it again became a patent tube. A probe passed up from the stomach into the esophagus ended in a blind pouch about 1 inch from the stomach.

Case 2.—B., a boy, born in Bellevue Hospital, Maternity Service, Oct. 23, 1920, was transferred to the surgical ward, dying, October 26. The mother was a primipara, aged 27. The delivery was normal; the position, left occipito-anterior. The weight at birth was 2,225 gm. The child vomited everything, but passed meconium only by bowel, during its three

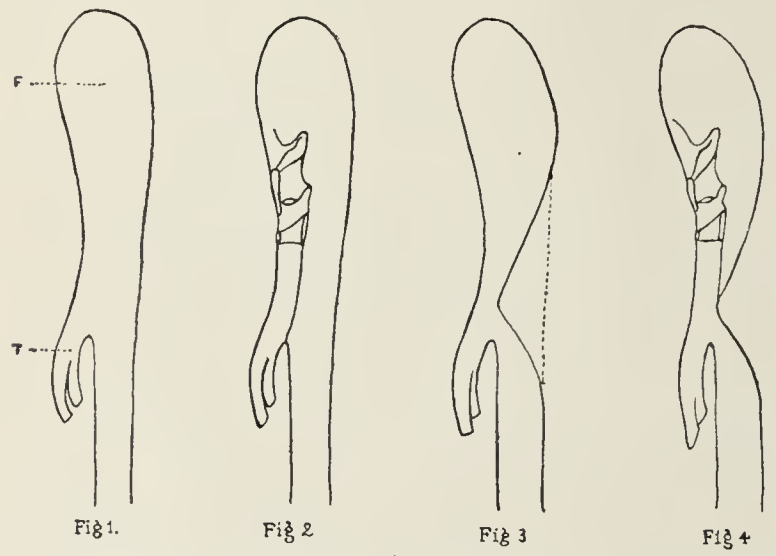


Fig 1. Fig 2 Fig 3 Fig 4

Fig. 1.—*T*, origin of the lung and lower part of the trachea from the anterior wall of the mesenteron; *F*, anterior blind end of the mesenteron.
Fig. 2.—Same parts after the formation of the larynx and upper part of the trachea, from the anterior wall of the mesenteron.
Fig. 3.—Kinking of posterior wall of mesenteron, assumed to take place in the production of congenital atresia of the esophagus.
Fig. 4.—Same parts after the completion of the upper part of the treachea and larynx, showing the resulting atresia of the esophagus and communication of its lower segment with the lowest part of the trachea (Shattock).

days of life. There was no palpable mass in the abdomen. There were no asphyxial attacks. A catheter could be passed into the esophagus only for a distance of about 4 inches from the gum margin. The roentgen examination disclosed the presence of dilatation of the esophagus at a point just above the aortic arch. The dilatation was moderate. Immediately after the sac reached its full distention, the bronchial tree became outlined. There was severe coughing followed by the expulsion of some of the bolus. Both the trachea, larger and smaller bronchi were thus clearly outlined through a fistula by which the esophagus communicated with the trachea near the bifurcation. The point of location of the actual fistula could be demonstrated roentgenographically. Gastrostomy was performed, but the child died next day. There was in this case also marked deformity of the right forearm, the hand being markedly abducted at the wrist and the forearm curved. The roentgenogram revealed a curved ulna, and total absence of the lower third of the shaft of the radius. No necropsy was held. The diagnosis was atresia of the esophagus; esophagotracheal fistula.

REVIEW OF LITERATURE

The analysis of the literature of this subject indicates that though the cases vary in minor details, in general the picture is uniform. The upper portion of the esophagus ends in a culdesac at varying distances below the larynx and above the tracheal bifurcation. In seventy-two of the 136 cases, where the length of the upper culdesac below the larynx was noted, it was from 1 to 1.9 cm. in five cases; from 2 to 2.9 cm. in fourteen cases; from 3 to 3.9 cm. in twenty-four cases; from 4 to 4.9 cm. in twenty cases, and 5 cm. and over in nine cases.

The pouch was usually but not always dilated. Its walls usually hypertrophied, evidently the result of the ineffectual attempts of the fetus to swallow amniotic fluid.

In ninety-six out of the 136 cases, an esophagotracheal fistula was noted, opening into the respiratory tube thus: bronchus, two cases; trachea at bifurcation, thirty-three cases; between the bifurcation and a point 0.5 cm. above, thirty-three cases; from 0.6 to 1 cm. above the bifurcation, 12 cases, and from 1.1 to 2 cm. above the bifurcation, eighteen cases.

The two portions may or may not be connected by a thin strand of tissue. This was noted in fifty-one, absent in forty-one, and not mentioned in forty-four cases. In twenty-six of the fifty-one cases this connecting strand was composed of muscle fibers; in thirteen, fibrous tissue, and in nine, "strands of tissues." This connecting strand was not demonstrated in the present case.

The sex was stated in thirty-seven cases, eighteen boys and nineteen girls.

The period of survival noted in 120 cases was: Stillborn, 5; died first day, 15; second day, 18; third 13; fourth, 14; fifth, 12; seventh, 7; eighth, 6; ninth, 4; tenth, 3: eleventh, 4; twelfth, 1; thirteenth, 1, and fourteenth, 1.

The tracheal opening varied in size. The edges of the opening were always smooth, and the mucous membrane of the two tubes was uninterrupted. The muscle walls of the two passages frequently blended without any line of demarcation. Occasionally rudimentary tracheal cartilages were found in the tracheal portion of the esophagus.

Other anomalies were frequent, being present in fifty-nine out of ninety-four cases. The most common was atresia ani, noted in twenty-four cases.

The earliest case, cited by Thomas [1] was observed by Thomas Gibson in 1696.

ETIOLOGY

It is now generally conceded that the anomaly is due to a developmental error rather than to intra-uterine inflammatory process, as at one time supposed. It must arise at a very early stage, because in a 4 mm.-long embryo the trachea is quite separate from the esophagus. In the Harvard embryologic collection there is an embryo 18.1 cm. long showing this abnormality.

Keibel and Mall [2] state that to produce the common form of this anomaly, the lower portion of the tracheoesophageal septum must fail to develop, leaving the esophagus in communication with the lower part of the trachea but, says Zeit [3]: "Arrested development of the lateral ridges, which unite incompletely in the midline, as the lateral tracheal and dorsal esophageal tubes

1. Thomas, W.: The Anatomie of Human Bodies Epitomized, London, 1703, Ed. 6, pp. 240-242.
2. Keibel and Mall: Human Embryology, Philadelphia **2**: 312, 1912, quoted from Plass.
3. Zeit, F. R.: Congenital Atresia of Esophagus with Tracheo-Esophageal Fistula, J. M. Res. **22**: 45, 1912-1913, quoted from Plass.

are forming, would explain the fistula, but not the atresia. In order that both atresia and fistula be caused by one factor, a faulty 'anlage' with resultant malformation must have existed."

Shattock [4] believes that at the time when the pouch from which the lower air passages develop is formed from the anterior wall of the mesenteron, the posterior wall occasionally participates in the process sufficiently to be drawn forward, thus narrowing the lumen. When, subsequently, the lateral pouching for the formation of the larynx develops from the stomodeum just above this region, so much of the already narrowed lumen is consumed that the connection between the upper and lower portions is left communicating with the air passages.

Jordan [5] makes an interesting embryologic note when he says that in a series of loggerhead turtle embryos, the esophagus was observed to be solid for a greater or less extent, approximately from the point of origin of the respiratory anlage to its bifurcation in the bronchi, from the twelfth to the thirty-second day of incubation; probably esophageal atresia persists practically to near the end of the incubation period (eight weeks) at a level just behind the opening of the larynx.

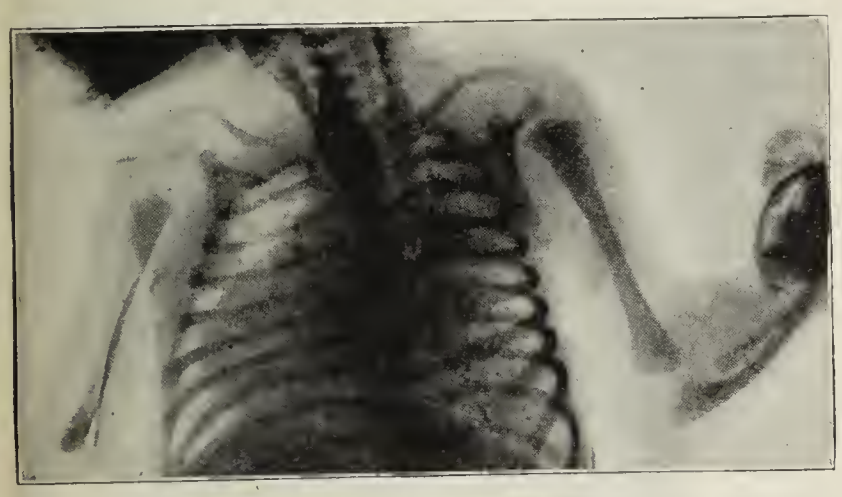


Fig. 5.—Atresia of esophagus with the formation of a pouch. The lower end of the sac is about opposite the third dorsal vertebra. Below the shadow of the sac may be seen the shadow of the trachea to its bifurcation and the main and smaller bronchi of the right lung.

This is significant because of the relatively longer persistence (normally) of the occlusion than has been described for any other form, and because of the close relation of the atresia to the point of origin of the respiratory anlage,

The epithelial obliteration of the esophagus has been described by Kreuter [6] in the human embryo. Lewis [7] describes esophagi pervious in four embryos measuring from 8.4 to 18 mm., and regards atresia of the esophagus in the human embryo as abnormal at all stages.

SUMMARY

1. Up to July 1, 1920, 146 verified cases of atresia of the esophagus have been reported in infants.
2. The commonest type is a blind upper sac, a lower sac opening into the trachea above the bifurcation; 103 out of 146 are of this type, that is, 70 per cent.
3. Accompanying abnormalities of other parts of the body are common.
4. The most favored embryologic explanation is failure of closure of the tracheo-esophageal septum.

4. Shattock, S. G.: Congenital Atresia of Esophagus, Tr. Path. Soc. London **41**: 87, 1890, quoted from Plass.
5. Jordan, H. E.: A Case of Normal Embryonic Atresia of the Esophagus, Proc. Nat. Acad. Sc. **3**: 264-267, 1917.
6. Kreuter, E.: Ztschr. f. Chir. **79**: 1-89, 1905, quoted from Jordan.
7. Lewis, F. T., in Keibel and Mall: Human Embryology, pp. 355-368, quoted from Jordan.

The three most extensive recent studies in English of the literature of atresia of the esophagus are, chronologically: Griffith and Lavenson,[8] 1909; Cautley [9] of London, 1917, and Plass,[10] from Johns Hopkins, 1919.

The most comprehensive of these is Plass', who reports 136 cases verified by himself, thirteen unverified; who provides eighteen pages of bibliography, citing 204 articles and who covers the period from 1703, the first reported case, to 1916.

11 East Sixty-Eighth Street.

AN UNUSUAL PAIN SYNDROME ASSOCIATED WITH THE PRESENT WAVE OF INFLUENZA.

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In the month of March, 1921, I observed a group of patients presenting, as a characteristic symptom, an unusual localization of pain in association with other evidences of influenza. The clinical symptoms are about as follows: The patient suffers with a mild head cold for a few days or even longer, when he is suddenly taken with a severe pain on the right side, usually, on a level with the insertion of the diaphragm; the paroxysms, in many cases, last about one-half hour, returning at intervals of two or three hours throughout the day. In others, the pain is continuous from the start. In many instances, within thirty-six hours, the pain shifts to the left side at the same level, but is less severe; sometimes it entirely disappears from the first side affected. In others, the pain alternates after the second or third day and the attacks become less frequent and less severe, disappearing entirely within a week. In some instances, the pain level is as high as distribution of the sixth dorsal nerve; in others, it corresponds with the distribution of the ninth dorsal nerve. Tenderness over this area is present in a small proportion of cases; disturbance of epicritic sensation is never noted.

In most of the patients, Muzzy's button (a point of tenderness at the junction of the line of the tenth costal cartilage with the parasternal line) is exquisitely tender on one side or other. None of the phrenic zones in the neck or upper chest are noted as being tender.

It is common to hear the complaint that the patient does not wish to take a breath; not that the pain is so exquisite, but that it requires such a great effort. Some describe it as a burning pain; others, that it feels as though the liver were bursting. A fair proportion of the pateints complain of a pain in the midlumbar region, after the first three days. This resembles the common backache so frequently noted after any head cold. Three patients complained of a colicky pain in the region of the liver. After the first thirty-six hours the pain is not intense and, for that reason, few of the cases reach the general hospital. In some instances, the paroxysms are associated with nausea; the nausea

8. Griffith, J. P. C., and Lavenson, R.: Congenital Malformations of the Esophagus with Report of Case, Arch. Pediat., March, 1919.
9. Cautley, E.: Malformations of the Esophagus, Brit. J. Child. Dis. **14**: 1-10 (Jan.-March) 1917.
10. Plass, E. D.: Congenital Atresia of Esophagus with Tracheo-Esophageal Fistula, Associated with Fused Kidneys, Johns Hopkins Hosp. Rep. **18**: 259-286, 1919.

is independent of the taking of food and is made worse by the movement in bed; in others, flatulence is a marked symptom. A few patients complain of a dull headache, extending along the base of the brain from forehead to occiput. The temperature varies from 99 to 101, pulse 80, and the blood count from 8,000 to 10,000 white cells, with an average of 72 polymorphonuclears. The general appearance of the patient does not suggest that he is seriously ill, yet the sharp localization of the pain is strongly suggestive.

The importance of recognizing this group is evident, because of its simulating other serious diseases. The absence of marked clinical evidences of influenza of the respiratory type serves to divert one's attention from such a possibility when the symptoms point to a definite location, as it does in these cases. In two instances, good observers made a diagnosis of cholecystitis and, oddly enough, in five of the cases observed by us there were old, real abdominal or chest pathologic conditions: (1) cholecystitis; (2) uterine fibroid; (3) old appendix adhesions; (4) presence of an extensive bronchitis, and (5) chronic endocarditis. Change of the location of the pain, on the second day, to the opposite side, usually makes it easy to rule out the diagnosis of cholecystitis, which was usually the first impression that the case made on one's mind. It was not so easy to rule out a diaphragmatic pleurisy, except that the attack passed off too quickly for the latter disease. However, it might very well be argued that influenza is so protean in its manifestations that there is no use in trying to group any symptom complex. The grouping here reported is so distinct and so frequent as to establish a clinical entity.

In 1899, I [1] reported a series of cases under title of "An Epidemic of Intercostal Neuritis (?)" with an interrogation. The symptoms in these cases were almost identical with those in the present series, except that herpes on the face or trunk was very frequent in the former epidemic. A similar epidemic was reported the same year in the *Deutsche medizinische Wochenschrift*. Since then, I have never seen a similar group of cases. That the syndrome is not due to a true intercostal neuritis is quite evident, yet the distribution of the pain at the time suggested it. These cases are, definitely not true intercostal neuralgia; and the fact that the pain is not confined in every instance to the diaphragmatic region suffices to rule out a diagnosis of diaphragmatitis.

Whether the original pathologic condition is in the posterior root ganglion of the cord at this level or is due to changes in the gray nuclei at the base of the brain will have to await pathologic material. The close resemblance that the pain distribution and other symptoms of some of these cases bear to the so-called spinal type of influenzal encephalitis makes it strongly suggestive that the pathologic condition is cerebral, involving the gray nuclei at the base. The evanescence of the symptoms is explained by the presence of an exudate between the nerve bundles that is quickly exuded and as quickly absorbed, as has been suggested by Boyd. In no case was there twitching present, but tremors in other parts of the body were not uncommon. The connection with influenza is based on the facts that, in almost half of the cases, there were undoubted instances of influenza in the patient's household, or he had been recently exposed to that disease; there had invariably been a preceding head cold; there was evidence of influenza in the mouth, and the duration of the attack was four days, or a multiple of four. Of course, in the absence of any certainty of etiology of influenza itself it is not possible to make out more than an inferential connection. So far as I am aware, this syndrome has not been described heretofore in the present epidemic of influenza.

The pain was relieved, temporarily, by strapping and by hot applications. A combination of 10 grains each of acetphenetidin and acetylsalicylic acid, given every three hours, usually, controlled the pain. In a few instances, a hypodermic of morphin was necessary.

34 West Eighty-Eighth Street.

1. Reilly, T. F.: Tr. New York State M. A., 1899.

Clinical Notes, Suggestions, and New Instruments

A CASE OF ORIENTAL SORE (OF ITALIAN ORIGIN) ENCOUNTERED IN THE UNITED STATES

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Pathologist, Ashland State Hospital

This case of cutaneous leishmaniasis was encountered in a patient admitted to the Pennsylvania State Hospital at Ashland, Pa., Oct. 15, 1920. It is reported because of the rarity of such cases in this country. The subject was an Italian, aged 18, a recent immigrant into this country, who applied for admission to the hospital for treatment of a large sore on his right cheek (Fig. 1) and two smaller but similar lesions on his left wrist. The sore on the face started as a small papule five months previously while he was employed as a farm laborer near Isea, Italy. The lesion at this time was soft, without discharge on being squeezed, and was not painful, but itched. The larger sore on the wrist began in a similar manner four months before admission to the hospital, and the smaller one on the wrist three months before admission, appearing about one week prior to his sailing from Naples for America. The patient states that with the appearance of the first of these lesions he frequently had chilly sensations and began to perspire greatly on little exercise. Aside from these lesions there is little of medical interest in his history. Physical examination of the chest was negative, save the signs of a mild bronchitis, the remains of a more

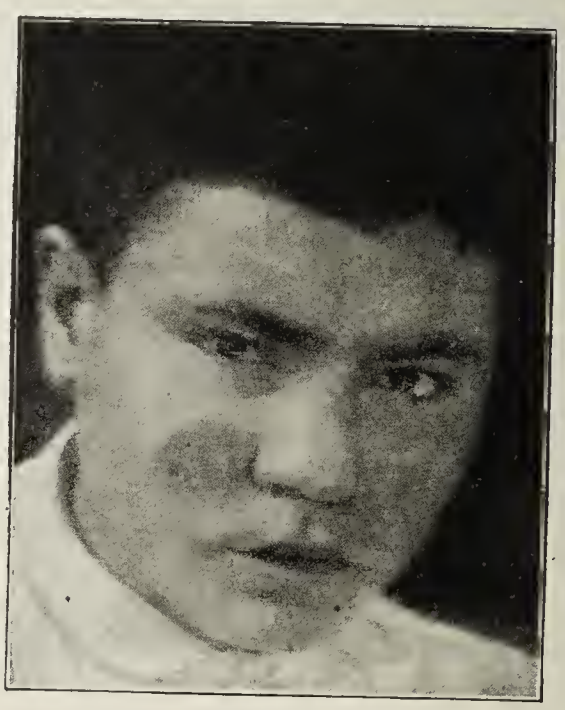


Fig. 1.—Patient with sore on right cheek.

ctive cold of about a month earlier. Examination of the bdomen and genitals was negative. The urinary examination vas negative. No blood parasites were discovered. The red lood cells numbered 4,710,000 per cubic millimeter; hemoglobin was 80 per cent.; white blood cells, 10,800; differential blood count: polymorphonuclear neutrophils, 49 per cent.; ymphocytes, 32 per cent.; large mononuclears, 6 per cent.; ransitionals, 2 per cent.; eosinophils, 10 per cent.; basophils,



Fig. 2.—Epithelial pearls.

1 per cent. The blood Wassermann reaction was negative. The von Pirquet skin test for tuberculosis was negative; sputum examination was negative for tuberculosis and for protozoa.

The sore on the face was 3 cm. in diameter; its margin was brownish red, slightly wavy and elevated, merging and fading into the surrounding normal skin, indurated and not painful on pressure. The base of the sore was covered by a brown crust, from the edges of which a clear, colorless serum oozed visibly. The lesion gave out a peculiar odor, probably arising from the crust. When the crust was removed, the base of the ulcer presented a raw, red, granular bleeding surface. The small granulations could easily be picked off the ulcerating surface with forceps. Numerous small whitish bodies existed which proved on examination to be small sebaceous cysts. The faint marks of two incisions at right angles with each other could be seen traversing the sore, the result of incisions made by a surgeon with the idea of opening into a suspected but nonexisting abscess. Smear preparations made by spreading the moist granulations taken from the base of the lesion, and stained by Wright's blood method, showed numerous typical leishmanias both free and ingested within larger mononuclear cells of "endothelial type." The parasitic bodies were of rounded or ovoid to pyriform shape, and in many the usual binucleation could be readily observed. They varied in size from 1 to 2 micromillimeters in diameter, and from 1.3 to 4 micromillimeters in length, and in the more heavily infected cells one could count fifty-one of the parasites. Smears made from the two sores on the wrist showed the same bodies.

While I was unable from morphologic appearances to distinguish these leishmanias from *Leishmania americana* or *braziliensis* of the Isthmus of South American types of the lesion, I naturally preferred to disregard the latter because of the European origin of the case, especially since it is by no means fully accepted that these American forms are true species, and not merely varieties of *Leishmania tropica* Wright 1903, the accepted cause of Oriental sore of Asia and the Mediterranean basin.

I attempted culture of the protozoa in Nicolle Novy MacNeal medium[1] and citrated blood agar at room temperature, but without success, although both *Leishmania tropica* and the American leishmanias have been successfully grown into flagellates in the former medium at low temperature. A rabbit, a guinea-pig and a snake (*Eutaenia sirtalis*) were inoculated subcutaneously without result. *Leishmania tropica* has been transmitted by inoculation from man to man, to monkeys, and to dogs.

Inquiry as to a possible insect transmitter in the present case elicited the fact that the patient had been annoyed by fleas of unknown species before the appearance of the first sore; no evidence of other insects being a possible factor could be obtained. He had never seen any other person similarly affected.

The histopathology of the border and base of the sore corresponds well with the descriptions of Oriental sore. The margin of the ulcer shows numerous tongue-like extensions of the interpapillary epidermal cells into the corium, occasionally with "pearl body" formation. The intervening tissue of the corium is loose from edema and fairly thickly infiltrated by lymphocytes, plasma cells and numerous large "endothelial cells." Special collections are notable about blood vessels, and occasional giant cells occur in the general infiltration, which extends well down into the subcutaneous tissue. In the loose tissue, in the lymph spaces free leishmanias occur, but in the sections it was difficult to detect them in intracellular position.

All these sores were healed with such promptness that I was soon without material for desirable further cultural and inoculation study. Each lesion was frozen with carbon dioxid for one minute, with firm pressure. After the first application, no more leishmanias were detected in smears.

It required only three such treatments at ten day intervals to cure the ulcers on the wrist. The larger facial sore was healed after nine applications, with ten days intervening between the freezings. This lesion also received one roentgen-ray treatment, with a 9 inch spark gap, 5 ma., 5 mm. aluminum, five minutes, at a distance of 11 inches.

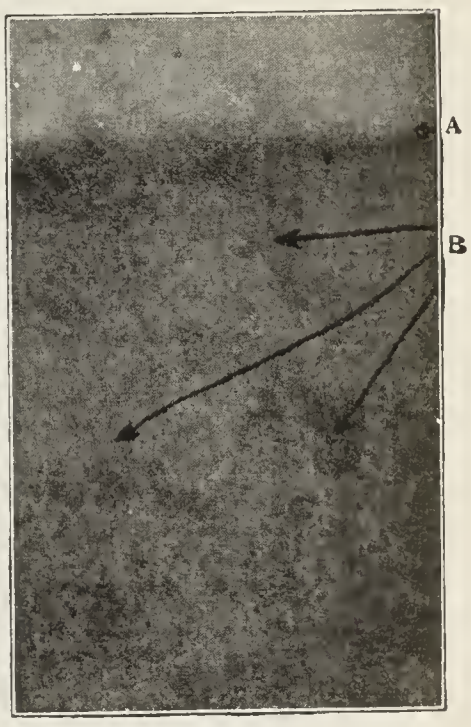


Fig. 3.—*A*, surface; *B*, tonguelike extensions of epidermal cells into the corium.

1. This medium is made by extracting 125 gm. of chopped beef with 1,000 c.c. of water, the mixture being placed in the refrigerator for the night, and strained the next morning. To the liquid extract are added 20 gm. of peptone, 5 gm. of salt, 10 c.c. of normal sodium carbonate solution and 20 gm. of agar. To one part of this nutrient agar (which represents one fourth of the strength of the usual meat infusion), when melted and cooled to 60 C., is added twice its volume of defibrinated rabbit's blood.

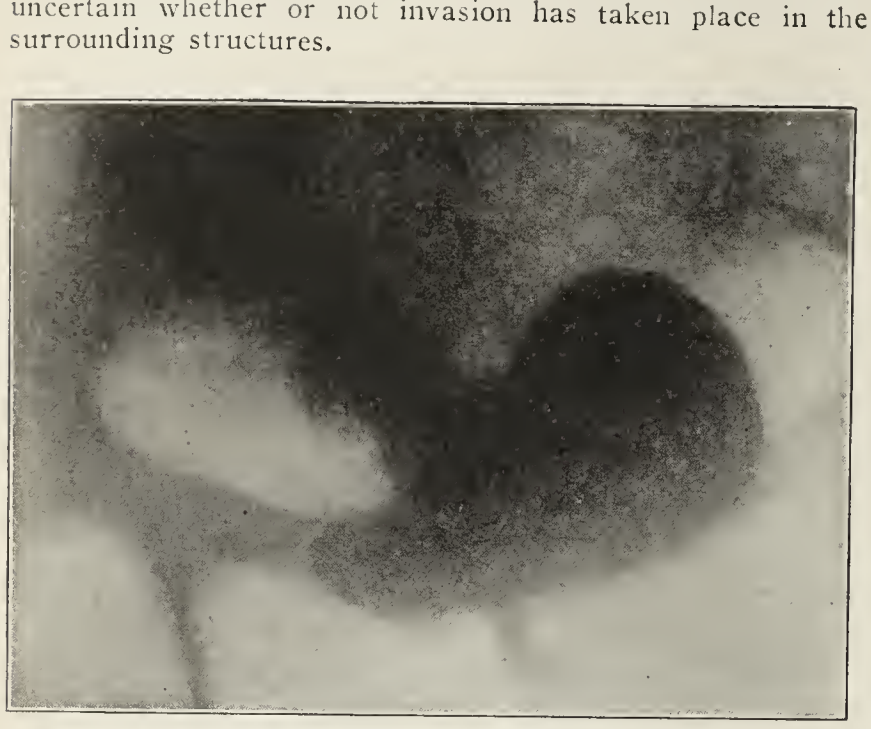
General Census Should Include Hospitals.—Uncle Sam should add "a hospital census" to his other statistical responsibilities, if only hospital interests and others concerned will take steps to impress the urgency of the need. The trouble has been, however, that the need of a federal inventory of our hospitals has not been so acutely sensed by the public at large nor the Bureau of the Census. Consequently, we have the spectacle of Uncle Sam publishing, just now, a list of the hospitals in Latin America, but making no effort to secure correspondingly complete enumeration of similar institutions in the United States.—W. Fawcett, *Hospital Management* **9**:49 (Jan.) 1920.

CARCINOMA OF THE BLADDER

REPORT OF A CASE IN WHICH A CYSTOGRAM AIDED IN THE DIAGNOSIS AND PROGNOSIS

W. M. COPPRIDGE, M.D., WEST DURHAM, N. C.

This case is reported with the idea of substantiating the conclusions of Dr. David R. Melen[1] in his recent article in THE JOURNAL. I believe it will add one factor of usefulness in the study of bladder tumors not brought out by Dr. Melen's case, that is, that the method may be of value when it is uncertain whether or not invasion has taken place in the surrounding structures.



Bladder filled to capacity with sodium bromid solution, 15 per cent., showing great irregularity of outline to the right.

REPORT OF CASE

History.—Mrs. M. M. T., aged 60, white, widow of five years, referred by Dr. Merle T. Adkins, Nov. 30, 1919, complained chiefly of frequency and pain on urination over a period of one year. Her father died at the age of 82 of "old age"; the mother died at 73, of unknown cause. There was one child, aged 26 years; there had been no other pregnancy. During the last three months she passed a little blood on two occasions. The urine had been very cloudy and had shown a heavy sediment for the last nine months.

When I first saw her the urine was cloudy; leukocytes, +++; erythrocytes, +. Blood examinations revealed: leukocytes, 19,600; polymorphonuclears, 58 per cent.; endothelial leukocytes, 8 per cent.; lymphocytes, 20 per cent.; large mononuclears, 10 per cent.; eosinophils, 3 per cent.; basophils, 1 per cent.; hemoglobin, 80 per cent.; erythrocytes, 4,200,000; Wassermann test, negative.

Physical Examination.—The patient did not look emaciated. The heart and lungs were negative; the abdomen was symmetrical; the liver, spleen and kidneys were not palpable; vaginal examination at this time was negative.

Cystoscopy, November 30, with a Brown-Buerger cystoscope, disclosed the capacity of the bladder as only about 3 or 4 ounces. There was a marked cystitis and some ulcerations on the right side. Both ureters were catheterized, and the urine from each was clear. Phenolsulphonephthalein given intravenously appeared from each side in three minutes, and the output seemed to be equal on each side. The small capacity of the bladder made an examination of the ulcerations to the right unsatisfactory.

A diagnosis was made of severe cystitis, with the probability of malignant ulcerations on the right side of the bladder.

Further observation was advised, but following this the patient left the hospital for a time and refused further observation.

In November, 1920, she returned. The urinary findings were the same as before. On vaginal examination a small mass was felt to the right. Cystoscopy at this time revealed many papillary growths, and a diagnosis of carcinoma was made. Because of the small capacity of the bladder and the extreme irregularity in filling, a cystogram was made in order to trace the outline more accurately. The accompanying illustration shows prolongation to the right, with a great deal of irregularity in outline. It was felt, therefore, that the plate bespoke invasion. Exploratory laparotomy revealed extensive invasion of the intestine on the right side.

It is believed that this method of studying bladder tumors is of great aid in many cases of suspected carcinoma, when a definite diagnosis is difficult. It is also useful in determining whether or not invasion of the surrounding organs has taken place.

Watts Hospital.

1. Melen, D. R.: Aid in Diagnosis of Tumor of Urinary Bladder, J. A. M. A. **76**: 782 (March 19) 1921.

A CASE OF BILATERAL DISLOCATION OF THE HIP JOINT *

WALTER G. STERN, M.D., CLEVELAND

A well developed, muscular woman, aged 22, was injured in an automobile wreck on the evening of Dec. 31, 1920, while a passenger in the front seat of a heavy touring car, the front seat of which was movable and adjustable. The machine skidded on a wet and slippery asphalt pavement while being driven at a speed said to have been in excess of 50 miles an hour. When the driver found his machine was out of control, he left his seat back of the steering wheel and, drawing his fur coat around them in such a manner as to protect the young woman from flying glass, he threw himself on her lap. The wheels of the machine struck a neighboring curb, the body was smashed, and the two passengers of the front seat, still seated on the front seat, which became detached from the car, were whirled by centrifugal force over the wet pavement as though on a sled, and struck the opposite curb at a distance estimated as 60 feet from the point where the automobile itself had struck. They said that they knew that they were tobogganing across the pavement at a terrific speed. The feet of the young woman met the curb squarely with the soles and heels of the shoes; she felt severe pains in the small of the back, and immediately lost control of the right knee and foot.



Fig. 1.—Bilateral dislocation of the hips before reduction.

She was taken to a nearby hospital, where it was found that she had injured her right foot and that she had a total peroneal palsy of the right leg with toe drop and anesthesia of the toes. She complained bitterly of pain in the calf and toes, although the skin was insensitive to pin pricks, especially in the dorsum of the foot and the toes. Her complaints of pain in the foot and leg were so constant and agonizing that the condition of the hips was entirely overlooked. A fracture of the spine with cord involvement was suspected; but the roentgenograms were negative, as was a lumbar puncture, which was done with the expectation of recovering bloody fluid.

* From the Orthopedic Department of the Mount Sinai Hospital.

The patient was a very hard one to handle, and it was with great relief to the hospital authorities that she concluded to go home a few weeks thereafter. She called numerous physicians to her home, but it seems that none of them stayed long enough on the case to make a positive diagnosis. Dr. Emory Dial of Cleveland was the last physician to be called in. He ignored her complaints of pain, pulled down the bedclothes, and forced on the patient a more careful examination than any other of the attending physicians dared to make, but got no further than the right hip. Noticing the abnormality of a flexion, adduction, internal rotation contracture



Fig. 2.—Bilateral dislocation of the hips after reduction.

at the right hip, he sent the patient to a second hospital, where a roentgenogram of the right hip revealed a posterior and upward dislocation of the head of the femur.

Seven weeks having now elapsed since the date of the injury, the doctor sent the patient to me post-haste for an attempt at reduction. As a result of the girl's screams and complaints while in the ambulance, the patient arrived at Mount Sinai Hospital at the very end of an operative clinic. Owing to the fact that four days would have had to elapse before an attempt could be made at reduction had not the attempt been made that morning, without any preliminary examination, the girl was placed on a Hibb's table and anesthetized. Here it was discovered that the left hip stood in a similar position of flexion, adduction and internal rotation contracture. On questioning the mother and the attending physician, it was learned that she had never made any complaint about pain or disability in the left hip. The second might have been one of congenital dislocation of the hip, and a roentgenogram of both hips was immediately taken stereoscopically with a Bucky diaphragm. The plate showed that the head and neck of the femurs were normal in size and were well formed. Both acetabula were deep, clear and evidently had been occupied by the heads of the femurs, and there were small fragments chipped off the posterior rims of the acetabula. A few days later, seven and one-half weeks after the reception of the injury, the patient was deeply anesthetized with gas-oxygen-ether sequence, the pelvis firmly bound on a Hibb's table, and with a wedge under the trochanter, the hips were both reduced with a typical Lorenz maneuver. The reduction was not more difficult than in an ordinary case of congenital dislocation of the hip in a child of 4 or 5 years, and after the reduction was accomplished the heads had the tendency to remain in the acetabula. A plaster cast was put on the right foot, with marked overcorrection of the drop foot deformity. A pillow was placed between the knees, and the knees bound together with flannel bandages.

One week later the pillow was removed, and massage and circumduction of the hips begun.

COMMENT

On looking up the literature, one is struck by the few cases of traumatic dislocation of both hips that are on record.

Lewis[1] reported one case of his own and reviewed thirty cases from the previous literature. In several of the reported cases the patient died from shock after reduction. In all, twenty-three cases were successfully reduced.

The mechanism of the dislocation seems to be the application of sufficient force from above or from below (as in my case) when the thighs are held fixed in flexion.

In all, forty cases of this most unusual injury can now be recorded.[2]

821 Schofield Building.

DEMONSTRATION OF CAPSULE-LIKE APPEARANCE IN STAINING GONOCOCCI *

CLARA ISRAELI, M.D., CONCORD, N. H.
Pathologist in Chief, State Laboratory of Hygiene

It has been a question whether or not the gonococcus possesses a capsule. Some hold that it does possess a capsule, some question its presence, and some flatly deny that this organism has a capsule. The microbiologies consulted by me, both English and American, say nothing about this organism having a capsule, yet the clear zone around the gonococcus which is seen in the examination of slides could hardly fail to impress itself on the mind's eye of the examiner. This clear zone is demonstrated both by Gram's method of staining and by Loeffler's alkaline methylene blue, the latter stain being preferred by a good many because the zone is more clearly defined. It is that clear zone or spacing around this coccus that identifies it as the gonococcus. It is used as a means of differentiation between these cocci and other gram-negative diplococci of similar shape.

The question arises as to what is this clear zone or spacing. The most probable solution is that this clear zone must be a

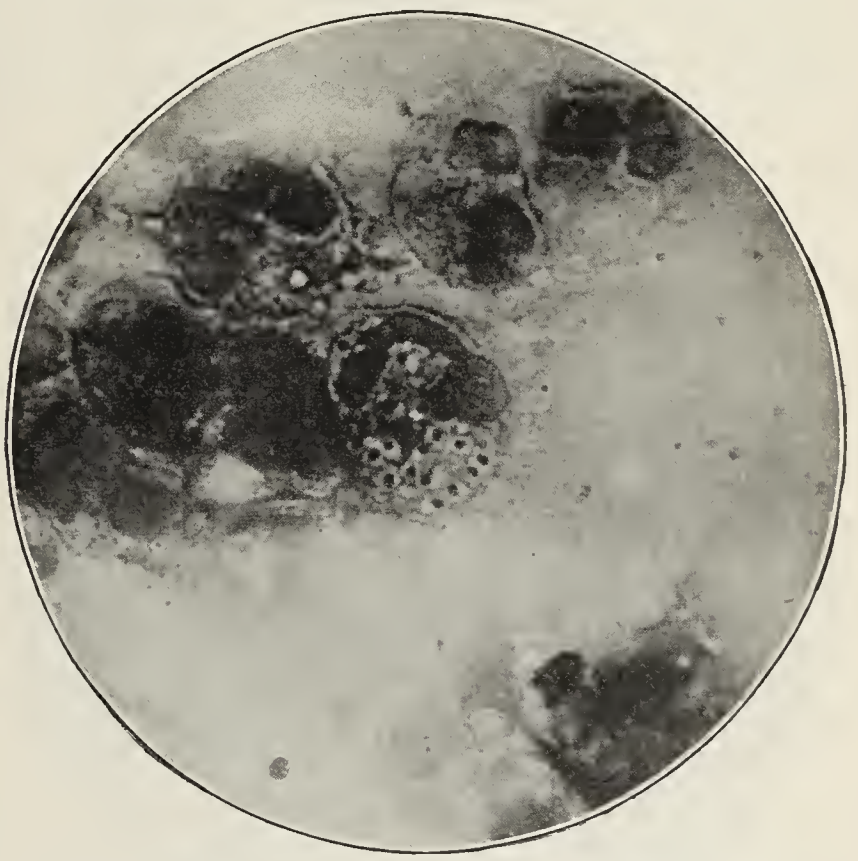


Fig. 1.—Gonococci with light zone characteristic of results with new stain.

capsule belonging to this organism, which finally led me to stain for capsule. I used the several known capsule stains and selected the one best adopted for this purpose, which is

1. Lewis: Ann. Surg. **40**: 735, 1904.
2. Since the publication of Lewis' article, the following publications have appeared:
Eunike: Deutsch. med. Wchnschr. **40**, 1918, two cases.
Jarosiky: Deutsch. med. Wchnschr. **42**: 479, 1919, one case.
Magruder: Virginia M. Semimonth. **21**: 317, 1916, one case.
Aleksandraff: Russk. Vrach **11**: 386, 1912, one case.
Chace: New York M. J. **95**: 171, 1912, one case.
Hoffman: West Virginia M. J. **3**: 266, 1908-1909, one case.
Von Bardeleben: Ztschr. f. Geburtsh. u. Gynäk. **58**: 516, 1907, one case.

* From the State Laboratory of Hygiene.

Hiss' capsule stain, slightly modified, using a 5 per cent. aqueous solution of methyl violet or 5 per cent. aqueous solution of fuchsin, the latter being preferable. The solution, therefore, necessary for this work is a 5 per cent. aqueous solution of either stain and 20 per cent. solution of copper sulphate. The technic is simple:

1. Smears are fixed by heat.
2. The slide is covered with the dye and heated till it boils.
3. It is washed with 20 per cent. copper sulphate solution till no more of the color runs off.
4. It is dried between filter paper.

MICROSCOPIC APPEARANCE

The pus cells on the field take on the stain richly. The coccus takes on the same stain as does the nucleus of the pus cell. The zone around the gonococcus takes on the stain much lighter in color. If methyl violet stain is used, the surrounding zone is a lavender; if fuchsin is used, the surrounding zone is a pale pink. The space between the coccus and the outer edge of this lighter stained area is as wide, in many cases twice as wide, and in some cases three times as wide, as the coccus. Because of this wide lighter stained area, it makes the coccus appear smaller than we have been accustomed to seeing it with the usual method of staining, which is that of Gram. This is particularly true when the smear is thin; that gives the gonococcus and its capsule wide area to spread. When the smear is thick, the cocci are pushed together and it does not leave room for expansion, so that it gives the coccus the size that we have been accustomed to seeing it because the periphery has a much narrower margin. This is the explanation as to why different fields show the capsule of a different size.

The question might arise that the lighter stained area might belong to the cytoplasm of the pus cell rather than to the gonococcus, since the coccus is in the cytoplasm of the pus cell. That question can be answered by the fact that the gonococci which are in the fields by themselves show that characteristic light zone stain the same as in the pus cell.

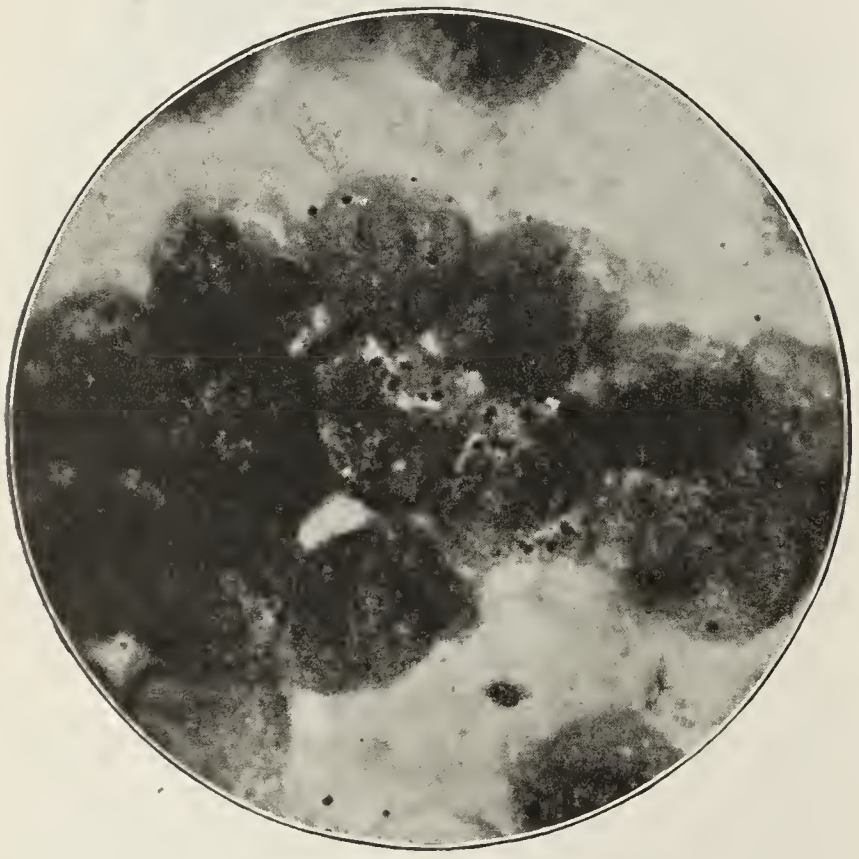


Fig. 2.—Intracellular gonococci.

This is demonstrated in the accompanying photomicrographs, it being more marked in Figure 1.

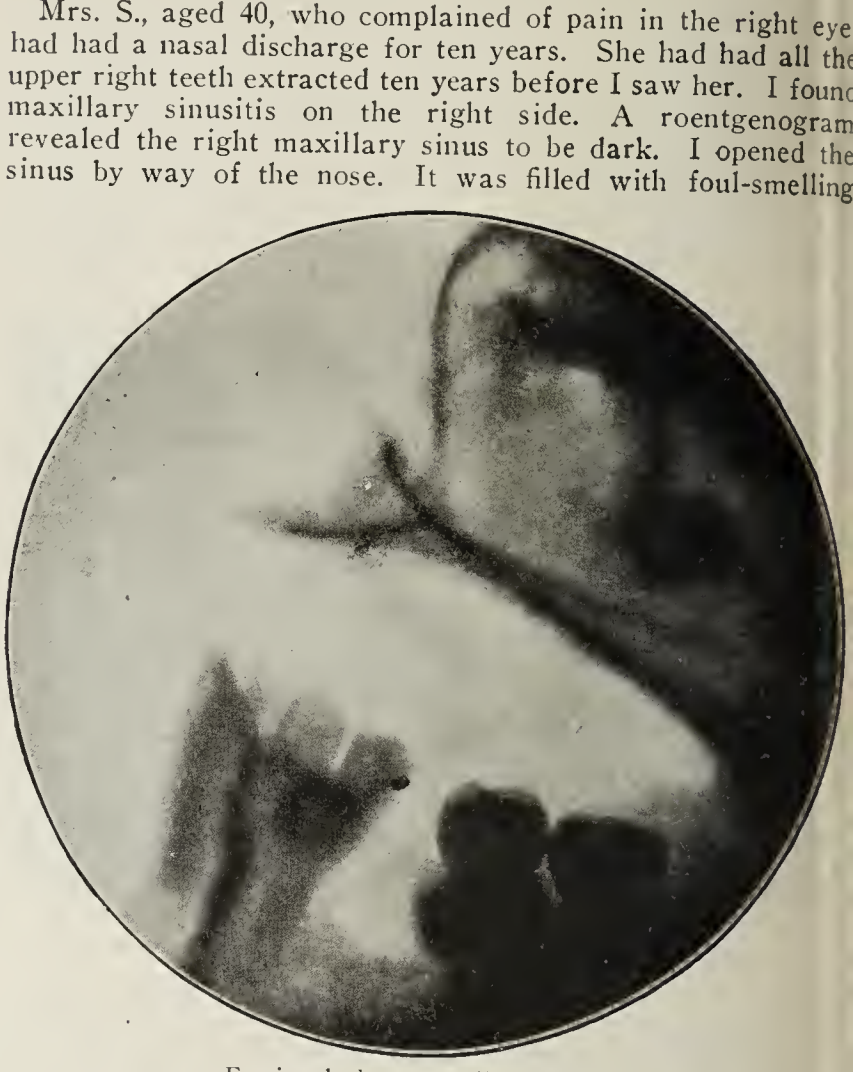
While this method of staining brings out the capsule-like periphery around the gonococcus distinctly, it is perhaps a little too soon to claim that it is the capsule of the gonococcus until more work has been done on it.

This method of staining has been adopted by the State Laboratory of Hygiene, Concord, N. H., and I might suggest that other laboratories try this method.

CALCULUS IN MAXILLARY SINUS

Robert B. Sweet, M.D., Long Beach, Calif.

Mrs. S., aged 40, who complained of pain in the right eye had had a nasal discharge for ten years. She had had all the upper right teeth extracted ten years before I saw her. I found maxillary sinusitis on the right side. A roentgenogram revealed the right maxillary sinus to be dark. I opened the sinus by way of the nose. It was filled with foul-smelling



Foreign body in maxillary sinus.

pus. I gave treatments by way of the nostril for six weeks, at the end of which time pus was still present. Another roentgenogram, reproduced herewith, disclosed a foreign body in the maxillary sinus which, on being removed by the Caldwell operation, proved to be a cuboid calculus, the size of a small die. The patient made a rapid recovery.

A NEW DIAGNOSTIC SIGN IN ACUTE INFLAMMATORY CONDITIONS OF THE ABDOMEN

Moses Salzer, M.D., Cincinnati

The accurate diagnosis of acute inflammatory conditions of the abdomen presents such great difficulties at times that the surgeon is at a loss where to make his incision. It is not uncommon for him to be compelled to handle an acutely inflamed appendix through what was originally a gallbladder incision, and the reverse is also just as frequently true.

Any sign, therefore, which will assist in making an accurate diagnosis before the incision is made will be of inestimable value in any operation, but especially so when the patient's condition is not good and the disease has existed for some time. It is in these late cases that the whole abdomen is most likely to be painful and tender on examination, and any additional information will be welcomed by the surgeon.

The presence of the sign about to be described was first called to my attention about four years ago by the following case:

The late Dr. Joseph Ransohoff was called in consultation by two internists who had made a diagnosis of acute appendicitis, with possible abscess. The whole right side was rigid, painful and tender on palpation. The leukocyte count was high, and the patient's condition was not good. Dr. Ransohoff himself was more inclined to a diagnosis of acute gallbladder infection.

I was called on to give the anesthetic, which was to be nitrous oxid-oxygen; and before the patient was completely anesthetized, Dr. Ransohoff bethought himself to make another examination.

He first made pressure over McBurney's point, and there was no response; but immediately on pressing over the gall-

bladder region there was a *distinct catch in the respiration,* some local resistance, some contraction of the eyelids and other unmistakable evidence that some pain was being produced. The whole abdomen was then gone over, and the examination of no other part elicited any response. The incision was therefore made over the gallbladder region, and a moderately distended, suppurating gallbladder was delivered. The appendix was found to be perfectly normal.

With this case in mind, Dr. Ransohoff and I examined all subsequent acute abdominal cases with the patient partially anesthetized, and in several hundred cases we found it a most reliable sign. It was particularly reliable in this case:

Mrs. W. had complained of pain in the left lower quadrant of the abdomen for some time. Vaginal and rectal examinations were negative. There was a slight elevation of temperature. The leukocyte count was normal at first. The pain in the course of a few days spread over the lower half of the abdomen, and the whole abdomen became rigid. The leukocyte count became markedly increased. No definite diagnosis was made, and exploratory operation was decided on. With the patient partially anesthetized with nitrous oxid-oxygen, Dr. Ransohoff made pressure over the whole abdomen and was able to elicit a response only when pressure was made over McBurney's point. Despite the fact that, previous to the time of operation, the chief pain was on the left side, an appendix incision was made and an acutely inflamed appendix was found. The appendix lay transversely, and a band led over toward the left side, explaining the pain in that side.

SUMMARY

In acute inflammatory conditions of the abdomen, it is possible with the patient partially anesthetized to tell with a fair degree of accuracy the seat of the trouble, and the incision can be made accordingly. The sign consists essentially of a catch in the respiration and other evidences of the presence of pain, depending on the depth of anesthesia, when pressure is made over the diseased area. The catch in the respiration is the most constant part of the sign, and will persist until surgical anesthesia is produced. In most of the cases forming the basis of this paper, the patients were anesthetized with nitrous oxid-oxygen; but the sign also holds good when ether is used.

55 Groton Building.

REPORT OF A CASE OF PEDUNCULATED BODY IN THE KNEE

E. A. FICKLEN, M.D., B.Sc., NEW ORLEANS

J. M., a man, aged 22, was loading a vessel, Dec. 2, 1920, when a heavy bale of sisal grass fell on his right leg and threw him to the deck. Examination a few hours later disclosed a moderate amount of effusion in the knee joint, and marked tenderness over the inner edge of the femoral trochlea. No dislocation of the cartilage could be felt. The knee joint was immobilized and the effusion subsided, but the tenderness persisted. The patient was allowed to walk on crutches, and, after four weeks, with a stick. Five weeks after the injury, he complained of occasional locking of the knee. This locking was easily reduced. He stated that there was something loose in the joint. Full flexion was ordinarily sufficient to free the engagement.

The ordinary conservative methods, such as compression and massage, were tried; but as they gave no relief, he was operated on, Feb. 9, 1921. A bloodless field was assured by placing a heavy constrictor on the thigh. The joint was opened by a 2-inch longitudinal incision at the inner border of the patella. The menisci, the crucial ligaments, and the infrapatellar fat pad were normal. There was a small amount of clear fluid in the joint. After close inspection, the only sign of abnormality found was a faint C-shaped fracture line centrally situated on the convexity of the internal condyle. The contour of the condyle was unbroken. The fragment of bone and cartilage was found lying in a smooth, shallow, cup-shaped depression, with its posterior edge attached to the condyle by a band of fibrocartilaginous tissue 1 mm. thick. This band was clipped through, the body removed, and the incision closed.

Dr. F. M. Johns examined the specimen and reported: "Evidently a fracture; normal cellular bone with the usual dense area on the bearing surface."

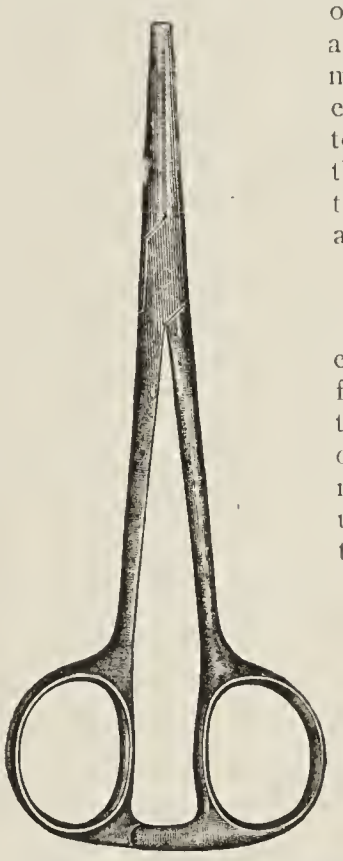
The knee was not immobilized after the operation. Passive motion was begun at once. There was a palpable amount of fluid in the joint for three weeks. At the end of a month, crutches were discarded; and two months after operation, the patient was able to resume his work. He has complete relief from all symptoms, and is free from any feeling of instability in the knee.

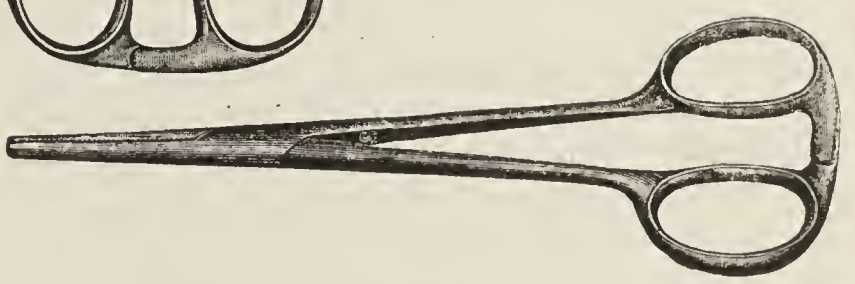
1109 Maison Blanche.

IMPROVED "TIME-SAVING" FORCEPS*

CARLETON DEDERER, M.D., MOUNT HOLLY, N. J.

By a simple change to the modern idea of "stream-line" design, the ordinary Kocher forceps are converted into forceps of the "time-saving" style. Without adding to the weight of the instrument, the manufacturer has skilfully eliminated the trouble-inviting external acute angles, thus minimizing the frequency of the occurrence of tangling of ligatures and sutures about the handles.





Improved artery-forceps. The lock-catch at the end of the handles and the straight shanks where they are joined to the rings have been so flattened and tapered that the forceps still retain the necessary lightness, besides eliminating the crotches between the rings and the shanks where so frequently ligatures or sutures become lodged, resulting in tangling and some loss of time.

SUTURING SIMPLIFIED

This feature may be appreciated especially in such operations as those for large degenerating adenomas of the thyroid and in numerous other operations in which occasionally as many as a hundred pairs may be in use at one time. In pelvic work they tend to simplify the technic of suturing, for the assistant as well as for the one operating.

The box-joint, which assures accuracy of bite, facilitates easy manipulation and greatly increases durability, is used.

Like the ordinary Kocher forceps, the instrument is grasped best by picking it up with the tip of the third finger and the thumb.

108 Garden Street.

* Presented before the Philadelphia County Medical Society, March, 9, 1921.

Function of Hospital Social Service.—Social service in a number of properly equipped and favorably situated institutions can and should participate actively in education, in the training of medical students, of nurses, and of hospital social workers themselves; and social service departments in all institutions should have educational interests and by-products. Likewise, medical-social research should be pursued, collecting and interpreting data which will shed light on the social relations, the causes and the means of dealing with disease.—*Hospital Social Service* **3**:4, 1921.

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SATURDAY, MAY 28, 1921

THE ENDOCRINE GLANDS—A CAUTION

The bearded lady, the giant, the fat boy and the midget—those "marvelous freaks of nature" of the dime-museum days—we have learned to regard as the victims of disordered endocrine glands. So profound are the effects which these remarkable organs can produce in the body, upsetting such essential processes as sexual development, growth and metabolism, that the imagination of both laboratory worker and clinician has been greatly stimulated. No wonder that hopes have been stirred that these processes may be placed under control, that old mysteries of disease will be explained, and that hitherto hopeless cases can soon be satisfactorily treated.

Unfortunately, we are still deeply ignorant of many important aspects of endocrinology. The conditions in the body which control the glands of internal secretion are still almost wholly unknown. There is evidence that the suprarenal medulla and the thyroid are subject to sympathetic stimulation, but what of the others? The glands are probably complexly interrelated, but in only few cases has satisfactory proof of mutual influence among them been demonstrated. Though we glibly talk of "hormones," only two endocrine products are known chemically, thyroxin and epinephrin, and there are physiologists who do not concede a hormone function to epinephrin. The nature of the supposed active agents of most of the glands, e. g., the ovary, the corpus luteum, the suprarenal cortex, the anterior pituitary, the parathyroids, the thymus, and the endocrine cells of the pancreas, has not been determined. Nor has it been demonstrated that most of these organs contribute any specific internal secretion. They may, conceivably, exert their influence by removing toxic substances from the blood stream and metabolizing them to inert forms. Epinephrin, the nature of which is understood, is known to disintegrate rapidly in an alkaline medium, and, though highly potent in many directions when injected intravenously or subcutaneously, is without physiologic effect when taken by mouth. Until we learn more about the character of the essential elements of the ductless glands and their precise effects, we cannot be sure that they also are not altered or destroyed in the alimentary canal. And to what degree is substitution therapy possible? Its value has been proved in thyroid deficiency, but it is useless in pancreatic diabetes. Too often organ therapy is justified by the patient's "feeling better," or by the disappearance of subjective symptoms—criteria of very uncertain quality.

The normal rôle of the endocrine factors in the organism is largely unknown. Much of the general opinion is based on faulty inference. Injected epinephrin raises blood pressure. The inferences have been drawn, therefore, that the suprarenal medulla is essential to the maintenance of normal blood pressure, and that hypotension means "hypo-adrenalism," and hypertension "hyperadrenalism." No conclusive evidence exists to support these inferences; indeed, there is excellent evidence that the suprarenal medulla has nothing to do with maintaining the natural blood pressure level. The idea that the posterior lobe of the pituitary is active in labor and in lactation is based on the same fallacy of assuming that the pharmacodynamic action of a powerful drug indicates the physiologic rôle of the organ from which it is derived.

Again, there is no satisfactory clinical test for any assumed internal secretion, as such. Altered metabolism in thyroid disorders permits a certain amount of insight into the type of disturbance present. And, of course, when conditions are extreme, fairly definite inferences can be drawn in such diseases as acromegaly and myxedema. Minor clinical changes, however—headaches, flushes, unstable blood pressure—are commonly attributed to endocrine disorders on no definite evidence whatever, often on the basis of the therapeutic fallacy mentioned above. The facts should be faced that much of endocrine physiology is in a state of chaos, and that selection of bits from this chaos to bolster up clinical theories is sheer futility.

Confronting our real ignorance of many important features of endocrinology are positive statements of facts when the facts have not been established, large assumptions of assurance when there is no clear certainty, and a formulating of laws for diagnosis and treatment when no respectable basis for either exists. Illustrations of these charges can be found on all sides in books and articles and, especially, in widely scattered advertising matter.

Credulity, under these circumstances, has evil consequences. It helps to fix a sense of security, a sense of being satisfactorily informed, when there is little, if any, justification. It hinders medical progress by substituting simple faith and enthusiasm for the careful critical study that is sorely needed. It opens the door for exploitation of the medical profession by charlatans and quacks and unscrupulous manufacturers. Medicine is humiliated rather than served when we swarm with the crowd after the latest therapeutic fad, accepting as gospel every claim that is made, if only it is made with sufficient positiveness.

We appeal, however, not for general condemnation endocrinology as a subject of interest, but for a proper scientific attitude toward the data that are advanced. Quite as numerous, perhaps, as the group that throngs heedlessly after each new interest is the group that will have none of it, good, bad or indifferent. This is merely throwing out the baby with the bath. Although less vociferous than the impressionistic school, there are groups of clinical and laboratory investigators who are bending their best efforts toward the solution of the numerous and baffling problems that the field presents. The efforts of these men are deserving of the whole-hearted support of their colleagues.

To the well trained clinician, the existing chaos in this field may well stand as a challenge to his constructive attention. Interest in the ductless glands was initiated by clinical study. Addison, Oliver, Parry, Graves, Kocher, Lancereaux, Marie—the names of these clinicians mark the steps of our progress. But these men helped to advance medical knowledge by careful study of their cases, by correlation of similar conditions, by cautious and limited inferences. The clinic still provides disturbances, probably endocrine in origin, that the laboratory cannot duplicate. The opportunity to contribute to professional knowledge in this field is still great. The situation calls not for the gullible enthusiast but for the critical clinical investigator, not for a stampede but for cautious progress. And so far as the well-tried methods of careful observation, careful record, careful test, and careful inference are employed, they may reasonably be expected to yield useful information.

A SCIENTIFIC BACKGROUND FOR THE USE OF ARSENICAL AND MERCURIAL COMPOUNDS IN SYPHILIS

It is a proper postulate of all drug therapy that the precise mode of physiologic action of the agencies employed and their effects on the various structures of the organism must be ascertained as fully as possible before the treatment instituted can be said to rest on a thoroughly rational or scientific basis. When it goes without comment that individual clinicians can report upon literally many, many thousands of injections of arsphenamin, it need scarcely be argued that this represents a type of drugs which demand a thoroughgoing study with respect to every detail of behavior in the body. This assumption derives further support and emphasis from the fact that serious consequences are by no means unknown today in the forms of treatment wherein such drugs are employed.

It has been quite common to ascribe the misfortunes in the management of syphilis to the occasional poor quality of the newer chemical compounds of the arsphenamin type that have been employed in practice. The time has arrived, however, when inherent toxicity of the purchasable drugs or technical errors in their administration are no longer warranted as a routine excuse for the unsatisfactory results of therapy. Are there not factors concerned with the patient which need more careful consideration? One cannot peruse the recent issue of the *Archives of Dermatology and Syphilology*[1] without realizing the possible importance of the answers to this question. Kolmer and Lucke of the University of Pennsylvania have recently completed an elaborate series of studies on the histologic changes produced in the organs of experimental animals by arsphenamin, by neo-arsphenamin and by mercury. They investigated the effects of massive, fatal doses as well as the results following the administration of the drugs in quantities and at intervals more nearly in harmony with current therapeutic practice. Schamberg has summarized the results of his colleagues by the conclusion that the arsphenamins produce demonstrable effects chiefly on the liver, suprarenals and the blood vessels, and mercury chiefly on the kidneys and brain. As paraphrased by the Philadelphia syphilologist, the arsphenamins would appear to have a special affinity for the organs referred to—a hepatotropism, a suprarenotropism and a vasculotropism. Mercury possesses a nephrotropism (an observation long known) and apparently a cerebrotropism.

In the light of these findings it becomes easier to understand the long-known appearance of jaundice in syphilis, a symptom which on careful scrutiny of the case histories seems to be a possible sequel of arsenic treatment. It has been stated, indeed, that jaundice and acute yellow atrophy are incontestably much more common nowadays than before the introduction of the arsphenamins. This would seem clearly to serve as a warning that such arsenical therapy must be conducted with due appreciation of its relation to the liver; and, accordingly, in the best practice of the present day, hepatic complications are becoming a real rarity.

Equally emphatic are the warnings that attach to mercurial treatment. The danger of damage is the more to be feared because mercury is slower and more subtle in producing impairment of the kidneys. In view of the frequency of treatment with both arsenicals and mercurials, it should be borne in mind that within a short time after an injection of arsphenamin most of it disappears from the blood and is lodged in the organs, one of the chief reservoirs being the liver. If the eliminatory activity of the kidneys is impaired, it is obvious that the arsphenamin will remain for a longer time and in larger quantities in the liver, for which organ it has a considerable affinity. Too long a residence in the liver may cause the drug either to become oxidized with the production of arsenoxid, or the arsenical radical may become split off and produce the symptoms of arsenical poisoning.

1. Kolmer, J. A., and Lucke, Baldwin: A Study of the Histologic Changes Produced Experimentally in Rabbits by Arsphenamin, Arch. Dermat. & Syph. **3**: 483 (April) 1921; A Study of the Histologic Changes Produced Experimentally in Rabbits by Neo-Arsphenamin, ibid., p. 515; A Study of the Histologic Changes Produced Experimentally in Rabbits by Mercurial Compounds, ibid., p. 531. Schamberg, J. F.: Clinical Commentary on Studies of Histologic Changes in Organs Induced by Arsphenamin, by Neo-Arsphenamin and by Mercury, ibid., p. 571.

Knowing the chief organs—the liver, suprarenals, blood vessels, kidneys and brain—that are likely to suffer, one can exercise circumspection more intelligently. The pathologic findings and clinical experience, says Schamberg, would alike persuade one to utter two cautions: In mercurial treatment, watch the kidneys; in arsphenamin treatment, watch the liver. It cannot be expected that powerful drugs shall be entirely inert toward the cells of certain organs and tissues; hence the limits of safety should be watched with great care. Fatalities, Schamberg reminds us, have occurred after both arsphenamin and mercury. Those after the former are much more tragic and fear inspiring, for the relation between cause and effect is obvious. Many scores, if not hundreds, of deaths after mercury have likewise been reported in the literature, but they are ordinarily more likely to be slow and insidious and less likely to be incriminative of the therapeutic procedure employed. With a knowledge of the warning signals which recent investigations have made more prominent for recognition, unduly vigorous medication can be avoided when the danger is indicated. It will be conducive to progress when the hundreds who may still be treating syphilis somewhat indiscriminately learn that the chemical foes of the spirochetes are not always indifferent toward the tissues of the host of the parasites.

THE PROBLEM OF ENDEMIC GOITER

"No one wonders at goiter among the Alps," Juvenal wrote in ancient days. The occurrence of this abnormality in endemic form has been recognized since the times of the early Roman writers. Although Switzerland has been the classic home of endemic goiter, physicians have long realized that there are many other foci on the European continent. That there are distinct, conspicuous goiter regions on our own continent and within the United States is not as generally understood as it ought to be. The early explorers found goiter among the North American Indians; and today the region of the Great Lakes is probably the best recognized though by no means the only geographic area in which the enlargement of the thyroid gland becomes a manifestation sufficiently frequent to deserve careful scientific consideration.

The recent studies of Marine and his co-workers [1] on the incidence and types of thyroid enlargement in the schoolgirls of Akron, Ohio, have called attention in a most striking way to what goiter really means in this country. Out of hundreds who were examined, more than half showed some detectable enlargements of the gland, although most of them were comparatively slight, showing a visible bulging of the skin over the thyroid isthmus and a widened and thickened isthmian band or mass on palpation. An added importance to these statistics is afforded by the fact that the simple goiter is medically preventable without great difficulties.

Even more startling is the report of Levin [2] relative to the incidence of goiter in Houghton County, an area in the Lake Superior region of Michigan. His figures indicate an incidence of 1,146 goiters in 1,783 unselected persons examined in two townships lying in the Great Lakes goiter belt. These enlarged thyroids included 682 simple goiters, 420 adenomas and cystomas, and 44 colloid goiters. The incidence curve shows that goiters increase in both sexes during puberty, dropping to a small degree after the growth of the individual is attained. The curve remains in the female for the child-bearing period, going down at about 38 or 40 years, when it rises again for the menopause. In the male, the curve gradually drops until 35 or 40 years, when there is a small rise owing to the growths in the glands asserting themselves, the male having no special metabolic change to influence the enlargement. The simple goiters maintain the high percentage until 35 years is attained, and the adenoma and cystoma sustain the height of the incidence curve after that age. The appearance of adenomas at a relatively late age corresponds with the comparative absence of these growths in the schoolgirls of Akron.

One looks in vain for dominant factors of unhygienic living in the places which Levin studied. The water supply is varied, so that a common source of infection is scarcely to be postulated by the adherents of the "infection theory" of goiter. Without debating at this time the cause of the abnormality, we may still give renewed emphasis to the demonstration at Akron that reduction and prevention of thyroid enlargements can be obtained by the use of 2 gm. of sodium iodid taken in 0.2 gm. doses for ten days twice yearly. However harmless the "simple enlargement" may seem to be, one must bear in mind that continued hypertrophy may in the long run lead to more serious conditions, such as hyperplasia and endocrine disturbance.

Can it be that the comparative indifference of the medical profession is responsible for the seeming increase in "endocrine unbalance" in so many persons in this country? The question is one well worthy of serious thought. For ascertaining many of the fundamental facts essential to the further attack on the goiter problem, special laboratories and great clinics are not required. Further studies like those mentioned, careful observations under conditions of every day practice, are eminently desirable. Let the situations described be a call to service on the part of energetic physicians.

1. Kimball, O. P., and Marine, David: Prevention of Simple Goiter, Arch. Int. Med. **22**: 41 (July) 1918. Kimball, O. P.: Rogoff, J. M., and Marine, David: The Prevention of Simple Goiter in Man, J. A. M. A. **73**: 1873 (Dec. 20) 1919.

2. Levin, Simon: One Thousand One Hundred and Forty-Six Goiters in One Thousand Seven Hundred and Eighty-Three Persons, Arch. Int. Med. **27**: 421 (April 15) 1921.

You delay and inconvenience both yourself and others when you forget your Pocket Card, whereas with that card registration at Boston is quickly and easily accomplished.

Current Comment

THE STATUS OF VACCINATION AGAINST INFLUENZA

Prophylactic vaccination against influenza was practiced extensively during, but mostly following, the recent epidemic of the disease. From a scientific point of view, such inoculation seems somewhat premature, since the etiologic factors are not established. In some districts stock cultures were employed; in others a culture of a strain or strains isolated during the epidemic, and in still others a mixed vaccine composed of the bacillus of Pfeiffer, the streptococcus, the pneumococcus, the staphylococcus and other organisms. McCoy presented his impression, as gained from the uncontrolled use of these vaccines, that while theoretically they might be of value in the prevention of influenza, yet in every case in which they were tried under perfectly controlled conditions they failed to influence either morbidity or mortality. A well conducted investigation is worthy of note even when the outcome is negative in character. It may turn us away from false hopes and force us to seek new solutions for the problem at hand. In an elaborate study, Jordan and Sharp[1] of the Department of Hygiene at the University of Chicago conducted observations under the auspices of the influenza commission established by the Metropolitan Life Insurance Company of New York on approximately 6,000 persons from November, 1919, to June, 1920. About one half of these were vaccinated with a saline suspension of a standard mixed vaccine prepared by Dr. W. H. Park of the New York City health department. The remaining half were not vaccinated. Comparable members of the two groups in different localities lived under essentially identical environmental conditions. The influenza attacks among the vaccinated numbered 118, or 4.1 per cent.; among the unvaccinated the morbidity from this disease was 4.8 per cent. Rhinitis and bronchitis developed with about equal frequency in the two groups. There were slight variations in the incidence of the few cases of pneumonia, but the Chicago bacteriologists regard it as unlikely that any considerable degree of protection against influenza was conferred. Is it unfair to the proponents of vaccination against influenza and other respiratory infections to say: "Value unproven"?

1. Jordan, E. O., and Sharp, W. B.: Influenza Studies, IV, Effect of Vaccination Against Influenza and Some Other Respiratory Infections, J. Infect. Dis. **28**: 357 (April) 1921.

PROHIBITION AND PROFESSIONAL HONOR

The Eighteenth Amendment to the federal constitution and the Volstead Prohibition Enforcement Law have brought to physicians a problem of the utmost importance, not only to the medical profession itself, but also to the public. The problem involves the right of the medical profession to prescribe as medicines certain products that come within the classification of alcoholic beverages—whisky, wine, beer, etc. A recent ruling of the Treasury Department permits the manufacture of beer for prescription purposes, and this ruling has raised the question: Can beer properly be considered a valuable therapeutic agent? A few physicians insist noisily that beer is a valuable therapeutic agent, and maintain that prohibiting a physician from prescribing beer is interfering unwarrantedly with his professional prerogatives. An equally vociferous, though smaller, group loudly protested some months ago against limiting the number of prescriptions a physician might write for whisky within any given time. The same principle was invoked in that case. As a purely abstract proposition it is debatable whether the question of the number of whisky prescriptions and of prescribing beer should both be left to the same court of last resort—the physician. Various other sophisms are equally debatable on the same abstract plane. Practically, and we live in a practical world, there are the best of reasons for limiting the number of prescriptions physicians may write for whisky. And there are equally excellent reasons for maintaining that the prescribing of beer could be prohibited altogether with little damage to the public health. It is worth bearing in mind in this connection that, entirely aside from federal regulations, there are at present twenty-four states which prohibit physicians from prescribing alcoholic liquors in any form. The question for discussion, however, is not whether beer, wine and whisky are or are not beneficial therapeutic agents. This question can be answered only by scientific evidence. The question is an ethical—a moral—question of the widest sociological and economic importance: In view of the fact that a few physicians have shown themselves to be morally incapable of accepting the responsibility for prescribing intoxicating liquors—to the detriment of the honor and reputation of the medical profession as a whole—shall the medical profession ask to be relieved of this responsibility? There is one body—and only one—through which the organized profession of the United States can express itself nationally: the House of Delegates of the American Medical Association—and undoubtedly the House will give this question thoughtful consideration at its coming meeting in Boston.

THE SHEPPARD-TOWNER BILL

As stated in our news columns, the Senate Committee on Education and Labor, May 20, reported favorably on the Sheppard-Towner bill. This bill, considerably amended, now provides for the appropriation of $1,480,000, $10,000 to be paid to each state and $1,000,000 to be apportioned among the states in proportion to their population, no part of the prorated amount to be paid until an equal sum shall have been appropriated by the legislature of the state for the purposes provided for in the act. The Children's Bureau is made responsible for the administration of the act; the chief of the Children's Bureau is directed to form an advisory committee consisting of the Secretary of Agriculture, the Surgeon-General of the United States Public Health Service and the United States Commissioner of Education. Not more than 3 per cent. of the total appropriation may be used for administration expenses. Any state desiring to avail itself of the benefits of the act must submit to

the Children's Bureau a detailed plan for instruction in the hygiene of maternity and infancy through public health nurses, concentration centers and other suitable methods. To meet the objections of the advocates of personal liberty, an amendment provides that no state official or agent or any of the employees of the Children's Bureau shall have the right to enter any home over the objection of the parents. The report of the committee is practically the same as the report of the Senate committee on the same bill in the last session of Congress. It repeats the statement that the United States stands seventeenth among civilized nations in its maternal death rate; that most of this loss could be prevented by proper prenatal instruction, and that the bill has the unanimous approval of women throughout the country. As stated in a previous issue, THE JOURNAL does not favor this measure, since: (1) the principle of federal state aid as a means of financing public health work is an unsound financial policy; (2) public health work, except those activities which are clearly national in character, is essentially a function of the state and local government and should be paid for out of state and local funds; (3) no such emergency exists as has been claimed, and there are no reliable statistics by which it can be proved that the United States stands seventeenth in maternal death rate; (4) the means provided in the bill will not afford an effective remedy for existing conditions, and (5) and most important, if the federal government intends to inaugurate activities for the care of maternity and infancy or for any other public health measure, such work should be placed in the hands of the United States Public Health Service rather than under a bureau of the Department of Labor.

Association News

THE BOSTON SESSION

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Certificates for Special Railroad Rates

Identification Certificates for the purchase of special rate, round trip tickets to Boston will be mailed to those members of the organization who forward a request for the Certificate, accompanied by a stamped, addressed envelop, to the Secretary, 535 North Dearborn Street, Chicago. These Certificates are necessary in order to secure the special rate, round trip railroad tickets. See JOURNAL, May 21, 1921, page 1445, for conditions under which tickets are sold.

Special Report on Local Anesthesia

Dr. Emil Mayer, New York, Chairman of the Committee of the Section on Laryngology, Otology and Rhinology, to Study and Report on Fatalities Following the Use of Local Anesthesia, states that this committee will report to the Section at its meeting to be held in Huntington Hall on the morning of June 10. The report will contain far reaching recommendations and will be the subject of discussion when it is presented to the Section.

Luncheon Following Clinics at Boston City Hospital

The Local Committee on Arrangements announces that the trustees of the City Hospital will give a luncheon at 1 p m. to those physicians who attend the clinics at that institution, on Tuesday, June 7.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Personal. — Dr. Seale Harris, Birmingham, has been appointed head of the General Gorgas Memorial Commission by President Denny, University of Alabama.

ARKANSAS

State Medical Meeting.—The forty-fifth annual meeting of the Arkansas Medical Society was held at Hot Springs, May 3-5, under the presidency of Dr. Gustavus A. Warren, Black Rock. The following officers were elected for the ensuing year: president, Dr. Charles H. Cargile, Bentonville; vice presidents, Drs. Donald Smith, Hope, Albert M. Elton, Newport, and James O. Rush, Forrest City; secretary Dr. William R. Bathurst, Little Rock (reelected), and treasurer, Dr. Robert L. Saxon, Little Rock (reelected). Little Rock was selected as the place of meeting for 1921.

CALIFORNIA

Revocation of Liquor Permits.—It is reported that Dr. Thomas Wilson Serviss, San Francisco, had his permit to write prescriptions for liquor revoked because he wrote a prescription for a patient who was not under his care.——Dr. George M. Terrill, San Francisco, is reported to have lost his permit because he gave whisky prescriptions to patients oftener than once in ten days.

"Unprofessional Conduct."—Dr. Galen Hickok, San Francisco, who, it is reported, was recently found guilty of criminal charges in the San Francisco courts and released on bonds pending an appeal of his case, has been cited to appear before the state medical examiners, June 29, and show cause why his license should not be revoked for "unprofessional conduct." At the court trial it was alleged that he was not the real Dr. Hickok, but had secured the license of a physician by that name in the East.

GEORGIA

Unveiling of Monument to Robert Battey.—The chief event of the state medical convention at Rome was the unveiling, May 2, of the monument to the memory of Dr. Robert Battey, who was the originator of Battey's operation, oophorectomy, first done at Rome, Aug. 27, 1872. The monument was given to the city by the Seventh District Medical Society, and the president, Dr. Howard E. Felton, Cartersville, made the presentation speech. Mrs. Grace Battey Bayard unveiled the monument to her father. The chief address was made by Dr. Howard A. Kelly, Johns Hopkins University, Baltimore. Dr. George R. West, Chattanooga, who had been a pupil of Dr. Battey's, also paid a tribute to his character and his ability as a physician and surgeon.

INDIANA

Hospital News.—According to plans announced by the American Legion, the cornerstone for the $100,000 Decatur County War Memorial Hospital, Greensburg, will be laid with elaborate ceremonies, May 29.

Personal.—Governor McCray has appointed Dr. Clarke Rogers, Indianapolis, as a member of the board of trustees of the Indiana Soldiers' Home, Lafayette, to succeed Dr. Carleton B. McCulloch, who resigned because he could not give the time to the work.

IOWA

Meeting of Women Physicians.—The State Society of Medical Women held its annual meeting at Des Moines, May 10, under the presidency of Dr. Lena A. Beach, Rockwell City.

State Medical Meeting.—The Iowa State Medical Society held its seventieth annual session, May 11-13, at Des Moines, under the presidency of Dr. Donald Macrae, Jr., Council Bluffs. Dr. Charles H. Frazier Philadelphia, delivered an address on "Achievements and Limitations of Neurological Surgery"; Dr. Edward Jackson, Denver, "Diseases of the Blood Vessels as Seen in the Eye," and Dr. Willis S. Lemon,

ochester, Minn., "Clinical Study of Fifty Consecutive Cases Pneumothorax." The following officers were elected for e ensuing year: president, Dr. Alanson M. Pond, Dubuque; esident-elect, Dr. Charles J. Saunders, Fort Dodge; vice esidents, Drs. Smith A. Spilman, Ottumwa, and Mathew A. nley, Council Bluffs. Dr. Tom B. Throckmorton, Des oines, was reelected secretary, and Dr. Thomas Duhigg, es Moines, treasurer, for a period of three years. The next eeting will be held, May 10-12, 1922, at Des Moines.

KANSAS

Annual School for Health Instruction.—The annual school r physicians, health officers and public health nurses was ld, May 16-20, at the University of Kansas School of Medine, at Rosedale. The state legislature increased the public ealth appropriation 300 per cent.

LOUISIANA

Convention of Negro Physicians.—The Louisiana Medical, ental and Pharmaceutical Association held a meeting, May 1-12, at Shreveport, under the presidency of Dr. Eugene C. hornhill, New Orleans. A committee was appointed to draw p a charter making the association an incorporated body.

MARYLAND

Meetings.—Dr. Carlos Chagas, director of the Oswaldo Cruz nstitute, Rio Janeiro, Brazil, spoke at the Johns Hopkins Jniversity School of Hygiene and Public Health, May 23, nd on May 25 delivered an address in the Medical Amphiheater, Johns Hopkins Hospital, on "A Résumé of the Etiolgy and Clinical Aspects of American Trypanosomiasis."

To Study Malaria Problems.—The department of medical oology, school of hygiene and public health, Johns Hopkins Jniversity, has arranged to send an expedition to Porto Rico, his summer to study the malaria and other problems involving disease-producing protozoa and their vectors. Dr. Robert W. Hegner, Ph.D., will devote his time especially to the study of the malarial organism and other blood-inhabiting protozoa nd to the intestinal protozoa, and Dr. Francis M. Root, Ph.D., will make a survey of the mosquitoes, fleas and other distributors of pathogenic micro-organisms.

Personal.—Dr. Walter Walker Palmer of the Johns Hopkins School has accepted the post of professor of medicine and director of the medical clinic of the projected medical center n New York, formed by an alliance between Columbia University and the Presbyterian Hospital.——Dr. John J. Erwin of the staff of Mercy Hospital, Baltimore, has been appointed superintendent of that hospital, to succeed Dr. Irwin O. Ridgely, who resigned.——Dr. Leonard Ernest Neale was recently given a testimonial banquet on the completion of his twenty-fifth year as professor of obstetrics at the University of Maryland.——Dr. Anton G. Rytina, chairman of the Bay View committee, board of supervisors of city charities, Baltimore, has resigned from the board. He has also severed his connection with the South Baltimore General Hospital, in order that he may have more time for personal interests.

MASSACHUSETTS

New England Society of Psychiatry.—The semiannual meeting of the New England Society of Psychiatry was held at the Northampton State Hospital, Northampton, May 4, under the presidency of Dr. Walter E. Fernald, Waverly.

Diploma Lost or Stolen.—Dr. Archibald McMillan, Lawrence, Mass., writes that his diploma issued by the Bowdoin medical School in 1904 and his license certificate issued by the Massachusetts State Board of Registration in Medicine, dated March, 1905, have been lost or possibly stolen. State boards are warned to be on the lookout for these documents.

Bigelow Lecture.—An address "In the Time of Henry Jacob Bigelow," will be given by Dr. William J. Mayo, Rochester, Minn., June 6, at 8:30 p. m., in Jordon Hall, Huntington Avenue and Gainsborough Street, Boston. On this occasion will be made the first award of the Henry Jacob Bigelow Medal. Tickets of admission may be secured by addressing Dr. Walter C. Howe, secretary, Boston Surgical Society, 303 Beacon Street, Boston.

MISSOURI

Hospital News.—It has been announced that the site of the $1,000,000 hospital to be built as a national charitable institution, by the Shriners of the United States for crippled children of the United States—regardless of religion or relation to the Shriners' order—has been purchased in St. Louis. Plans for a 150-bed hospital are being drawn, and construction will be started soon.

NEBRASKA

Medical School Gets Appropriation.—The Nebraska legislature, recently adjourned, appropriated for the University of Nebraska College of Medicine and Hospital a total of $525,000 for the next two years. This includes $100,000 for a nurses' home. The university is planning to secure additional full-time professors in the departments of anatomy, physiology and pathology, and another in hospital pathology. The budget provides also for a full-time instructor in each of the four departments.

State Medical Meeting.—The annual meeting of the Nebraska State Medical Association was held at Lincoln, May 9-12, under the presidency of Dr. Miles S. Moore, Gothenburg. The following officers were elected for the ensuing year: president, Dr. Byron B. Davis, Omaha; vice presidents, Drs. Porter F. Dodson, Wilber, and Paul R. Howard, North Bend; secretary-treasurer, Dr. Ernest T. Manning, Omaha; corresponding secretary Dr. William P. Wherry, Omaha; delegate to the American Medical Association, Dr. Arthur D. Dunn, Omaha, and editor of the *Nebraska State Medical Journal*, Dr. Francis A. Long, Madison.

NEW YORK

Dedication of Research Laboratory.—The George Adler Blumer Research Laboratory will be dedicated, June 4, on the grounds of the Utica State Hospital, Utica.

Bloomingdale Hospital Celebrates Centennial.—The Bloomingdale Hospital, at White Plains, celebrated its one hundredth anniversary, May 26, by a pageant and a meeting attended by many psychiatrists, neurologists and insanity experts. The Bloomingdale Hospital is one of the oldest institutions for nervous and mental diseases in the United States.

New York State Association of Public Health Laboratories.—The fifth annual meeting of the New York State Association of Public Health Laboratories was held at Brooklyn, May 4. The officers elected were: president, Dr. Warren B. Stone, Schenectady; vice president, Dr. W. C. Noble, New York; secretary-treasurer, Miss M. B. Kirkbride, Albany; members of the Council, Dr. Walter S. Thomas, Clifton Springs, Dr. Ellis Kellert, Albany. The midyear meeting of the association will be held in autumn at the state laboratory, Albany.

New York City

Dr. Chagas of Brazil Honored.—The Rockefeller Foundation gave a dinner in honor of Dr. Carlos Chagas, head of the department of health in the Republic of Brazil, at the Waldorf-Astoria, May 20. Dr. George E. Vincent presided as toastmaster, and addresses of welcome were made by John D. Rockefeller, Jr., Dr. Hermann M. Biggs, Dr. Paulo de Proenca and the Brazilian ambassador to the United States, Señor Augusto Cochrane de Alencer.

New Medical Chambers.—Two five-story apartment houses at 114 and 116 East Fifty-Fourth Street are being remodeled for the exclusive use of physicians and surgeons. The title to the property has been taken in the name of the Medical Chambers, Inc. Twenty-four physicians have subscribed to the stock in the owner corporation on the cooperative basis. The directors of the corporation are: president, Dr. John E. Wilson; vice president, Dr. Duncan McPherson; treasurer, Dr. Howard Fox; secretary, Dr. Edmund P. Fowler.

Universal Military Training.—Caduceus Post, American Legion, of this city gave a dinner, May 12, at the Harvard Club at which Major-Gen. Merritte W. Ireland, Surgeon-General, U. S. Army, was the guest of honor. Surgeon-General Ireland delivered an address on the subject of medicomilitary preparedness, and a resolution of the committee on military affairs was approved requesting the American Medical Association at its coming session in Boston to discuss the matter of universal military training from a medical standpoint.

Administrative Center for Nursing Service.—Mrs. Jacob Schiff has made a gift of $300,000 for the purchase of a central administration building for the Visiting Nurse Service under the foundation of the Henry Street Settlement as a memorial to Jacob Schiff. The building purchased is at the southeast corner of Fortieth Street. The new building will be used for registrars, statisticians, the making of medical supplies, for staff meetings and classroom purposes. At present there are

twenty-two nursing centers in New York City which operate under this central administration building. The purpose of the organization is to make a visiting nurse service available for every one according to financial ability to pay.

Columbia University and Presbyterian Hospital Combine.—The project for the amalgamation of the College of Physicians and Surgeons of Columbia University and the Presbyterian Hospital, which for various reasons has not been brought to fruition in the past, now promises to become an actuality. The trustees of Columbia University announce that gifts totaling $11,000,000 have been received for a site, building and endowment. It is estimated that $3,000,000 or $4,000,000 additional will be required. Under the terms of agreement for permanent alliance, Columbia University and the Presbyterian Hospital each continues its independent existence and control, while providing a common administrative board for the oversight of the joint enterprise. An anonymous donor has provided a site valued at $1,000,000 between Broadway and Fort Washington Avenue and One Hundred and Sixty-Fifth and One Hundred and Sixty-Eighth streets. The first administrative board will be composed of John G. Milburn, Dr. Walter B. James and William Barclay Parsons, representing Columbia University, and Edward S. Harkness, Henry W. DeForest and William Sloane, representing the Presbyterian Hospital.

NORTH CAROLINA

Organization of Tri-County Society.—At the meeting of physicians of Caldwell, Lincoln and Catawba counties held, May 11, at Hickory, there was organized a medical society to be known as the Caldwell-Catawba-Lincoln County Medical Society, and the following officers were elected: president, Dr. Lester A. Crowell, Lincolnton; vice president, Dr. Jacob H. Shuford, Hickory, and secretary-treasurer, Dr. William P. Speas, Hickory.

Resolution of State Medical Society.—At the recent annual meeting of the state medical society at Pinehurst, the following resolution was unanimously adopted:

Resolved, That it is the sense of the Conjoint Session of the Medical Society of the State of North Carolina and the State Board of Health that whole-time salaried officials and other employees of the State Board of Health should not be elected to, or serve in official positions in the State Medical Society, N. C. State Health Officers' Association or other nonofficial public health agencies of this state.

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PENNSYLVANIA

Pittsburgh Ophthalmological Society.—At the meeting of the society, held, May 20, Lieut.-Col. Henry Smith, London, late of India, delivered an address on "Cataract."

Physicians to Honor Service Veterans.—Plans are being made by the Dauphin County Medical Society and the Harrisburg Academy of Medicine to give a dinner on Memorial Day in honor of the Harrisburg physicians who served in the World War.

Chiropractor Denied New Trial.—It is reported that Dr. H. T. Bly, Washington, a chiropractor who was convicted of a statutory charge preferred by Iva Stickles, was denied a new trial. The court held that new evidence was insufficient to alter the original verdict.

Philadelphia

Two New Clinics Open.—Dr. C. Lincoln Furbush, director of public health, May 16, formally opened two additional clinics at the Philadelphia General Hospital. These were the neuropsychiatric clinic and the prenatal clinic.

Honor Mme. Curie.—Madame Marie Curie, on her visit to the University of Pennsylvania, had conferred on her the degree of doctor of laws. This was the first time in the history of the university that special exercises were held for such an occasion.——Madame Curie on her visit to the Women's Medical College, May 23, received the honorary degree of Doctor of Medicine from the oldest institution of its kind in the world.

Personal.—Surg.-Gen. Edward R. Stitts, U. S. Navy, was the guest of honor at a recent dinner given by members of the class of 1889, Medical Department, University of Pennsylvania, at the University Club, Philadelphia.——Dean George H. Meeker has announced the appointment of Dr. Charles E. de M. Sajous to be professor of applied endocrinology and Dr. George B. Wood to be professor of laryngology in the Graduate School of Medicine, University of Pennsylvania.——Dr. George W. Norris has been promoted to the position of professor of clinical medicine in the University of Pennsylvania, and has been put in charge of medical instruction to third and fourth year students at the Pennsylvania Hospital.

Radium for the Philadelphia General Hospital.—The authority to Dr. C. Lincoln Furbush, director of the department of public health, Philadelphia, to purchase 2 gm. of radium and the installation of an emanation plant for the Philadelphia General Hospital, is now an assured fact. The city council, May 19, passed unanimously an ordinance providing for such purchase. It is planned to be able not only to treat persons suffering with malignancy within the Philadelphia General Hospital, where there are always from 100 to 150 cases, but also to offer this treatment to patients who have not been admitted to the hospital.

Philadelphia College of Pharmacy and Science.—The College, founded 1821, is preparing to enter its second century of service with a new president, plans for a new site, a new building and a new scholastic program. Rear Admiral William C. Braisted, retired, has been selected as president. The site will probably be on Fairmount Parkway between Twentieth and Callowhill streets and the plans call for a three-story stone structure with adequate space for lecture, laboratory, exhibition and assembly purposes. Centennial week will begin with the baccalaureate sermon, June 12, and include Alumni day the banquet at the Bellevue Stratford Hotel, and commencement exercises, June 15, at the Academy of Music.

SOUTH CAROLINA

Personal.—Dr. James A. Hayne, secretary of the state board of health, was elected president of the South Carolina Public Health Association, which was organized at the annual meeting of the state medical association held at Columbia, April 19-20.

TENNESSEE

Conference of State Health Board.—At a recent meeting held at Nashville, the state board of health selected as its president Dr. Walter J. Miller, Johnson City.

TEXAS

Appointment of Director of Bureau of Child Hygiene and Public Health Nursing.—Announcement of the appointment of Mrs. Lyda K. King as director of the Bureau of Child Hygiene and Public Health Nursing of the state board of health has been made by Dr. Manton M. Carrick, state health officer.

State Medical Meeting.—The annual meeting of the State Medical Association was held at Dallas, May 10-12, under the presidency of Dr. Ira C. Chase, Fort Worth. The following officers were elected for the ensuing year: president, Dr. Thomas J. Bennett, Austin; president-elect, Dr. Joseph D. Becton, Greenville; vice presidents, Drs. Charles E. Durham, Hico, William Myers, Seguin, and Sidney J. Wilson, Fort Worth, and secretary, Dr. Holman Taylor, Fort Worth (reelected).

New Board of Medical Examiners.—Governor Neff of Texas has recently announced the following as members of the state board of medical examiners: Drs. William L. Crosthwait, Waco; Stephen L. Mayo, Belton; James T. Moore, Houston; Horace C. Morrow, Austin; Thomas J. Crowe, Dallas; Marquis E. Daniel, Honey Grove; Oscar R. Grogan, Fort Worth; John M. Watkins, Luling; J. F. Bailey, Waco; R. R. Norwood, Mineral Wells, and George H. Sandifer, Abilene.

New Society Organized.—The State Pathological Society of Texas was organized at Dallas, May 9, with fifteen charter members. Officers elected were: Dr. Moise D. Levy, Galveston, president; Dr. James H. Black, Dallas, vice president; Dr. Wilbur F. Thomson, Beaumont, secretary-treasurer. The society will hold two meetings annually, one of which will be held one day in advance of and at the same place as the annual meeting of the Texas State Medical Association. Active membership in the society is limited to qualified physicians, in good standing in the state medical association, who are limiting their practice to clinical pathology, or who are actually engaged in the teaching of pathology or bacteriology.

WISCONSIN

Defeat of Antivaccination Bill.—The Peltier antivaccination bill was killed in the state senate by a vote of 20 to 9.

CANADA

Massachusetts-Halifax Health Commission.—The executive officer of the Massachusetts-Halifax Health Commission announces a number of new appointments to the staff. Dr. James A. M. Hemmeon has been appointed one of the attending ear, nose and throat specialists in the health center and will attend clinics each Friday afternoon and operate each Tuesday morning. Dr. Harry Morse has been appointed by the commission as special assistant in the provincial laboratory under the direction of Dr. Albert G. Nicholls. A special dental service is being organized for the summer months. It will be under the advice and general guidance of the consultant in dentistry, Dr. Frank Woodbury, and Dr. Arabella MacKenzie, a pediodentist at the preschool age dental clinic in Admiralty House health center. Dr. John S. Bagnal has been appointed supervising dentist with Dr. J. H. Lawley, as first assistant. The school board of Halifax has arranged to have the school nurses during the latter half of May and June make social investigations in the homes of children needing dental work and make engagements for their treatment in the dental infirmary. The newly appointed school nurse will begin work at once in order to help speed up this campaign of dental hygiene.

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GENERAL

American Gynecological Society.—The forty-sixth annual meeting of the society will be held, June 2-4, at Swampscott, Mass. Drs. William Blair Bell, Liverpool, and William E. Fothergill, Manchester, England, have been invited to present papers.

Reciprocal Relations in Medical Licensure.—The Department of Education of the State of New York reports that New York now has reciprocal relations with California, Delaware, Illinois, Indiana, New Jersey, Ohio, Utah, Virginia and Wisconsin.

Knights of Columbus in Tuberculosis Campaign.—A Knights of Columbus National Committee is announced with Dr. Edward W. Buckley, St. Paul, "supreme physician," at the head, for the investigation of the causes and care of tuberculosis in the United States. This committee will act in conjunction with the national and state health services and the Red Cross.

Medical Papers Stolen.—It is reported that the following documents have been stolen from Dr. Jacob Shulansky of New Haven, Conn.: (*a*) Yale diploma; (*b*) reciprocity license from the state of California, dated March 18, 1920, No. C-1542; (*c*) diploma granting M.D. degree from Columbia University, issued June 3, 1914; (*d*) Connecticut license. State boards are requested to be on the lookout for these documents.

International Congress on History of Medicine.—The second international congress on history of medicine will be held in Paris, July 1-5, under the auspices of the Société Française d'Histoire de la Médécine and be presided over by Professors Jeanseleme and Menetrier. The congress will be opened by the inauguration of the new museum of medical history. American doctors are requested to contribute communications and will be welcomed as members of the congress. Further details may be secured in this country from Dr. Edward B. Krumbhaar, Philadelphia General Hospital, Philadelphia.

Reduction in Number of Senate Committees.—Under recent reorganization plans of the Senate, the Committee on Public Health and National Quarantine has been abolished. All legislation relating to public health and kindred subjects will hereafter be considered in the Senate by the Committee on Education and Labor, of which Senator Kenyon of Iowa is chairman. The abolishment of the Public Health Committee follows plans formulated some months ago for a reduction in the number of standing committees, so that at the present time there are only thirty-four committees in the Senate. The former number was seventy-five.

Senate Committee Makes Favorable Report on Sheppard-Towner Bill.—The committee on education and labor of the Senate has made a favorable report on the Sheppard-Towner maternity bill. No material changes have been made in the measure, which provides that $10,000 shall be paid annually to each state "for instruction in the hygiene of maternity and infancy through public health nurses, consultation centers and other suitable methods," and that $1,000,000 shall be prorated to the states in proportion to their population. Each state is required to spend an equal amount of money in addition to that supplied by the federal government. This same bill passed the Senate the last session but failed in the House.

Recognition of Medical Colleges.—Reports received since the publication of Table D in state board statistics in THE JOURNAL, April 30, 1921, show the following changes: the Eclectic Medical College, Cincinnati, is reported as recognized in Tennessee; for Marquette University School of Medicine, the "x" in the column for Pennsylvania is a typographic error; the California board reports that recognition has been withdrawn from the Chicago Medical School, the Kansas City University of Physicians and Surgeons, and the Middlesex College of Medicine and Surgery. The last three institutions named, therefore, are reported as not recognized, respectively, in forty-two, forty-six and forty-three states. The Eclectic Medical College is recognized in all but nine states, and Marquette University School of Medicine is recognized in all states.

Hearing on Volstead Bill.—Proprietary medicines came up for a hearing at the recent meetings of the House Judiciary Committee considering the Volstead bill prohibiting the sale of beer for medicinal purposes. Representatives of manufacturers of proprietary medicine demanded that Congress take action to prevent the continued existence of the medical "bootleggers." The charge was made that many physicians had gone into the liquor business. The statement was to the effect that prior to the enactment of the Volstead Act 80 per cent. of the makers of legitimate medicine in which alcohol was used were required to medicate it so as to render it unfit as a beverage, but since then thousands of permits had been issued under which disguised booze was turned out by the wholesale. One of the features of the meetings of the committee is that very few witnesses have testified as to the necessity of beer as a medicine for the sick.

Senator McCormick Introduces Welfare Bill.—By a measure introduced by Senator McCormick of Illinois in the Senate, it is proposed to create a Department of Public Welfare to take over in their entirety the functions of the Bureau of War Risk Insurance, the office of the Surgeon-General of the Public Health Service and the United States Public Health Service. The proposed measure also provides that the new department have jurisdiction over the St. Elizabeth's Hospital, the Howard University, the Freedmen's Hospital, the National Home of Disabled Volunteer Soldiers, the Columbian Institute for the Deaf. The Federal Board of Vocational Education is abolished in its entirety and its functions transferred to the new department. The United States Interdepartmental Social Hygiene Board is also eliminated and transferred to the new department similarly. All boards, bureaus, commissions and branches of the service affecting public health will come under the new Secretary of Public Welfare, according to this measure, who would be a member of the President's cabinet.

New Bill for Hospital Facilities.—The removal of all restrictions in the expenditure of $18,600,000 appropriated by the last session of Congress for adequate hospital facilities is contemplated in a bill introduced by Congressman Langley of Kentucky. The original act stipulated that $6,100,000 should be used in the remodeling and the extension of existing government hospitals and institutions and that the remainder, $12,500,000 should be expended in the erection of five new government hospitals at a cost of $2,500,000 each. Selection of the sites was vested in the Secretary of Treasury, who recently appointed a special board of four of the leading physicians of the country to conduct an investigation and make recommendations as to their location. The Langley bill, however, overturns this arrangement and gives the Secretary of Treasury authority to expend the entire sum in rebuilding or constructing additions to hospitals already owned by the government. The measure was considered of such importance that it was rushed through the Committee on Public Buildings and Grounds and reported to the House favorably within forty-eight hours. The House has not yet acted.

LATIN AMERICA

Election of Officers.—The Sociedad de Pediatría de Montevideo recently elected Dr. Luis Morquio, president; Dr. C. Pelfort, secretary; Dr. A. Saráchaga, librarian, and Dr. Alicia Armand Ugón, treasurer.

Tribute to Professor Couto.—The National Academy of Medicine of Rio de Janeiro recently installed a bronze bust of its president, Miguel Couto, professor of clinical medicine and author of numerous medical works, long a leader in the medical profession of Brazil.

Resignation of Professor Güemes.—The *Semana Médica* relates that the students and other friends of Dr. Louis Güemes have petitioned the authorities to place the portrait of Professor Güemes in the hall where he has taught clinical medicine for so long, and to give his name to the hall and to a ward in the hospital. It is also proposed to issue a volume on his works and present him with a gold tablet.

National Medical Congress in Peru.—The profession in Peru is planning a comprehensive national medical congress, and the Academia Nacional de Medicina has issued an appeal to all to aid in making it a success and in promoting closer relations between the members of the profession. The committee in charge includes Dr. E. L. García and Dr. H. Larrabure, and the date of meeting will be August 10 of the current year, in honor of the centennial of the republic.

Personal.—Prof. C. Pelfort of Montevideo is leaving for a trip to Europe.——Prof. Samuel Molina of the chair of obstetrics at the University of Beunos Aires has retired from active practice, giving up his charge of the Hospital Rivadavia of which he has been director for so many years. The *Semana Médica* credits him with the initiation of obstetrics instruction in Argentina, where he has trained various generations of physicians.——A year's leave of absence has been granted by the University of Buenos Aires to Dr. A. Bachmann, professor of bacteriology, and to Dr. J. G. Fernández, professor of histology. Reasons of health compel the change of scene for the latter, as also for Prof. F. I. Castro who has likewise been given a year's leave.

FOREIGN

Peking Union Medical College.—The dedication of the building of the Peking Union Medical College and the inauguration of the new director, Dr. Henry Houghton, will take place in connection with a medical conference to which scientists from various parts of the world are being invited, September 15-22, at Peking, China.

Tribute to Professor Ascoli.—Prof. V. Ascoli, director of the medical clinic at Rome and editor in chief of *Policlinico,* was recently decorated with the Order of the Crown of Italy in tribute to his achievements as organizer and instructor, the Istituto di Clinica Medica being said to represent the highest attainments to date in clinical medicine. The students gave him an ovation on the occasion.

Prize for Study of Bicycling.—Our German exchanges announce that a prize of 5,000 marks has been offered for the best work on "Bicycling and Sexuality" received before April 1, 1923. The prize is offered by a German-Chilian, and further details can be obtained from Dr. Max Hirsch, Motzstr. 34, Berlin. There is no national restriction to competition. The jury comprises five leading German scientists.

Committee to Investigate Phases of Roentgen Ray.—As a result of the recent deaths of Drs. Ironside Bruce, London, and Adolphe Leray, Paris, a committee of eminent physicists, physiologists and radiologists has recently been appointed in London to investigate and report on the following phases of the roentgen ray: (1) The changes induced in tissues by the roentgen rays, and particularly on the blood changes. (2) The properties of the roentgen rays and the best means of controlling their action. (3) The equipment of roentgen-ray and electrical departments, with a special view to the protective measures employed. (4) Recommendations for the guidance of the assistants in those departments, particularly dealing with the hours of work and the need for fresh air and change.

Aid for German Science.—An organization has been formed, the *Notgemeinschaft* for German Science, which has been discussing ways and means to promote scientific research in Germany. The *Medizinische Klinik* quotes from the proceedings that, of the total 3,000 German scientific periodicals, 400 are to be continued with the aid of the organization. To make up for the lack of foreign publications during the war, a large sum will be appropriated to insure that all the important foreign journals will be represented in Germany at least by one or two copies of those published during the last few years, while the current numbers will be obtained by exchange. A purchasing and loan center for scientific material and instruments is to be installed at some central point to maintain the experimental research of the country on a higher limit, and check its present down grade in comparison to foreign countries. It is also planned to supply animals for experiments in medical and biologic research.

Deaths in the Profession Abroad

Lawrence Drew Shaw, London; University of Glasgow, 1904; licutenant-colonel, R. A. M. C., during the World War; died, March 17, aged 40.——**Rutherfoord John Pye-Smith,** Sheffield, England; M.R.C.S. (London), 1871, F., 1875; L.R.C.P. (London), 1872; emeritus professor of surgery, University of Sheffield, England; died, March 23, from influenza. ——**Robert Murray Leslie,** London; University of Edinburgh, Scot., 1905; M.R.C.P. (London), 1893; a well known contributor to medical literature; died, recently, aged 55.

Government Services

Care of Disabled Ex-Service Men

With a view to utilizing fully the facilities afforded by the Navy Department, the former training station at Gulfport, Miss., which has been discontinued as a naval establishment, has been turned over to the Treasury Department on an indefinite lease to be used for the care of war risk patients. It is planned to use Gulfport only for shell-shock patients, neurotics and nervous cases that are so far improved as to need only a short period of observation and treatment pending discharge. The station will be operated as a hospital of about 1,000 beds, and will meet a great need for hospital facilities in the South. Inspection of the plant will shortly be made with a view to its final use as a national soldiers' home when no longer required for hospitalization of war risk cases.——Plans concerning war risk cases in the New England States involve the use of naval hospitals for types of patients that can be well handled at the naval hospitals, heretofore assigned to hospitals not under the government.

New Rules for Army Medical Schools

Plans for the conduct of schools of the Army Medical Department as drawn up by Surgeon-General Ireland have been approved by the Adjutant-General of the War Department. They provide for instruction for the members of the National Guard and Reserve Corps at the Medical Field Service School at Carlisle Barracks, Pa. Four courses are prescribed during the year consisting of ninety students at each course. The first course of instruction begins June 6 and ends July 18.

During this period seventy-five officers of the Regular Army, five of the National Guard and ten of the Reserve Corps will be admitted to the school. The second course opens August 1 and ends December 21. The students will be divided as follows: Fifty Regular Army medical officers, ten National Guard medical officers and thirty Reserve medical officers. The third course begins January 9, 1922, and ends February 20. This course is exclusively for National Guard and Reserve officers, the reservations consisting of thirty National Guard and sixty Reserve officers. The fourth course opens March 13 and ends April 24, 1922, with thirty National Guard and sixty Reserve officers making up the student body. The instruction given will be progressive and extend from the school of the soldier to the organization, functions and administration of the medical organizations attached to field forces or in home territory, in peace or in war, such as regimental detachments, medical regiments, evacuation hospitals, surgical hospitals, hospital trains, general hospitals, station hospitals. The course is also designed to prepare the inexperienced officer for the discharge of military duties on entering the service, irrespective of whether his assignment be with mobile or fixed formations. Special advanced instruction will also be conducted for officers whose war and field experiences indicate their fitness for advanced instruction. All applications from the National Guard and the Officers Reserve Corps for permission to enter the Medical Feld Service School and take advantage of these courses should be forwarded to the Surgeon-General of the Army at least two months prior to the opening of the course. Each applicant should specifically indicate the course desired and its inclusive dates as given in this schedule, and include the age of the applicant, a brief statement of his previous military experience and any training courses he has previously followed. No applications should be submitted for the course to be given from June 6 to July 18, 1921, as the Surgeon-General has already designated the officers who are to attend this course. The reservations in case of National Guard officers of the Medical Corps will be handled by an allotment made to the chief of the Militia Bureau.

Registration at the Boston Session will be delayed if Fellows fail to present their Pocket Cards.

Foreign Letters

PARIS

(From Our Regular Correspondent)

April 29, 1921.

The Professional Orientation of Medical Students

At one of the recent meetings of the Academy of Medicine, Dr. Paul Le Gendre, honorary physician to the hospitals of Paris, read a very interesting communication on the professional orientation of medical students. He viewed the subject from three different angles; the moral, the technical and what he termed the regional point of view.

From the moral standpoint, it is the duty of professors in legal medicine to give instruction in the science of professional duties and etiquette as well as in medical jurisprudence, and thus to make known to future practitioners the extent of their legal responsibilities. It is a worthy task which might of itself well constitute the subject-matter of specialized instruction. Aside from acts of physicians that are sufficiently reprehensible to be actionable in a court of justice and are of comparatively rare occurrence, it is incumbent on instructors to warn future practitioners against certain breaches of professional etiquette, certain tendencies to disloyalty toward their confrères, and certain temptations in the way of more or less concealed charlatanism. The influence that instructors in hospitals can exert in fortifying students against such moral blemishes is of prime importance if they will only seize the opportunities that present themselves to connect up the routine clinical instruction with examples from actual life illustrating professional difficulties of a moral nature that continually arise in the course of one's regular practice; if they will only take the trouble to point out the best and the most honorable solutions for such difficulties, and if they will endeavor to develop in their pupils, along with the knowledge of the psychology of diseases, a clear notion of the moral and social aspects of medicine. As for the question of keeping practitioners in the path of strict professional morality, this task devolves on the councils on family and disciplinary matters connected with our various medical associations and syndicates, since we still lack an order of medical men, which has been proposed several times, under various forms, since 1845, but which so far has proved to be unrealizable.

As to the so-called technical side of the orientation of the medical student, by that is meant his guidance toward the choice, among the various modes of professional activity, of the form from which he will be able to derive from his doctor's diploma the greatest advantages for himself and society in general.

The third type of orientation that is desirable is the regional, which is concerned with the adaptation of the number of practitioners and the various categories of specialists to the presumable future needs of the people with as high a degree of accuracy as possible. If there is a superabundance of physicians in any locality, that fact cannot help but jeopardize the moral tone and character of all the physicians in that community, or it will at least discourage them from striving after the highest ideals, since it will become increasingly difficult for them to support themselves honorably by their profession.

Dangerous Medical Publicity

The considerable increase, due to the war, in the number of persons suffering from venereal disease has given rise to a type of publicity that is especially shocking to the sensibilities. This publicity has survived the close of hostilities, and now, at every step, one's gaze is attracted by flaming placards of specialists guaranteeing the cure of venereal disease within various spaces of time, but usually short. At the instance of Monsieur Emile Massard, the municipal council of Paris has requested the prefect of police to prohibit the exhibition of such shameful advertisements.

MEXICO CITY

(From Our Regular Correspondent)

April 24, 1921.

Health Department Activities

The government has approved the new budget submitted by the federal health department which amounts to 2,500,000 pesos, representing an increase of about one-half million pesos compared with the previous year. Among the activities which will be extended, reference must be made to the National Laboratory, which will be named hereafter Instituto Nacional de Higiene.——For more than thirty years the health department has occupied an old dirty building which was the custom house in colonial times, but lately the department has moved to a modern building on the Paseo de la Reforma, in one of the most aristocratic districts of Mexico. Now it will have sufficient room for its work and possess equipment befitting a public health institution of this character.——The reports received from Veracruz and Mérida, where the campaign against yellow fever is being conducted with the cooperation of the Yellow Fever International Commission, are very satisfactory. Not only have no cases of yellow fever been reported recently, but the number of mosquito breeding places is decreasing. This fact, which is duplicated in other places where the antimosquito campaign is conducted without the cooperation of the yellow fever commission, gives hope that during the remainder of the year very few cases will be reported, if any at all. The department has included Overton and Denno's "The Health Officer" among the books which health officers must possess for consultation purposes.——The president of Mexico has asked the department to submit plans for the establishment of a tuberculosis sanatorium. This institution will probably be built in the near future in a woody place near Tacubaya at a height of more than 2,500 meters (about 8,000 feet).

Public Health Department Accepts Classification of Council on Medical Education of American Medical Association

In passing on the validity of medical diplomas submitted from American colleges, the national board of public health has decided to base its opinions on the classification of medical schools by the Council on Medical Education of the American Medical Association.

Personal

General T. C. Lyster, chairman of the Special Commission Against Yellow Fever, after making an inspection trip through the most important cities on both Mexican coasts and discussing with the head of the public health department measures to be taken in order to prevent a new outbreak of the disease, has returned to his home at Los Angeles.——Sanitary Engineer J. A. Le Prince has also returned to the United States after a stay of several months at Tampico, where he directed with praiseworthy energy the antimosquito campaign. ——Dr. J. González Urueña has been appointed president of the Mexican committee which will have charge of the preliminary steps for the Second South American Congress of Dermatology and Syphilology, to which Mexican physicians have been invited. Dr. R. González, one of our own and prominent physicians, was appointed honorary president of the committee, and Dr. R. Cicero, vice president.——Drs. H. Hartman and Lockwood of the Mayo Clinic of Rochester,

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Minn., have spent several days here.——In the near future, Dr. L. F. Obregón is expected to be appointed minister of Guatemala to Mexico. Dr. Obregón is an old friend of Mexico, where he has spent several years.——Dr. E. Landa has been appointed assistant chief of the section of yellow fever, malaria and hookworm disease of the department of public health.——Dr. R. Granillo, who was taking a postgraduate course in bacteriology and hygiene at Cambridge, Mass., on a Rockefeller Foundation fellowship, has been compelled to return to Mexico on account of sickness. The foundation sent two attendants, one of them a physician, to accompany him on his return.

Academy of Medicine

After considering the papers submitted for the $25,000 prize offered by *El Universal* to the Mexican research worker who discovered the cause of tabardillo, the Academy of Medicine voted unanimously that none of the papers presented deserved the prize.

Among several communications presented recently before the Academy of Medicine, mention may be made of those of Drs. I. Prieto, Diaz Lombardo and Brioso Vasconcelos. The first discussed Plaut and Steiner's method of treating general paralysis through inoculation of living Obermayer's spirilla. These germs cause an attack of relapsing fever in the patient, who is afterward treated with arsphenamin or its derivatives to check in this way both infections, the preexistent and the artificially induced. Besides the German publications, this method has also been discussed by Dr. Lafora of Madrid, a prominent neurosyphilologist and former pathologist of the Government Hospital for the Insane at Washington, D. C. Dr. Díaz Lombardo discussed a French case in which the patient under spinal anesthesia exhibited apnea for several hours which was checked only through artificial respiration. This communication was discussed by Drs. Izquierdo and Velásquez Uriarte. The former reported a similar case that happened in Mexico ending in the patient's death, and the second pointed out the advantages of the epidural injections of procain. Vasconcelos' contribution was on the pathogenic rôle of *Trichocephalus dispar,* which in his opinion is far from being a harmless intestinal guest, as stated by some authors. In addition, he pointed out the poor results given by thymol and chenopodium oil. He also called attention to the need of finding out whether the plant *Ficus glabrata* is found in Mexico, as its juice is considered effective against this parasite, according to authors who have tried it. The cases mentioned by Dr. Carrillo and Cervera supported the belief, not entirely new, that the worm is pathogenic.

LONDON

(From Our Regular Correspondent)

April 26, 1921.

Corporal Punishment in Schools

The Medical Officers of Schools Association has passed the resolution: "In view of the evidence of damage from caning of the hand, and the possibility of consequent impairment of function, this society is of opinion that caning on the hand should be forbidden." In a discussion on the subject, Dr. E. H. T. Nash referred to instances of injury he had seen, and to a questionnaire he had sent round to which there was an almost unanimous reply that, while corporal punishment was an occasional necessity, it should never be by caning on the hand. He advocated the tawse as used in Scotland, or else the cane on Nature's appointed place. Canon A. A. David, headmaster of Rugby School, thought that punishments had much decreased in the last twenty years. Boys were better trained in preparatory schools and enjoyed increased activities, so that masters could concentrate on encouragement and guidance rather than on the restraint of the rod. The less boredom existed, the less need for punishments, but the element of fear was still necessary. If they caned, they must hurt. Mr. C. W. Crook, ex-president of the National Union of Teachers, said that the elementary school teacher was at a disadvantage compared with the public school masters, as he had not the power of expulsion. The risks of caning had been much exaggerated. A body, like the London County Council, responsible for a million children, would not have adopted caning on the hand with the restrictions it had without having some idea that it was the best form of punishment; and, if not, what was there for girls?

Eye Strain in Cinemas

Last year a letter was sent by the London County Council to the Illuminating Engineering Society asking for information with regard to "possible causes of eye strain in cinemas and the best means of removing them." A joint committee of representatives of the Council of British Ophthalmologists, of the cinema industry, the Illuminating Engineering Society, the Physiological Society, and medical officers of the London County Council was constituted to inquire into the matter. The questions arising from the terms of reference were distributed among four subcommittees, which contained at least one member from the other committees so as to avoid overlapping and to facilitate exchange of views. A number of experimental demonstrations were witnessed, various types of cinema halls were visited, and other data were collected. No outside evidence was called, the questions being considered only from the expert and technical aspect. In the conclusions, chief place is given to the question of proximity of the seats to the screen. The pronouncement is made that the angle of elevation subtended at the eye of a person in the front row between a horizontal line and one running to the top of the picture should not exceed 35 degrees. This angular measurement was considered the best way to express such composite factors as size of picture, elevation of screen, and distance. The angle stated was found not to cause visual discomfort through the sustained effort of raising the eyes to view a high picture. On similar grounds it was considered that the lateral angle should be limited to 25 degrees. The maximum distance from the screen to the farthest seats should not be more than twelve times the height of the picture—that it to say, the angle of view should not be less than 5 degrees; but on this point the committee does not make a definite recommendation, as in no case was the limit suggested exceeded. Other questions considered were flicker, imperfections of the film, mechanical defects, nature and brightness of the screen, permissible amount of general light in the hall, and portable outfits for use in schools. Two kinds of flicker were distinguished: a physiologic flicker due to alternations of light and dark, accentuated by strong contrasts in the picture and more apparent at the periphery of the retina, and flicker due to disintegration of the separate pictures, which is most noticeable near the screen. Other conditions which disturb vision are scratches and tears in the film, worn sprocket-holes, instability of projection apparatus, and faulty manipulation; but on these points the committee did not see its way to set up a criterion by which to condemn the exhibition of any particular hall. In the matter of brightness of picture much depends on the quality of the screen. A semipolished aluminum screen was found to give the brightest picture for those directly in front, but this advantage is counteracted by the serious diminution of light when viewed from the side seats. On the whole, the committee were disposed to favor a dead-white screen as the best for common use. As to general illumination of the hall, the committee is satisfied that the present regulations requiring an intensity of not less than one fortieth of a foot candle is

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reasonable and does not prejudice the picture on the screen; but they think that it would be an advantage to graduate the lighting so that the back of the hall should be better illuminated than the front, which derives a fair amount of light from the screen. The method of graduated lighting would be a great advantage to people coming in from the bright outdoor light, and would not interfere with a proper view of the picture. Of course, no unshaded source of light should be visible to an observer looking toward the screen. Several kinds of portable apparatus were examined which, though not mechanically perfect, indicate that in the near future an apparatus suitable for use in schools and lecture theaters may be anticipated. But before such can be considered safe, some form of noninflammable film must be used, as in inexperienced hands there is a grave risk of unwound film being set on fire. In view of the probability of the cinema taking a place in educational work, mechanical perfection and avoidance of eye strain are most important. This report, which coordinates technical and medical opinion, is therefore valuable.

Colonial Objection to the Increased Subscription of the British Medical Association

At a meeting of the New Zealand branch of the British Medical Association, it was announced that in consequence of the increased subscription of the British Medical Association the amount to be remitted annually to the London office was raised from $5 to $7.50. The new rate had been adopted at the annual meeting of the association at Cambridge last year, and the reasons for it were increased cost of printing, paper and labor. The Victorian branch of the association, while agreeing to increase its subscription, had sent to the London office an emphatic protest and had applied for a rebate, so that the branch might be in the same position as before. It was resolved to act in the same manner as the Victorian branch.

BELGIUM

(From Our Regular Correspondent)

April 15, 1921.

Statistical Study on the Population of Belgium

The minister of the interior lately published an important work entitled "Annual Statistical Report of Belgium and the Belgian Congo for the Year 1914." This work was in course of preparation when the war broke out. From the beginning of the German occupation, and during the whole course of hostilities, the buildings of the various ministerial departments were occupied by the German authorities, in consequence of which many manuscripts were lost. After the signing of the armistice, it was necessary to make duplicates of all the lost documents, which explains the delay in the publication. However, in spite of the delay, this statistical study contains several points of interest. We have abstracted from the report such material as bears more particularly on the medical profession and the associated problems of social medicine, hygiene and education.

Population

The excess of births over deaths reached, in 1913, 59,872, or 53 per cent.; that is to say, for each 100 deaths there were 153 births. The average excess of births over deaths for the period from 1881 to 1890 was 46 per cent.; from 1891 to 1900, 51 per cent., and from 1901 to 1910, 59 per cent. The increase of this excess is due, as was also the case in 1912, to a decrease in the number of the deaths and not to an augmentation of the births. There were, in 1913, 171,099 births, or 22.40 births per thousand inhabitants. The proportion of boys to girls, among the births, was, in 1913, 104 boys to 100 girls. This proportion has not changed since 1870. Of the total number of married men concerning whom statistics as to the number of children they had were available, 19.08 per cent. had no children; 20.70 per cent. had one child; 18.55 per cent., two children; 13.03 per cent., three children; 16.17 per cent., four or five children; 11.35 per cent., from six to nine children, and 1.12 per cent., ten children or more.

As to the deaths, from 1861 to 1870 there were 23.2 deaths per thousand inhabitants; from 1871 to 1880, 22.5 deaths; from 1881 to 1890, 20.5 deaths; from 1891 to 1900, 19.2 deaths; from 1901 to 1910, 16.6 deaths; in 1911, 16.4 deaths; in 1912, 14.8 deaths, and in 1913, 14.5 deaths. There was, therefore, a decrease of nearly 0.7 per cent. in the mortality rate during the period between 1870 and 1910. The relative proportion of deaths among males and females has remained almost invariable during this period, there having been 52 per cent. of deaths among males, as compared with 48 per cent. among females. This fact is all the more remarkable when we consider that, since 1866, the number of men has been slightly inferior to the number of women throughout the total population. There were, in 1910, 496 men to 504 women in every thousand of inhabitants. The diseases that were responsible for approximately one half of the deaths (47.06 per cent.) were: diseases of the respiratory apparatus, 15.56 per cent.; organic diseases of the heart, 10.21 per cent.; old age or senile debility, 9.91 per cent.; pulmonary tuberculosis, 6.47 per cent., and cancer, 4.91 per cent. Epidemic diseases caused 6.59 per cent. of the deaths (whooping cough, 1.68 per cent., and measles, 1.49 per cent.) as compared with 9.15 per cent. for the period from 1903 to 1905; 8.28 per cent. for the period 1906 to 1910; 7.14 per cent. in 1911, and 7.57 in 1912. While the percentage of deaths from tuberculosis has remained almost stationary since 1903, it has been noted that the mortality caused by cancerous affections is still on the increase, having risen from 3.44 per cent., in 1903, to 3.89, in 1906; 4.19, in 1911; 4.78, in 1912, and 4.91, in 1913.

The number of deaths among infants under 1 year reaches, for certain years, almost a quarter of the total number of deaths. Although a decrease in mortality among infants under 1 year is noticeable, it is not so marked as it is in the general mortality. From 33,247 and 27,410, respectively, in 1900 and 1905, it had decreased in 1910 to 23,646. In 1911, doubtless owing to the great heat during the summer of that year, it rose to 28,608, while in 1912 and 1913 the record was 20,525 and 22,234, respectively, which corresponds, for these three years, to 16.55, 11.99 and 12.99 per cent., respectively, of the births.

Chlorinated Lime as a Bactericide for Raw Fruits and Vegetables

Before the Société de médecine of Ghent, the Misses Champion and Van de Velde recently presented the results of their investigations on the bactericidal action of chlorinated lime on raw fruits and vegetables, in which inquiry they gave special attention to the presence of *B. coli*, the most common type of pathogenic microbes, and to the number of bacteria. As is well known, chlorinated lime is a bactericide of a harmless nature and quite commonly employed of late in water systems; also widely utilized by the armies during the recent war for disinfection of drinking water. The investigations of Champion and Van de Velde confirm the satisfactory nature of the bactericidal action of chlorinated lime when used on fruits and vegetables. Strawberries, lettuce and carrots rinsed in a 0.2 per cent. solution of chlorinated lime are reasonably well disinfected, though not completely. After contact for half an hour with the same solution, *Bacillus coli* is destroyed and the number of bacteria is reduced to a very low figure, occasionally even to zero. The organoleptic prop-

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erties of taste and smell remain commonly intact, or at most are only slightly modified. These results constitute a useful contribution to the sum of knowledge of the hygiene of alimentation.

Congress of Medical Jurisprudence

The coming Congrès de médecine légale de langue française will open in Brussels, May 23. The meetings of the first two days of the congress will be held in the Palais des Académies at Brussels, under the chairmanship of Professor Héger-Gilbert. The meetings of the last two days are to take place in the University of Liége, under the chairmanship of Professor Stockis. The questions to be discussed fall into several groups. The first group will deal with various phases of criminology and with penitentiary organization (anthropology, psychiatric problems in penitentiaries, abnormal subjects, the criminal code). The second group of questions will deal with toxicology; poisoning by cyanids and the identification of alkaloids by means of spectrography. Traumatic shock and mechanical asphyxia will also be dealt with in special reports.

VIENNA

(From Our Regular Correspondent)

April 19, 1921.

Number of Students and Courses at the Vienna University

The official report of the Vienna University for the summer term of 1921 has just been published. The term will last from April 15 to July 15, and as regards the medical faculty, it will give would-be students an opportunity to select any course or class out of 472 that will be delivered at that time, against 448 a year ago. Twenty-nine ordinary professors (last term the figure stood at twenty-one), 135 (as against 113) extraordinary professors, and 157 (as against 152) privatdozents and assistants are devoted to the task of this instruction work. Two ordinary university institutes are vacant: the first clinic for gynecology and obstetrics, and the chair of medical chemistry. The number of ordinary medical students in the last winter term was 3,746, of whom 479 were females. A year ago the figure was 4,282, with 578 females among them. The number of medical students (ordinary and extraordinary, which latter are not entitled to come up for a diploma of graduation) was 3,957, with 498 females, while a year ago the figure was 4,529, with 600 females. Anyhow it is a fact that the number of students of medicine in Vienna has been declining for a year or two, owing no doubt to the economical and political difficulties, and perhaps also to the fact that many medical students took up another career.

Proposed Legal Protection of the Title of Specialist

The Vienna Medical Organization has been asked to settle once for all the thorny problem as to who should be entitled to be called specialist, and a special committee appointed for this purpose has just submitted its propositions to the profession. Professor Stransky, whose initiative in this point is mainly responsible for the text of the proposition, has tried to meet all justifiable demands and desires by the following principles: The title of specialist is to be granted only to a fully qualified doctor of medicine, and is to be protected in the same way as the title of M.D. by the state laws. Only these special disciplines should be recognized: internal medicine, surgery and orthopedics, pediatrics, neurology and mental diseases, ophthalmology, rhinolaryngology and otology, dermatology and venereology, gynecology and obstetrics, electropathology and radiology, dentistry. No man should be entitled to call himself a specialist for more than one discipline, except of course in case of those which belong together—for instance, neurology and mental diseases, otorhinolaryngology, and the like. A special commission consisting of representatives of the medical faculty, the government, the organization and the medical council should be formed which would have the right to grant permission for "license" of specialist to the applicant. He would have to satisfy the commission that he has been engaged for at least two years, or in the case of operative specialties for at least three years as assistant at a special clinic, or four years as a member of a staff of such clinic or hospital or ward. The commission will be entitled to examine the candidate both on the theory and on the practice of the selected specialty. Only after passing this examination successfully, will the doctor be allowed to practice as specialist. Naturally, all professors of the university, all directors of wards, all assistants of clinic and the privatdozents would be exempt from this examination; for the men already practicing as specialists, certain modifications of the regulations are of course necessary. Thus, no specialist practicing for at least two years before the publication of these new rules would have to come up for examination. Also those men, who, having obtained their diplomas at least four years before settling down as specialists, would bind themselves not to take up cases of general practice, might apply for exemption from the new examination. It is thought that these regulations would tend to improve the relations between the members of the profession by meting out to the specialist and the general practitioner that which is to be regarded as his own domain. Here, too, the proverb "clara pacta, boni amici" (clear compacts make good friends) holds good.

The War and the Medical Register

A publication of the statistical department of the Vienna board of health contains a few interesting figures relating to the number of new registrations of practitioners during the war. In the first months of the war, many physicians came to Vienna and the other big cities as refugees from the districts of the empire which the Russians had occupied. When in 1918 the empire broke to pieces and the newly formed states drove away all civil servants and physicians of German origin, they all flocked to Vienna, which now remained the only large city of the tiny Austrian state: the hydrocephalus of a dwarf. Thus in 1919 from August until the end of the year, 107 new physicians registered from other places, of whom fifteen still continue to practice now (at the end of 1920). In 1915, 104 new men came. Of these, twenty-eight are still here. The following two years show a slight influx of foreign physicians: altogether 109, of whom eighty-three remained permanently. But in 1918 the number went up to 256, with 161 men resolving to stay for good. Next year the number was 429. No less than 332 of these, or 80 per cent., have settled here definitely, while in 1920 the figure was a little more than 300, with 80 per cent. definite settlers. The prospects of the newcomers are not too rosy, and the older physicians find competition rather keen; for in spite of a decrease of the population of Vienna by more than 20 per cent. against 1919, the number of practitioners went up more than 30 per cent. There are now 4,120 physicians here, against 3,000 in 1919 in Vienna alone, 4,120 out of a total of 6,006 physicians in all of Austria.

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Marriages

George Seipel Nellis, Turin, N. Y., to Miss Muriel S. Balfour of Watertown, N. Y., April 28.

Solomon W. Schaefer, Colorado Springs, Colo., to Miss Mabel Hutzler of Baltimore, May 8.

Edward Kearney Smith, Millersville, Pa., to Miss Florence Dougherty, R. N., March 23.

John Fisher Gainer, Jr., Palatine, Ill., to Miss Mildred Smith of Chicago, May 14.

Deaths

Titus Munson Coan, New York; College of Physicians and Surgeons in the City of New York, 1861; a well known author and contributor to medical and literary periodicals; surgeon to Admiral Farragut's squadron, U. S. Navy, during the Civil War; founder, in 1880, and since director of the New York Bureau of Revision; died, May 8, aged 84.

Charles Winslow Dulles ⊕ Philadelphia; University of Pennsylvania, Philadelphia, 1875; at one time lecturer on history of medicine in his alma mater; a member of the Philadelphia Academy of Surgery and Pathological Society of Philadelphia; died, May 6, from heart disease, aged 70.

Harry Tutwiler Inge ⊕ Mobile, Ala.; University of the City of New York, 1883; founder of the Inge-Bondurant Sanatorium, Mobile; for many years chief surgeon of the Mobile and Ohio Railroad, and division surgeon for the Louisville and Nashville Railroad; died, May 11, aged 59.

John Cochran Graffin, Shiprock, N. M.; New York Homeopathic Medical College and Hospital, New York, 1895; captain, M. C., U. S. Army, and discharged, March 8, 1919; government physician on the San Juan Indian Reservation; died, May 9, aged 43.

Stephen Thomas Robinson, Edwardsville, Ill.; Vanderbilt University, Nashville, Tenn., 1881; a member of the Illinois State Medical Society; at one time president and vice president of the Madison County Medical Society; died, May 4, from diabetes, aged 63.

Robert Bolt Day, Pendleton, S. C.; Barnes Medical College, St. Louis, 1897; lieutenant, M. C., U. S. Army, and discharged, Dec. 2, 1918; mayor of Pendleton for four terms; died at Chick Springs (S. C.) Sanitarium, May 1, aged 47.

Edward O. Porter, Cornwall, Vt.; Castleton (Vt.) Medical College, 1859; surgeon of the Eleventh, and assistant surgeon of the Fifth Vermont Volunteer Infantry during the Civil War; died, May 6, from injuries received in a fall, aged 84.

Alveno Dorrance Ayer, Madison, Conn.; Indiana Eclectic Medical College, Indianapolis, 1881; a member of the local school board for twelve years; at one time health officer of Madison; died, May 5, following an operation, aged 69.

Leigh R. Gordon, Lexington, Ky.; Louisville (Ky.) Medical College, 1898; captain, M. C., U. S. Army, and discharged, Dec. 4, 1918, at one time coroner of Fayette County; died, May 8, from heart disease, aged 51.

Joseph F. Fox ⊕ Martinsburg, W. Va.; Eclectic Medical Institute, Cincinnati, 1887; died, May 5, from the effects of poison, self-administered, while suffering from carcinoma of the throat, aged 56.

Edmond Harris B. Steele, Deport, Texas; Hospital College of Medicine, Louisville, Ky., 1898; lieutenant, M. C., U. S. Army, during the World War; was shot and killed, March 30, aged 51.

Robert F. Slaughter ⊕ Tonganoxie, Kan.; Kansas City (Mo.) Medical College, 1882; at one time local surgeon for the Missouri Pacific Railroad; died, March 26, from heart disease, aged 62.

Niels Nicolai John Nelsen ⊕ Chicago; University of Illinois, Chicago, 1903; a member of the staff of the Norwegian-American Hospital; died, May 14, from arteriosclerosis, aged 43.

Edward Hamilton Martin ⊕ Hot Springs, Ark.; Medical College of Ohio, Cincinnati, 1887; president of the Mississippi State Medical Association in 1906; died, May 5, from angina pectoris, aged 55.

Burton Henry Jordan, Medicine Lodge, Kan.; College of Physicians and Surgeons, Kansas City, Kan., 1902; captain, M. C., U. S. Army, and discharged, Dec. 14, 1918; died, April 4, aged 53.

Edward Kirkland, Bellows Falls, Vt.; Hahnemann Medical College and Hospital of Philadelphia, 1886; a member of the Vermont State Board of Medical Registration; died, May 3, aged 60.

Leonidas H. Merritt ⊕ Forrest City, Ark.; University College of Medicine, Richmond, Va., 1896; at one time president of St. Francis County Medical Society; died, April 8, aged 51.

Rudolph Heym, Cleveland; Homeopathic Hospital College, Cleveland, 1876; a veteran of the Franco-Prussian War; at one time coroner of Wyandot County; died, May 8, aged 71.

Remus G. Elliott, Greenville, S. C.; Medical College of the State of South Carolina, Charleston, 1881; a member of the South Carolina Medical Association; died, May 8, aged 62.

James Willoughby Irwin, Philadelphia; University of Pennsylvania, Philadelphia, 1899; examining physician for the Philadelphia and Reading Railroad; died, May 2, aged 49.

Francis Henry Wisewell, Phelps, N. Y.; University of Michigan, Ann Arbor, 1871; also a druggist; at one time a member of the local school board; died, April 23, aged 77.

John Swancott, Los Angeles; College of Physicians and Surgeons, Los Angeles, 1917; lieutenant, M. C., U. S. Army, and discharged, May 27, 1919; died, March 9, aged 27.

James Francis Brady, Boston; Harvard University Medical School, 1901; a member of the Massachusetts Medical Society; died at West Newton, Mass., May 2, aged 47.

William Beer Graham, Waterloo, Iowa; Missouri Medical College, St. Louis, 1886; died at the Iowa Methodist Hospital, Des Moines, Iowa., May 2, aged 59.

Bradford Allen ⊕ Nashua, N. H.; Harvard University Medical School, 1883; a member of the Massachusetts Medical Society; died, May 2, aged 63.

James Dennis Vincent Sheehan ⊕ Syracuse, N. Y.; Syracuse (N. Y.) University College of Medicine, 1917; died, April 28, from pneumonia, aged 36.

Andrew Jackson Crosby Saunier, Los Angeles; University of Michigan, Ann Arbor, 1881; at one time a resident of Chicago; died, May 1, aged 63.

Frank C. Boone, Merom, Ind.; University of Louisville, Ky., 1893; a member of the Indiana State Medical Association; died April 30, aged 60.

Mathew C. McDonnell, Bad Axe, Mich. (license, Michigan, 1900); a member of the Michigan State Medical Society; died, March 22, aged 70.

Oliver T. Everhart, Hanover, Pa.; University of Maryland, Baltimore, 1856; a practitioner for more than sixty years; died, April 30, aged 88.

Edward S. Frost, Minneapolis; University of Pennsylvania, Philadelphia, 1868; a veteran of the Franco-Prussian War; died, May 3, aged 77.

Martin Luther Wolford ⊕ Harrisburg, Pa.; Jefferson Medical College, Philadelphia, 1880; died, April 29, from cerebral hemorrhage, aged 68.

William Dickison Brown ⊕ Carthage, Mo.; Missouri Medical College, St. Louis, 1884; died, May 3, from heart disease, aged 59.

Franklin Wallace Edwards, Southbridge, Mass.; Rush Medical College, 1876; died in Worcester, Mass., April 29, aged 64.

William G. Cochran, Los Angeles; Calif.; Rush Medical College, 1869; a veteran of the Civil War; died, May 4, aged 77.

Christian C. Vedder, St. Johnsville, N. Y.; Albany (N. Y.) Medical College, 1873; died, May 1, from nephritis, aged 76

Cordelia Williams, New York; New York Medical College and Hospital for Women, New York, 1878; died, April 29.

John A. Coe ⊕ Brandywine, Md.; College of Physicians and Surgeons, Baltimore, 1887; died, February 28, aged 56.

Siegismund Breitenfeld ⊕ New York; German University of Prague, Austria, 1882; died, April 28, aged 63.

Benjamin R. Peltz, Philadelphia; University of Pennsylvania, Philadelphia, 1867; died, April 28, aged 78.

Leo J. Hines, Providence, R. I.; College of Physicians and Surgeons, Baltimore, 1905; died, May 2, aged 40.

Thomas B. Goodman, Cobden, Ill.; University of Illinois, Chicago, 1884; died, May 1, from heart disease.

Charles E. Pugh ⊕ Winfield, Kan.; Medical College of Ohio, Cincinnati, 1884; died, April 23, aged 61.

Addison W. Goodale, Watertown, N. Y.; Albany (N. Y.) Medical College, 1858; died, April 27, aged 89.

William J. Hoadley, Danville, Ind.; Medical College of Ohio, Cincinnati, 1866; died, May 1, aged 90.

George Arthur Cartwright, McKees Rocks, Pa.; University of Pittsburgh, 1909; died, April 26, aged 40.

John Francis Snyder, Virginia, Ill. (license, Illinois, years of practice, 1901); died, April 30, aged 91.

Emza E. Ward, Sesser, Ill.; Missouri Medical College, St. Louis, 1890; died, about April 30, aged 57.

Hillel Solotaroff, New York; University of the City of New York, 1891; died, April 30, aged 55.

⊕ Indicates "Fellow" of the American Medical Association.

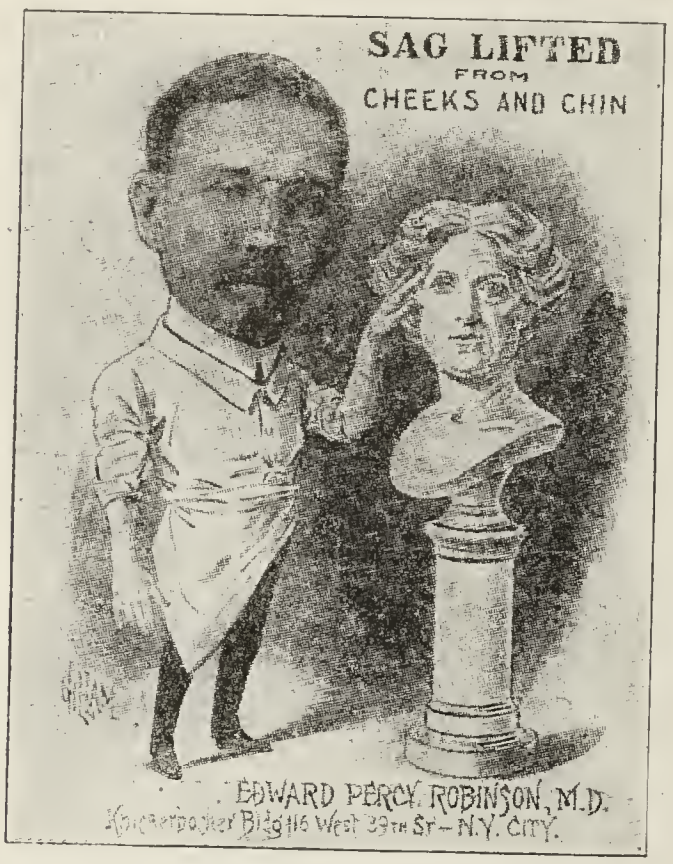
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

TEKARKIN

Edward Percy Robinson's "Cure" for Cancer

From various parts of the country THE JOURNAL has received a 16 page pamphlet, *Therapeutic Leaves*. The publication, which has a saffron colored cover, is said to be published by the National Bio-Chemical Laboratory, Mount Vernon, N. Y. The National Bio-Chemical Laboratory seems to be a style used by Dr. Edward Percy Robinson. The "editorial offices" of *Therapeutic Leaves* are given as "501 Knox Bldg., 5th Ave. at 40th St., New York," which is a roundabout way of describing 452 Fifth Ave., the office address of Edward Percy Robinson. The first number (February, 1921) of *Therapeutic Leaves* gives the names of the "editors" as "E. P. Robinson, M.D., and W. A. Jenner, B.A." In addition, there is "Assistant Editor, F. J. Geiger," and "Gen'l Manager, Beverly K. Robinson." The first and second numbers of *Therapeutic Leaves* (February and March, 1921) are practically identical, being evidently printed from the same plates. *Therapeutic Leaves* purports to be a periodical published as "a medium for the dissemination of knowledge pertaining to therapeusis." Actually it is an advertising medium dealing with the products of the National Bio-Chemical Laboratory: "Osmo-Calcic Solution," "Tekarkin" and "Osmotic Mangano-Potassic Solution."



Reproduction (reduced) of some advertising matter issued in 1914 when Edward Percy Robinson was specializing in "facial contouring."

These three preparations are said to be the "formulas" of Dr. Edward Percy Robinson who lives in Mt. Vernon, N. Y., and has an office at 452 Fifth Ave., New York City. They are used by Dr. Robinson in the treatment of cancer. At an earlier stage they seem to have been known under different names: "Tekarkin" was first "Hypotonic Sal-Cella" and then "Neoanabolin-X; "Osmo-Calcic Solution" was "Osmotonic Calcic" while "Osmotic Mangano-Potassic Solution" was "Osmotonic Drops." The three solutions are put up in one package containing 4 c.c. (about 65 minims) of "Tekarkin" and one ounce each of the other preparations. The package sells for $10.00. "Remittance with order. . . . We have no agents."

Most of the material in *Therapeutic Leaves* is a rehash of four papers published by Edward Percy Robinson in the New York *Medical Record* of various dates between September, 1917, and July, 1920. In these Robinson advances the theory that cancer is caused by an excess of sodium chlorid (table salt) in the blood and tissues and that it can be cured by administering a solution of potassium nitrate. Such a treatment sounds ideally simple. One might assume that all that was necessary was to make up a solution of potassium nitrate and inject it. One might further wonder how it would be possible to commercialize such a "treatment." "Homemade solutions," says Dr. Robinson, "are apt to be disappointing." Their use is likely to cause "considerable swelling at the site of an injection, accompanied with tenderness and some heat." Moreover, "a wide hyperemic area with red blotches has been observed in a number of instances." In order to avoid "accidents of this sort" which would "bring discredit upon an excellent agent," Dr. Robinson, "after considerable experimental work" has obtained "a solution of this chemical which would meet the ideal requirements." This is available under the name "Tekarkin." Dilute potassium nitrate solution sold under the name "Tekarkin" sells for $67 an ounce. The physician can make his own solution, of the purest and highest grade potassium nitrate on the market, at an expense, for the chemical, not exceeding 5 cents an ounce.

Therapeutic Leaves also contains the usual number of those "clinical reports" which bulk so large in the literature of "cures" for cancer. Then there is a full page advertisement of a side-line of the National Bio-Chemical Laboratory: "Vitamines (Compressed) Tekarkin Brand" "They have a meaty taste."

The medical profession, naturally, is interested in knowing more about the physician who admits that he has discovered the cause and cure of cancer. According to our records Edward Percy Robinson was born in 1871 and was graduated in 1897 by Bellevue Hospital Medical College. He was licensed in New York State the same year and has practiced in New York City continuously since that time. He is not, and apparently never has been, a member of his local medical society.

In 1914 Robinson was specializing in "facial contouring." One piéce of advertising purports to be the reprint of an interview with "Dr. E. P. Robinson, Specialist, as he sat in his office at 116 West 39th Street, having questions fired at him by the reporter." Thus, Dr. Robinson:

> "There are physicians everywhere who abandon the general, or family practice of medicine, to devote their life to some specialty. My specialty is the improvement of the facial features and the beautifying of the shoulders, neck and arms. I round out hollow cheeks, build up the neck, eradicate wrinkles, make irregular noses perfect and remove defects by a process which is my own secret. I claim no superhuman power or ability; I have simply bent my whole professional study and energy to the one line of remodeling—so to speak—the human features, and I employ only scientific methods and aids in my operations."

In another piece of advertising, a little booklet bearing Edward Percy Robinson's name, we find the following:

> "This is what I accomplish. . . .
> "Remove all wrinkles and traces of age from the forehead, or about the eyes and mouth. Lift sag from cheeks and chin.
> "Round out hollow cheeks.
> "Remove depressions and defects from the chin.
> "Build up the neck and shoulders.
> "Build up and enlarge the bust.
> "Round out and give symmetry to unshapely arms and remove the lines of age from the hands.
> "Correct many of the defects not mentioned here, but which may be possessed by exceptional cases."

Still another advertising leaflet purports to be a reprint of an "editorial" from the *Mercantile and Financial Times* of March 11, 1914. It is a pretentious puff of Robinson, telling about his "scientific attainments" and his marvelous secret preparations used in "Youthifying the Face." The *Mercantile and Financial Times* is an utterly discredited sheet run for the purpose of selling what appear to be editorial comments. Such "editorial" puffs are paid for through the purchase of a certain number of copies of the paper by the party who desires the publicity. The Associated Advertising Clubs of the World exposed this publication in a special bulletin issued in June, 1919, and described it as an "example of publications that serve as convenient tools of fake promoters." In 1911

the *Mercantile and Financial Times* published an "editorial" endorsement of the consumption cure "Nature's Creation." It has done the same for a fakish device known as the "Ideal Sight Restorer." It published a puff on the "Oxypathor," a swindle so preposterous that the exploitation of this "gas-pipe" fake was debarred from the U. S. mails and its exploiter was sent to the federal penitentiary.

We also find in our files a testimonial signed E. P. Robinson, M.D., 1402 Broadway (Edward Percy Robinson's address in 1912) extolling the virtues of a foolish piece of quackery, the obesity cure "Get Slim." This nostrum was exposed in THE JOURNAL some years ago and was also exposed by Dr. Wiley in *Good Housekeeping*. The "Get Slim" concern sued *Good Housekeeping* for libel but a jury decided that *Good Housekeeping* had told the truth. In the "Get Slim" testimonial Robinson is quoted as saying that he is "acquainted with the ingredients entering into its manufacture" and he describes it, as did the "Get Slim" concern, as "a purely vegetable combination." The fact is the Association's chemists found this "purely vegetable combination" to consist of sugar and tartaric acid, each colored pink, and baking soda.

And this is the gentleman who claims to have discovered the cause of, and offers for sale a cure for, one of the most

The Jean Downs Co.,
. New York.
My dear Mrs. Downs.

The package of your "Get Slim" remedy for obesity has been given to a patient of mine with beneficial results.

In observing the action of the remedy I noted no laxative effect on the bowels, or any disturbance of the stomach

In fact, there were no physical sensations that any remedy had been taken and there was a very satisfactory reduction in weight.

"Get Slim" remedy, being a purely vegetable combination, is not fraught with any risk to the individual's health and may be safely given.

I would not hesitate to prescribe it for a child suffering from obesity

This statement is based on the fact that I am acquainted with the ingredients entering into its manufacture.

I would add that this remedy for obesity might be introduced to the regular physicians with some advantage to you

Yours truly,
E P ROBINSON M D
1402 Broadway

Reproduction (reduced) of a testimonial for an obesity cure fake, "Get Slim." The A. M. A. chemists reported that this "vegetable combination" consisted of baking soda and pink-tinted tartaric acid and sugar.

baffling scourges known to modern medicine—cancer. Except for the articles that have been published during the past three years in the *Medical Record*, we are unable to find anywhere in representative medical literature anything to indicate that Edward Percy Robinson can lay any claim to special knowledge of, or skill in the treatment of, cancer. What we do find are advertisements describing Edward Percy Robinson's alleged abilities as a "face beautifier," puffs from utterly uncritical or discredited sources and a testimonial to the value of a preposterous "fat cure" fake.

With the best brains of the world at work on the problem of cancer, it is reasonable to assume that any man who has found out even a little more than has previously been discovered or is able to accomplish even a little better results than the average in the treatment of this dreaded disease, would be well known to scientific medicine.

After this article was in type physicians began sending in No. 3 (April, 1921) of *Therapeutic Leaves*. This is still another reprint of Nos. 1 and 2, with minor changes. In the first two Tekarkin is described as "a solution of potassium nitrate of special strength;" in No. 3 it becomes "a special solution containing potassium nitrate." In Nos. 1 and 2, Robinson described an alleged case of "Cancer of the Rectum *Treated* with Tekarkin." In No. 3 this becomes "Medicinal Treatment *Cures* Cancer of the Rectum." In No. 3 the names of the editors, assistant editor and general manager are eliminated.

The inside back cover of No. 3 contains an advertisement of Tekarkin, in which physicians are warned that "Cancer of the Lung May Present the Diagnostic Signs of Tuberculosis." It contains the further startling information that the particular micro-organism responsible for pulmonary tuberculosis is the Klebs-Loeffler bacillus! Thus:

"The Klebs-Loeffler bacillus may find a suitable habitat in a malignant area of lung tissue and thrive therein. The presence of the bacillus does not necessarily exclude the presence of cancer. A chronic cough with blood-streaked sputum may be the result of tuberculosis and cancer."

Correspondence

"THE MARTIN LUTHER OF MEDICAL EDUCATION"

To the Editor:—In your editorial of April 23, on "The Martin Luther of Medical Education," you call attention to the apparent lack of interest the University of Pennsylvania took in a movement toward better medical education in 1835, suggested by the Medical College of Georgia. I have consulted the minutes of the faculty of the School of Medicine of the University of Pennsylvania during the period from 1830 to 1840 to see whether any light could be thrown on this subject, and I find that at a meeting of the faculty held, Oct. 17, 1835, "The faculty postponed for future consideration the proposal of May 19, 1835, of the Augusta College, Georgia, to hold a medical convention for the purpose of instituting certain general regulations for the conferring of medical degrees."

I believe that this must refer to the letter sent out by the Medical College of Georgia in May, 1835, suggesting the "calling a convention of delegates from all the colleges in the Union to devise some general plan and adopt a system of education which should be uniform throughout the United States." I cannot find any further mention of this matter in the minutes of the faculty.

The Medical College of Georgia, in Augusta, was organized in 1829. In the minutes of the faculty of the University of Pennsylvania under date of March 19, 1831, appears the following:

"Certain documents under date of Dec. 30, 1830, from the Medical Academy of Augusta in Georgia were presented, requesting the extension of the ad eundem privilege to their course of lectures. Refused, and the dean instructed to inform them of the same."

Apparently the faculty of the University of Pennsylvania was not satisfied that this young school in Georgia could be fully credited and its students accepted on an equal footing to the classes of the School of Medicine of the University of Pennsylvania. Perhaps, therefore, when the request for the convention arrived a few years later, the faculty of the University of Pennsylvania may have felt that the suggestion made by the Medical College of Georgia was somewhat presumptuous. A more probable reason is that during the year 1835 many changes were taking place in the faculty of the School of Medicine of the University of Pennsylvania. The chair of materia medica, occupied by John Redman Coxe since 1818, was declared vacant after a squabble during which much hard feeling was engendered. It has been facetiously called the "University's attack of Coxalgia." George B. Wood was elected to fill the vacancy the same year. Jackson was also elected in 1835 to the chair of the institutes of

medicine or physiology, as it is now called, and Hugh Hodge succeeded William P. Dewees the same year in the chair of midwifery.

That the faculty was, however, deeply interested in the question of improving the conditions of medical education in this country is very apparent when we consider several entries made in the minutes about that time. Thus, Jan. 4, 1836, appears the following:

"The Medical Faculty of the University of Pennsylvania, having duly received from the trustees of that institution their resolution of the sixth of October last inquiring whether any extension in the plan of instruction or any alteration therein be expedient, are induced most respectfully to represent that the great mass of the medical students in the United States are mainly desirous to obtain a lucrative and respectable practice with the utmost possible economy of time, money and application. That agreeably to experience the only requisites for the attainment of the objects in view are the diploma of a respectable medical school, and sufficient ability, cultivation and acquirements to satisfy the expectations of the communities in which they intend to seek for employment. Unfortunately for national reputation, the standard of expectation with respect to collegiate acquirements is on this side of the Atlantic too low; not only in medicine but in all other professions and pursuits. Those who have sons to educate hurry them into college, and as prematurely remove them from their studies, in order that they may engage in some profitable vocation. The faculty are under the impression that the heads of our American colleges in general, and especially those who preside over the University of Pennsylvania, have been extremely desirous to elevate the standard of acquirement necessary both for entrance and graduation in the arts; and yet it is well known that there has been a limit assigned to success by circumstances wholly out of their control. It ought not, then, to surprise those who have become familiar with the obstacles which impede every effort to improve that branch of education, if the faculty should lay some stress on the existence of similar difficulties in effecting any desirable enlargement in the qualifications requisite for a degree in the branch in which the trustees have appointed them to be instructors. . . . No examination being requisite to entrance on the list of matriculants, students generally commence their attendance on the medical lectures with inadequate preliminary acquirement. . . . However mortifying may be the impression, it is quite evident to the faculty that the basis of American education is in general too narrow for the superstructure contemplated by the present plan of medical instruction, and they infer that no scheme of improvement can be consistent which does not have a view to the foundation. The faculty are disposed to believe that at present there is but one means of melioration within the control of the university. They allude to the examination of the candidates for degrees, but they conceive that any power derived from this source, if exerted with peculiar severity, might have the sphere of its beneficial employment diminished to a fatal extent. In making choice of his alma mater, the student balances between the reputation of the school and the difficulty of obtaining its diploma, and in order to render the attainment of this object more sure, too often decides in favor of the inferior institution. Were the reputation of the seminaries of medical education in proportion to the rigor of their examinations, there would be no difficulty in giving any desirable elevation to this criterion of merit, but unhappily the fame of a school is unduly influenced by the number of its matriculants; hence any efforts to enhance the qualifications necessary to our degrees by reducing the number of our pupils tends to lower the comparative estimation of our diploma. This consequence must evidently proceed in an increasing ratio, since our loss is the gain of rival seminaries, and the diminution of numbers experienced in the first year tends to aggravate the cause of diminution in the year following. The mode of conducting examinations for degrees, and the great scheme of medical education, the faculty are extremely anxious to improve, while at the same time they are diffident in venturing on untried plans, and apprehensive of the loss of weight which is always consequent to every appearance of vacillation. Should they be enabled after the most attentive examination of the subject to devise any change which they can confidently recommend, they will forthwith submit it to the trustees. The medical faculty believe that the recent appointments in the medical departments are producing a very beneficial influence and presume that after the present organization has been in operation for a sufficient length of time to have its influence duly appreciated they will be better enabled to suggest improvements to the trustees. The faculty have it under consideration to extend their lectures one month. Should they decide in favor of such an extension they hope the trustees will sanction the change; but otherwise, in obedience to the foregoing considerations, the medical faculty, with the utmost respect and deference for the board of trustees, beg leave to declare their opinion that any extension in the plan of instruction in the medical school of the university, or any alteration therein, is, in their opinion, inexpedient under existing circumstances."

Again, at a meeting held Nov. 12, 1836, "It was resolved that the course of lectures be extended to five months, that this resolution be communicated to the students, and that the sense of the class be taken whether the plan shall be carried into effect during the present session."

It is interesting to learn that the students unanimously voted in favor of continuing the lectures for an additional month.

It must also be remembered that when, in 1846, in accordance with the earnest recommendation of the American Medical Association, the University of Pennsylvania extended its session of medical studies to six months, not a single other school followed its example; after six years of this attempt to fight single handed the growing degeneracy of the American system of medical education, the University of Pennsylvania, I am sorry to admit, relapsed on account of steadily diminishing classes to the level of her less courageous rivals.

William Pepper, M.D., Philadelphia.
Dean, University of Pennsylvania
School of Medicine.

"POSTURAL REST FOR PULMONARY TUBERCULOSIS"

To the Editor:—In The Journal, March 26, appeared an article on this subject by Drs. Webb, Forster and Gilbert. I heartily agree with what they say in general about rest in the treatment of tuberculosis, but when they advise that weights be placed on the chest in cases in which both upper lobes are about equally involved, I fail to see by what queer ratiocination they conclude that such a procedure would afford greater rest to the lungs.

In fact, according to my ideas of physiology, it seems about as sensible as putting stones in a suit case to make it lighter. Whatever weight is placed on the chest means that the respiratory muscles must lift this weight some 25,000 to 35,000 times a day—quite a bit of unnecessary labor. This involves more oxygen for these muscles, which in turn can only mean more work for the lungs and heart—the direct opposite of what they seek to accomplish.

As to the advisability of requiring a patient to lie twenty hours or more a day on one side, it seems quite unnecessary and unjustifiable to subject patients to such an inhuman routine, when even the authors concede that equally good, if not better, results can be obtained by artificial pneumothorax in a much shorter time. In cases in which it is impossible to administer artificial pneumothorax, let us give the method a trial; but why put the average patient on an uncomfortable freight train for his journey back to health, when a Pullman express is at hand?

McDugald McLean, M.D., Asheville, N. C.

[The letter of Dr. McLean was referred to Dr. Gerald B. Webb, Colorado Springs, who replies:]

We cannot agree with a physiology of respiration which regards the thorax as an absolutely rigid machine, forced to perform a predestined excursion regardless of circumstances. The amount of respiratory motion necessary to aerate the

circulation of a resting patient is small; the instinctive tendency is to breathe unnecessarily deep. This tendency is checked by the bags of shot which we lay on the upper chest. Instead of struggling to lift them as high as possible, the patient unconsciously yields, brings his breathing down nearer to the requisite minimum, and transfers it in large measure to the diaphragm, that is, to the lower lobes, which are almost invariably less diseased than the upper, as Dr. McLean is no doubt aware.

It is surely a fallacy to suppose that the respiratory act is incapable of modification. Not only can it be reduced in amount, but it can be altered in type also. It is well known that constriction of the abdomen reduces diaphragmatic and increases intercostal breathing; that tight strapping of one side of the chest results in reducing the motion of that side, while compensation takes place on the other side, to whatever extent is necessary; and we have demonstrated that the same sort of modification and transference can be achieved by posture, and—though less perfectly—by the pressure of weights.

Thus, there are two things which we accomplish by the methods described in our paper: first, the reduction of respiratory motion to the necessary minimum; second, the shifting of respiration, to a great extent, from the more diseased to the less diseased area—from a diseased right lung to a normal or nearly normal left, from diseased apexes to relatively healthy bases.

Postural rest has by no means outlawed artificial pneumothorax from our practice. But for many bed patients we regard it as an improved method of securing the same results without the unavoidable risks which pneumothorax involves, even in the most skilful and experienced hands.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DERMATOLOGIC CASE FOR DIAGNOSIS

To the Editor:—A girl, white, aged 18, a farmer's daughter, living on the farm, is one of nine children, all well, some older, some younger than herself. Her family history is negative in every respect. There is no history of tuberculosis. The parents' blood Wassermann reaction is negative. The patient was of normal birth. She had the usual diseases of childhood, with good recovery. She has not been ill, nor has she had any medical attendance since the age of 11. Menstruation began at 13, and is regular, painless and normal. About seven months ago, she "had fever, and felt bad" for three days. A physician was not called. Two days later, a blue area, the size of a silver dollar, of the appearance of a severe bruise, appeared on the outer surface of the left upper arm. It was painless. A physician was called, and he pronounced the lesion a bruise, advising that it be left alone and stating that it would be well in a few days. The patient felt well at that time. There was no fever. However, the "bruise" increased in size; its edges became red and indurated; the central portion became black, dry and tough as leather. Separation occurred at the edges, and pus exuded. The central portion gradually sloughed out, leaving a deep indurated ulcer, resembling a varicose ulcer, which healed very slowly, leaving a large, red, slightly elevated scar. At the same time, other blue spots appeared on other parts of the body, and proceeded through the same stages of development as the first ulcer. About thirty such ulcers have formed in the last seven months. They have varied in size from that of a dime to 5 inches in diameter, occurring mostly on the extremities. She now has an ulcer, about 4 inches in diameter, but not as deep as the others, on the right cheek, and one on each ankle, one below the left knee, two on the anterior surface of the left thigh, one on the lateral surface of the right thigh and one on each forearm. Since the appearance of the ulcers all the lymph nodes have enlarged, but they are painless. The ulcers have raised, red, irregular, slightly elevated margins; they are roundish in outline; the central slough is dry, black and tough. They are painless, except during dressings, but even then they are not markedly painful. There is a very slight discharge. The patient feels "fine," has no temperature elevation; her appetite is good; there is no loss of weight: the color is normal. She is cheerful, ruddy, plethoric, robust, and well developed physically and sexually. Her height is 5 feet, 4 inches; weight, 147 pounds. Her frame is heavy, with big bones. The hands and feet are large. There is a slight tendency to obesity, and the texture of the skin and the distribution and texture of the hair, together with the stolid type of the patient suggests a mild degree of thyroid insufficiency. Except for the ulcers and the adenopathy, physical examination is negative. There is no urethral or vaginal discharge and no apparent abnormality of the genital tract. The blood Wassermann reaction is negative; hemoglobin, 95 per cent. (Sahli); erythrocytes, 5,200,000; leukocytes, 11,200 (14,000 for the last two weeks). Differential count: polymorphonuclears, 76 per cent.; small lymphocytes, 17 per cent.; large lymphocytes, 4 per cent.; eosinophils, 3 per cent. The urine is repeatedly negative for sugar and albumin; the specific gravity averages about 1.020; the quantity, about 1,200 c.c. in twenty-four hours. Smears from the ulcers repeatedly show a gram-negative diplococcus, and when the smear is made directly after removal of the slough, no other organism is present. The diplococcus is bean-shaped; it resembles the gonococcus, but is not intracellular. All the cultures made have shown staphylococci and streptococci, but no diplococci.

The closest approach to a description of the lesion I have found is Stelwagon's description of the lesions in dermatitis gangrenosum in infants. Treatment has consisted of the gradual removal of the sloughs and the application of stimulating dressings to encourage healing of the ulcers. However, new ulcers form continually in spite of treatment.

Does the gonococcus ever cause such lesions? If not the gonococcus, what organisms might this be? What method would you advise to demonstrate the causative organism? Is there anything in the literature bearing on the treatment of such a case? Please omit my name.

M. Q. E., Mississippi.

ANSWER.—There is little doubt that this is a case of self-inflicted eruption. The lesions begin as purply spots and develop into dry, necrotic masses. It is possible that such lesions might occur from septic emboli, but in such a case the patient would undoubtedly be unmistakably ill. Local infections would hardly begin as deep purply spots that were not recognizable as boils, and they too would be accompanied by other symptoms of infection. The case is typical of a group of cases that dermatologists frequently recognize, and which, as a rule, escape detection until the specialist in skin diseases sees them. The first one appeared on the left arm, the easiest point for the patient to produce injury with the right hand. They have appeared unaccountably at other locations, doubtless all where they could be readily produced by the patient herself. There are probably none of them between the shoulders or on the back, where it would be difficult for the patient to produce them herself. They get well like simple wounds. The trouble is that new ones are constantly occurring. The patient is a typical one for such a trouble; a stolid girl living on a farm, probably lonely and overworked, and unconsciously feeling the lack of associates. She probably has stigmas of hysteria; the patients nearly always have anesthesia of the pharynx and of the bulbar conjunctiva.

It is possible that such ulcers might be produced by something else, but a disease with symptoms so severe in the skin without any disturbance of the general health would be extremely rare. This, of course, is a long distance opinion; but the case should be carefully worked out from the standpoint of malingering. The patients will almost never admit their part in the production of the lesions, but they deny it in a stolid, evasive way that is characteristic. The family, and often also the family physician, are usually astonished and often indignant at the suggestion. The only way to prove it is to fix the patient so that he cannot produce the lesions without detection. When this is done the patient usually will be discovered trying to produce lesions, and if he cannot do so, they will cease occurring.

NO DEDUCTION FROM INCOME TAX FOR EXPENSE OF GRADUATE MEDICAL WORK

To the Editor:—Is it true that, if a physician studies abroad, a portion or all the expense thereof may be deducted from his reported income for the income tax? If so, what formality is it necessary to go through in order to obtain this deduction?

J. R. Y.

ANSWER.—Expenses acquired in training and education for professional work are regarded by the Internal Revenue Bureau as an investment and not as a current expense. Deduction from one's gross income in estimating the income tax, of money spent for postgraduate work, either in this country or abroad, is not allowed.

ERUPTION AFTER LUMINAL

To the Editor:—I wish to find out whether or not luminal has been reported as producing urticaria or a scarlatinal rash as an untoward symptom.

T. J. BILLION, M.D., Sioux Falls, S. D.

ANSWER.—According to Seifert, luminal has been reported by two authors as producing an exanthem simulating urticaria; by two others an eruption simulating measles; by three as simulating scarlet fever, and by two as an unclassified drug eruption.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 12. Chairman, Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: Hartford, July 12-13. Sec., Regular Board, Dr. Robert L. Rowley, 79 Elm St., Hartford

CONNECTICUT: New Haven, July 12 Sec., Homeopathic Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover.

FLORIDA: Jacksonville, June 13-14. Sec., Reg. Bd., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.

GEORGIA: Augusta, June 1-3 and Atlanta, June 8-10. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 20-23. Supt. of Registration, Mr. F. C. Dodds, Springfield.

INDIANA: Indianapolis, July 12-14. Sec., Dr. Wm. T. Gott, 84 State House, Indianapolis.

IOWA: Iowa City, June 9-11. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

LOUISIANA: New Orleans, June 9-11. Sec.Treas., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

MAINE: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 140 Pine St., Portland.

MASSACHUSETTS: Boston, July 12-14. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.

MICHIGAN: Ann Arbor, June 14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 7-9. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. W. S. Leathers, University.

MISSOURI: St. Louis, June 13-15. Act. Sec., M. E. Holliway, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEBRASKA: Lincoln, June 7-9. Sec., Dept. of Public Welfare, Mr. H. H. Antles, State House, Lincoln.

NEW JERSEY: Trenton, June 21-22. Sec., Dr. Alexander MacAlister, State House, Trenton.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. Kemp P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, May 31-June 3. Sec., Dr. H. M. Platter, State House, Columbus.

OREGON: Portland, July 5-7. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 5-9. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 7-8. Dr. Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

TEXAS: Austin, June 21-23. Sec., Dr. Thomas J. Crowe, 918-919 Dallas Co. Bank Bldg., Dallas.

VIRGINIA: Richmond, June 14-17. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

WEST VIRGINIA: Charleston, July 12. State Commissioner of Health, Dr. L. T. Vinson, Masonic Bldg., Charleston.

WISCONSIN: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

WYOMING: Cheyenne, June 6-8. Sec., Dr. J. D. Shingle, Citizens National Bank Bldg., Cheyenne.

REPORT OF THE TENTH EXAMINATION OF THE NATIONAL BOARD OF MEDICAL EXAMINERS

The tenth examination of the National Board of Medical Examiners was held in Minneapolis and Rochester, Minn., Feb. 23, to March 2, 1921. The written examinations were held simultaneously in the two places. The subjects of the examination and the relative value of each were: anatomy, 100; physiology, 75; chemistry, 75; pathology, 75; bacteriology, 50; materia medica, pharmacology and therapeutics, 75; medicine, 200; surgery, 200; obstetrics and gynecology, 75; hygiene and sanitation, 50; medical jurisprudence, 25. A percentage of 75 was required to pass. Falling below 65 per cent. in two subjects, or below 50 in one subject, constituted a failure.

There were twenty applicants who applied for examination. Seventeen were found to have the essential preliminary and medical qualifications. Sixteen appeared for examination, of whom eleven passed and five failed.

PASSED

Name	College	Year of Graduation
Charles Cullom Gault,	University of Minnesota	1921
Thomas Byrd Magath,	University of Illinois	1920
William P. Finney,	Johns Hopkins Medical School	1916
James Joseph Noonan,	Rush Medical College	1919
Charles Wesley Barrier, Jr.,	Tulane University School of Med.	1917
Alfred Sabato Giordano,	Syracuse University Medical College.	1920
Malcolm C. Pfunder,	Rush Medical College	1920
Albert John Scholl,	Harvard Medical College	1916
James Chester Brogden,	University of Maryland Med. College	1914
Andrew Jackson Goodwin,	Univ. of Pennsylvania Med. School.	1915
Louisa Elizabeth Boutelle,	University of Minnesota	1916

FAILED

George Washington University	School of Medicine	1908
University of Minnesota	School of Medicine	1920
University of Pennsylvania	School of Medicine	1920
University of Minnesota	School of Medicine	1919
University of Minnesota	School of Medicine	1916

AVERAGES OBTAINED*

Candidate by Number	Anatomy; Value, 100	Chemistry; Value, 75	Mat. Med., Pharm. and Therapeutics; Value, 75	Obstetrics and Gynecology; Value, 75	Hygiene; Value, 50	Medicine; Value, 200	Surgery; Value, 200	Pathology; Value, 75	Physiology; Value, 75	Bacteriology; Value, 50	Medical Jurisprudence; Value, 25	Final Average
1	95	61	79.5	75	86	83	81	80.36	87	83.5	77	814.4
2	77	94	82	97	90	69.5	66.35	62.66	80	79	77	764.2
3	75	59	87	82	84	73.5	89.3	65	82	68.5	88	779.8
4	90	60	85	76	81	85.5	84.5	96	90	91	74	840
5	90	98	92	85	75	80.5	85.7	91.66	96.5	85.5	84	870.9
6	85	64	76	75	87	86.5	79.75	81.2	84	80.5	76	805.3
7	74	68	80	75	77	67.5	85.35	76.5	75	65	66	764.3
8	63	40	70	84	84	80.5	88.9	85	75	57.5	60	753
9	79	96	84.5	100	88	80.5	84.65	79.8	78	87.5	82	846.3
10	82	80	85.5	85	83	80.5	85.25	81.66	77	84	78	823.2
11	68	48	80.5	75	65	70.5	67.5	78.36	69	66.5	65	689.2
12	77	61	87.5	81	83	73.5	88.16	77	96	76	90	804.5
13	85	70	86	75	76	77.5	87.5	80.5	78	77.5	60	798.8
14	59	54	76.5	77	75	67	82.95	77.5	75	65.5	68	717.2
15	60	66	82.5	85	70	68	67.75	70.5	73	69	71	701.6
16	72	64	85	85	72	66	72.5	73	65	75	64	717.4
Gen'l Aver.	76.9	67.5	82.6	82	79.7	75.6	81.6	78.04	80	75.3	73.7	

* The general average of the candidates is based on subject values as rated by the board. The averages in each subject are on a basis of 100; 1,000 is the total perfect mark as rated by the board. The ratings assigned to each subject will be found at the head of each column.

ANATOMY

Examiner Dr. Herbert Harlan, Baltimore. Associate examiners in practical anatomy: Drs. C. M. Jackson, C. A. Erdmann, H. L. Osterud. Histology: Drs. T. G. Lee, R. E. Scammon. Neurology: Dr. A. T. Rasmussen.

Written Examination.—1. Give origin, course and distribution of (*a*) Obturator nerve; (*b*) ophthalmic nerve. 2. Attachments, action and nerve supply of the following muscles: (*a*) Psoas magnus; (*b*) biceps femoris; (*c*) scalenus anticus; (*d*) pyriformis. 3. Name accessory nasal sinuses and locate accurately their openings into the nose. 4. Describe the vessels of the liver. 5. Describe the thyroid gland.

Oral Examination.—This was conducted with the use of specimens of the brain, osseous system and internal organs, and specially prepared dissection demonstrating the gross anatomy of joints and definite regions of the body; the identification of specimens of histology under the microscope.

PHYSIOLOGIC CHEMISTRY

Examiner, Dr. Victor C. Vaughan, Ann Arbor, Mich. Associate examiners in laboratory chemistry: Drs. J. F. McClendon, F. B. Kingsbury and C. J. V. Pettibone.

Answer five questions: 1. Give methods of estimating nonprotein nitrogen in the blood, and discuss the significance of the deficiency or excess of this constituent in the blood. 2. How many amino-acids have been detected in animal proteins? Where are the amino-acids liberated from the proteins of the food in the body and what is the destination of these amino-acids? 3. What is the fate of the proteins contained in horse-serum after injection subcutaneously or intravenously in the treatment or in the prophylaxis of diphtheria? 4. Give the methods of determining the amount of uric acid in the urine and in the blood and state the significance of a deficiency or excess of uric acid in either blood or urine. 5. What is an accessory food factor? By what other name are these bodies known and in what diseases do these bodies play a part? 6. Give a list of essential food constituents and discuss the effects of a deficiency of either proteins, fats, carbohydrates or inorganic salts in the daily foods. 7. Discuss the relative values of animal and vegetable fats as foods. 8. What carbohydrates are present in our daily food and what changes does each of these undergo in digestion, assimilation and final disposition?

Practical Examination.—1. Determine the amount of glucose in a sample of urine and of blood-serum and discuss the significance of the amount of glucose in blood-serum. 2. Determine total and free acidity in two samples of gastric juice. 3. Report on the chemical and microscopic examination of three samples of urine which will be submitted to you.

MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY

Examiner, Dr. Walter L. Bierring, Des Moines, Iowa. Associate examiners: Pharmacology, Drs. Arthur D. Hirschfelder, E. D. Brown, J. P. Schneider, E. H. Newcomb.

1. Discuss the action of ether on the central nervous system. 2. Name four medicinal preparations of iron. Discuss the therapeutic action and use of iron in chlorosis. 3. What is understood by the standardizing of digitalis? In which forms of heart disease is the use of digitalis contraindicated? Why? 4. Name four medicinal preparations of salicylic acid. Discuss the action and use of sodium salicylate in acute rheumatic fever. Write a prescription for a patient with acute rheumatic fever, to contain sodium salicylate, giving full directions for the patient and indicating the dose intended. (Sign with candidate number.) 5. Discuss the therapeutic action of antitetanus serum. Outline the dosage for prophylactic purpose. Outline the dosage for curative effect.

The practical and oral examination in pharmacology consisted of: 1. Interpretation of a tracing showing the typical effects of one or two drugs (epinephrin, digitalis, nitrites). 2. Examination of frogs showing strychnin and digitalis effect. 3. Identification by taste, smell and appearance of common drugs, such as Epsom salt, paregoric, ginger and nux vomica. 4. Therapeutic discussion based on clinical notes of:

CASE 1.—A man of 45 is suffering from weakness and shortness of breath, even when at rest. This is so severe that he must remain propped up in bed. He has occasional spells of very severe dyspnea, especially during the night. His heart is much enlarged, downward and to the left. The first sound everywhere is accompanied by a systolic murmur and followed by a soft blowing diastolic murmur, which is loudest in the third left interspace at the sternal margin. Maximal blood pressure is 220 mm. Hg, minimal 120, pulse rate 100. The liver is just palpable. There is slight edema of the ankles.

CASE 2.—Child of 8 years brought from home by ambulance to hospital. Said to have taken the contents of a bottle found not uncommonly in the bathroom cabinet. The child's lips, tongue and soft palate were swollen and white in appearance; unable to swallow, vomiting. (Carbolic acid [phenol] poisoning.)

CASE 3.—Man in working clothes is brought in to the hospital from a cheap boarding house. He is violent, disorientated, staggers and complains bitterly of epigastric pain. The face is flushed; vomiting at intervals; in an hour lapses into a stupor. What common agent should be considered? Treatment? (Wood alcohol poisoning.)

CASE 4.—A man of 30 has chills occurring every other day with temperature rising to 102. Examination of the blood shows tertian malaria parasites. Give treatment.

OBSTETRICS AND GYNECOLOGY

Examiner, Dr. Austin Flint. Associate examiners: Drs. J. C. Litzenberg, L. W. La Vake, L. W. Barry, M. H. Haynes, F. L. Adair.

1. (*a*) Describe the physiologic changes in the blood in normal pregnancy. (*b*) Discuss diagnostic importance of blood examination in presence of pathologic conditions *which might develop* during pregnancy. 2. What would be your management of a case with a pelvis moderately contracted observed at the eighth month of pregnancy? 3. Describe the origin of liquor amnii. What is its function during pregnancy and labor? 4. Describe the pathologic lesions found in toxemia of pregnancy and indicate the lesions associated with the clinical varieties of the condition. 5. (*a*) Define version. (*b*) What are the indications for performing internal podalic version? (*c*) What conditions must be fulfilled before the operation can be performed? 6. Give symptoms and diagnosis of ovarian cyst. 7. Discuss cause and treatment of abnormal bleeding from the nonpregnant uterus. 8. Give etiology, symptoms, diagnosis and treatment of extra-uterine pregnancy. 9. Give etiology, symptoms and treatment of retroversion of uterus. 10. Discuss etiology and symptoms of tuberculosis of the female organs of generation.

Oral Tests.—During the written examination each candidate was required to make demonstrations on the manikin and to explain different obstetric operations.

PATHOLOGY

Examiner, Dr. Louis B. Wilson, Rochester, Minn. Associate examiner, Dr. H. E. Robertson, Minneapolis.

The following questions are for record only, and will not have any bearing on the candidate's standing: 1. About how many postmortems have you attended? 2. In about how many have you assisted? 3. In about how many have you been the responsible pathologist?

Answer five of the following questions: 1. Discuss the pathology of postoperative peritonitis. 2. A male, apparently about 50 years of age, is found on the street in a dying condition. There is no visible external injury. Describe the coroner's necropsy technic and give the probable findings. 3. Discuss the nonmalignant pathologic changes in the senile prostate. 4. Discuss the pathologic changes in the kidney which may occur as a complication of scarlet fever. 5. Discuss in sequence of occurrence the changes in blood and organs in pernicious anemia. 6. Discuss the pathology of fever. 7. Discuss our present knowledge of the pathology of traumatic shock.

Laboratory Examination.—Each candidate was given gross specimens and microscopic sections chosen from the following: *Gross:* Tuberculous pericarditis; acute fibrinous pericarditis; lobar pneumonia; chronic tuberculosis; infarction; cirrhosis; cystic colloid goiter; arteriosclerosis and cysts; nephroma (carcinoma); congenital cystic; carcinoma with ulcer; typhoid ulcers; hemorrhage; carcinoma of cervix; carcinoma; old impacted fracture of neck; malignant papilloma. *Microscopic:* Chronic glomerulonephritis; hyperplasis of thyroid; squamous cell carcinoma of lip; spindle cell sarcoma of leg; actinomycosis, etc.

BACTERIOLOGY, SEROLOGY AND PARASITOLOGY

Examiners, Admiral E. R. Stitt, Colonel J. F. Siler. Associate examiners: Drs. W. P. Larson, A. T. Henrici, Anne G. Benton, E. C. Rosenow.

1. (*a*) In the case of individuals exposed to diphtheria, describe briefly the technic of the test that may be carried out to determine whether the individual is immune. (*b*) If an individual is not immune to diphtheria in what ways may protection against the disease be conferred? 2. (*a*) What are the leading characteristics of the Koch-Weeks bacillus, and how would you diagnose by laboratory methods such an infection of the eye? (*b*) What are some of the other organisms to be considered in infections of the eye? (*c*) What are the characteristics of *Bacillus pestis?* 3. (*a*) What laboratory procedures should be carried out in establishing a diagnosis of meningococcus meningitis? (*b*) What laboratory procedures should be carried out in establishing a diagnosis of tuberculous meningitis? 4. (*a*) Which of the vaccines are of proved value in the prevention of disease; what vaccines are of proved value in the treatment of disease? (*b*) Name the serums that are of proved value in the prevention of disease; name the serums that are of proved value in the treatment of disease. (*c*) If a patient was brought to you who had been bitten by an animal suspected of having rabies, what steps would you take to establish a diagnosis? 5. (*a*) What are the nematode (roundworm) infections found in the United States and in what parts of the country are each encountered? (*b*) What are the cestode (tapeworm) infections found in the United States and in what parts of the country are each encountered? (*c*) Describe briefly the life-history of the hookworm and beef-tapeworm from the time the ova leave the intestinal canal of an infected individual until they again reenter a human being in an infective stage.

Laboratory Examination.—The examiner is provided with tubes, plates, etc., of various standard culture mediums. The candidate is examined as to the composition, uses, technic of inoculation and study of these. There are also provided plates of plain agar, blood agar, etc., showing colonies, and the candidate is examined as to his ability to recognize and discuss colony characteristics with the unaided eye and magnifying glass. Various serologic preparations, such as Wassermann or other complement fixation tests, microscopic agglutination precipitin reactions, are provided, and interpretation of these is required. Specimens of intestinal parasites and their ova, together with stained smears of blood preparation of parasites, will be given the candidates for indentification.

PHYSIOLOGY

Examiner, Dr. W. S. Carter, Galveston, Texas. Associate examiners: Drs. E. P. Lyon, F. H. Scott, Esther M. Greisheimer, Minneapolis.

Answer *any five* of the following questions: 1 (*a*) Explain what is meant by the alkali reserve of the body. (*b*) Give two methods by which a decrease in the alkali reserve may be definitely determined. 2. What are the dangers in the transfusion of blood and how would you determine if A's blood could be safely transfused into the vessels of B? 3. Give the mechanism which causes the outpouring (*a*) of bile and (*b*) of pancreatic juice into the intestine during digestion. 4. Give the functions of the glomeruli and of the uriniferous tubules of the kidney. 5. Tell how the activity of the vasomotor center may be influenced (*a*) by chemical stimulation and (*b*) by afferent nerve impulses. 6. Give the nervous control of the urinary bladder and describe the mechanism of micturition.

Practical Examination.—Each candidate was examined on clinical pulse tracings, reflexes, blood pressure, heart sounds and physiologic tracings.

Examinations in the following subjects were conducted simultaneously in Minneapolis and Rochester.

SURGERY

Examiners: Admiral W. C. Braisted and Dr. E. Wyllys Andrews. Associate examiners in Clinical and Operative Surgery: Drs. A. C. Strachauer, A. A. Law, J. A. Johnson, W. E. Sistrunk, R. C. Webb, F. C. Mann, Conrad Jacobson, H. B. Zimmerman of Minneapolis, and Drs. E. S. Judd, J. C. Masson, M. S. Hebdreson, W. F. Braasch, Paul A. Wheary.

(Answer questions 1, 2 and 7. Choose any two from remaining four.) 1. A male patient, aged 24 years, complains of persistent headache, failing vision, dizziness, rapid gain in weight and lessened sexual powers extending over a period of one year; general physical examination is negative. (*a*) What lesion would be suspected? (*b*) What surgical advice would you give? 2. A female patient, aged 30 years, complains of general nervousness, weakness, attacks of vomiting and diarrhea and loss of weight extending over a period of two years. Physical examination shows moderate enlargement of the thyroid gland, systolic pressure 115, diastolic 80. Give diagnosis, discuss differential diagnosis and treatment. 3. Discuss the treatment of lung abscess. 4. Give the indications for operation in gastroduodenal ulcer. 5. (*a*) Give the signs and symptoms of acute intestinal obstruction. (*b*) Discuss the cause of death in high intestinal obstruction. 6. Discuss the treatment of fracture of both bones in the middle third of the forearm. 7. Discuss the factors of safety in the surgical management of a severe injury involving the necessity of amputaion of a limb.

Clinical Examination.—This was held in the wards of the University Hospital, Minneapolis and Mayo Clinic, Rochester. Each candidate was given at least three cases, and these were chosen from the following: osteo-arthritis of the wrist; perinephritic abscess; cholecystitis, chronic; inguinal hernia; carcinoma of stomach; subphrenic abscess; toxic adenoma of thyroid; carcinoma of uterus, with generalized metastases; hyperthyroidism, with multiple adenoma of the thyroid; posterior ligation, exophalmic goiter; subacute appendicitis.

Operative Surgery.—Each candidate was given one operation on dogs, that had previously been killed with ether, selected from the following list: trephine; tracheotomy; thoracotomy; appendectomy; lateral intestinal anastomosis; inguinal hernia; suprapubic cystotomy; amputations of legs and feet; and also a practical examination in regional anatomy on the living human model.

SURGICAL SPECIALTIES

Examiners, Drs. Herbert Harlan and David A. Strickler. Associate examiners: Drs. John S. Macnie, W. E. Patterson, Horace Newhart, Minneapolis; Drs. C. B. New, A. D. Prangen, H. I. Lillie. Examiner in Disease of the Skin: Drs. S. E. Sweitzer, John Butler, Minneapolis; Drs. J. H. Stokes, H. Irvine.

Each candidate was given examples of ordinary diseases of the eye, ear, nose and throat, as well as eye ground examination, and each candidate was given examples of ordinary skin disease to diagnose.

MEDICINE

Examiners, Dr. H. D. Arnold, Boston; Dr. Walter L. Bierring, Des Moines, Iowa. Associate examiners in Minneapolis: Drs. S. M. White, J. P. Schneider, R. I. Rizer, Clinical Laboratory. Drs. Archie H. Beard and H. S. Diehl, Clinical Microscopy. Clinical Medicine, Rochester: Drs. R. D. Mussey, W. L. Lemon, Reginald Fitz, George B. Eusterman, H. F. Helmholz, and A. H. Logan. Clinical Microscopy, Dr. A. H. Sanford and Colonel J. F. Siler.

Answer ten questions. The first six are required; select four from numbers 7 to 12. 1. Cerebrospinal fever: (*a*) Etiology. (*b*) Describe the course of the ordinary form. (*c*) Diagnosis. (*d*) Treatment. 2. (*a*) What is uremia? (*b*) What grouping of symptoms and conditions before urinalysis is made would suggest a probable diagnosis of uremia in a case without convulsions or coma? (*c*) How would you differentiate uremic coma from that of apoplexy? (*d*) From alcoholic coma? (*e*) From opium poisoning? 3. (*a*) What is chlorosis? (*b*) Describe the symptoms and the blood picture. (*c*) Treatment. 4. (*a*) Discuss the etiology and diagnosis of rheumatic fever. (*b*) Discuss the significance of a systolic heart murmur in this disease. (*c*) Treatment of rheumatic fever. 5. On what evidence would you feel warranted in making a diagnosis of tuberculosis of the intestine? 6. Symptoms and diagnosis of acute pancreatitis. 7. (*a*) Discuss the Wassermann reaction in relation to diagnosis of syphilis. (*b*) What considerations would influence your decision as to the use of arsphenamin in a case which showed a

positive Wassermann reaction but in which clinical signs of active syphilis were absent? 8. Describe a case of congenital cretinism and give full details of treatment. 9. (*a*) To what may stricture of the esophagus in an adult be due? (*b*) How would you distinguish between a spasmodic and an organic stricture of the esophagus? 10. How would you proceed to determine the cause of asthma in a patient? 11. (*a*) Prophylaxis; (*b*) diagnosis; (*c*) treatment of trichiniasis. 12. (*a*) Diagnosis; (*b*) treatment of duodenal ulcer.

Clinical Examination.—This was held in the Mayo Clinic, Rochester, and in the University Hospital, Minneapolis, each candidate being assigned to a long case and then quizzed on his findings. Following this the candidate was assigned to two short cases representing some well defined condition, as abdominal tumors, double hydrothorax, mitral stenosis and regurgitation, fibroid T. B., right side, bronchial asthma, tabes, aortic regurgitation, aortitis, acute glomerulonephritis, anasarca, anemia, cerebrospinal syphilis, pulmonary tuberculosis, mediastinal abscess, polycythemia.

Clinical Laboratory.—Each candidate was required to examine specimens of stool washings, blood smears, etc., and give diagnosis.

HYGIENE

Examiner, Surg.-Gen. H. S. Cumming, U. S. P. H. S.

Answer *any five* of the following questions: 1. Discuss the causes and prevention of plumbism. 2. How is the pasteurization of milk accomplished and what are its advantages? 3. What are the public health duties of a practicing physician? 4. Discuss the etiology, epidemiology and prevention of hookworm disease. 5. Name the principal diseases transmitted by insects and give name and principal breeding places of insects concerned. 6. State in detail the measures to be instituted for the control of malaria.

MEDICAL JURISPRUDENCE

Examiner, Surg.-Gen. H. S. Cumming, Washington, D. C.

Answer *any five* of the following questions: 1. Discuss the fundamental conditions on which suits for damages resulting from alleged malpractice may be based. 2. Discuss the evidence to be considered in determining whether or not a dead infant has lived since birth. 3. Discuss in detail the evidence that the attending physician should collect when called in civil practice to attend a living person who has received a gunshot wound at the hands of another person. 4. Discuss the identification of blood stains with reference to the differentiation of human and animal blood. 5. Discuss the detection of malingering. 6. Discuss the legal responsibilities of the practicing physician relative to the proper reporting and registration of births and deaths.

Arizona January Examination

Dr. Ancil Martin, secretary, Arizona State Board of Medical Examiners, reports the written examination held at Phoenix, Jan. 4-5, 1921. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 10 candidates examined, 3 passed and 7, including 2 osteopaths, failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern University		(1920)	82.9
University of Pennsylvania		(1918)	77.4
Fort Worth School of Medicine		(1902)	77.4
	FAILED		
Chicago Hospital College of Medicine		(1919)	69.5
Hahnemann Medical College and Hosp., Chicago		(1915)	61.3
Kansas Medical College		(1898)	73.7
St. Louis College of Physicians and Surgeons		(1920)	70.8
University of Michigan Medical School		(1906)	72.4

Oklahoma January Examination

Dr. J. M. Byrum, secretary, Oklahoma Board of Medical Examiners, reports the written examination held at Oklahoma City, Jan. 12-13, 1921. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Five candidates, including 1 osteopath, took the physician's and surgeon's examination, all of whom passed. Seventeen candidates, including 5 osteopaths, were granted physician's and surgeon's certificates by reciprocity. One candidate was granted a reregistration license. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Kansas City College of Medicine and Surgery		(1920)	1
University Medical College of Kansas City		(1898)	1
University of Oklahoma		(1920)	1
University of Pennsylvania		(1919)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas	(1903),	(1916)	Arkansas
College of Physicians and Surgeons, Keokuk		(1895)	Kansas
Louisville Medical College		(1904)	Kentucky
Tulane University		(1905)	Alabama
University of Maryland	(1905) Kansas,	(1914)	Maryland
Detroit College of Medicine		(1892)	Ohio
Marion-Sims College of Medicine		(1895)	Missouri
John A. Creighton Medical College		(1912)	Missouri
University of Nebraska College of Medicine		(1920)	Nebraska
Vanderbilt University		(1899)	Texas

Social Medicine and Medical Economics

THE PENNSYLVANIA IDEA AND THE VENEREAL PROBLEM

ROBERT A. BACHMANN, M.D.
Commander, M. C., U. S. Navy

In Dr. Eliot's famous five foot shelf of books, the Harvard Classics, you will find Franklin's autobiography in the first volume. If you turn to page 69, the following paragraph will meet your eye:

> In the meantime that hard-to-be-governed passion of youth hurried me frequently into intrigues with low women that fell in my way, which were attended with some expense and great inconvenience, besides a continual risque to my health by a distemper which of all things I dreaded though by a great good luck I escaped it.

In that confession lies considerable food for thought. It shows, for example, that Franklin had a definite idea of the dangers attending promiscuous sexual relations, and that in spite of this hazard he was willing to "risque" his health, and in doing it to go to considerable expense and inconvenience to boot.

It would be difficult to conceive of a more typical American character than this founder of the *Saturday Evening Post,* scientist, eminent emmissary, statesman and patriot. Suppose, now, that he had not been so lucky in escaping the "distempers" and had become infected with syphilis, of which, no doubt, there was considerable prevalent at that time in Philadelphia. In that event, perhaps, the discovery of the nature of lightning, of the Gulf Stream, and of the stove, might not have been made. Perhaps, too, some of the maxims set down in Poor Richard's Almanac might not have found expression, and his missions to France and England might not have been accomplished; for in Franklin's day a syphilitic infection must have been a much more formidable matter than today. This is conjecture, of course, but it is pertinent and interesting.

I have chosen this example because it illustrates so forcefully and impressively that in dealing with the venereal problem you must be human above all things and regard it in all its human aspects. The corner loafer exposes himself to venereal infection, and so does the professional man. The ignorant negro laborer risks his health, and so does the medical student fresh from the outpatient clinic, with the picture of a secondary eruption or a helpless paretic hardly effaced from his memory.

A cross-section of our army showed that it was composed of all strata of society and all grades of education. It included every type and class of American. Yet the venereal infections were not confined to any one portion of it, and to attempt a classification along those lines would have yielded no result. To paraphrase the late Senator J. J. Ingalls: "In the great democracy of sexual impulse, all men stand equal." The corner loafer and the ignorant negro laborer perhaps call for greater consideration; and therefore whatever efforts are made to teach and enlighten them must be made more insistently and broadly; but, however well made, without medical prophylaxis the effort will be incomplete. Bearing Franklin in mind, what can you expect of them?

Then, again, of what value is a pamphlet explaining how syphilis is contracted or gonorrhea is spread, to the medical student, the informed college graduates and professional men —the Benjamin Franklins of modern life? What about the vast army of men who have already bought their venereal education at the dearest price possible—a previous infection—and who, notwithstanding, are exposing themselves again? What process of supereducation is there to impress them?

Any venereal program that does not include all the weapons available to win the fight is incomplete and ineffectual to that

extent. No one can arbitrarily declare that medical prophylaxis alone will do away with the venereal evil, or that educational measures alone will solve the problem or that moral appeals alone will bring success. It requires, at best, the joint application of all three; and even then the progress will be none too rapid.

The argument that the provision of medical prophylactic agents will increase immorality is mere sophistry and not based on facts. The direct opposite has been demonstrated every time any investigator has taken the trouble to find out the truth by observation instead of delivering an offhand, unsupported opinion.

Here it might be well to quote Riggs,[1] who has put the case strikingly:

> The argument generally made against medical prophylaxis is that it does away with the fear of the disease which is considered by some as a strong deterrent against immoral sexual conduct. In practice, physicians are well acquainted with the "never again" statements of those suffering from veneral infections. They also know how such statements are forgotten so quickly when a cure is completed. Be that as it may, it would seem that the fear of venereal disease is a very poor substitute for genuine morality. Nor can the view that a disease is a just punishment for the immoral be defended. Love of morality, not the fear of the consequences of immorality, is the only standard of ethical worth.

Yet this pseudomorality seems to be the aim of half the antivenereal programs put into effect recently.

In the utilization of medical prophylaxis there are many conditions which must be considered, the most important of which is the medicament itself. Then the ease of application ought be taken into account, as well as the privacy of the procedure and such other factors as the amount of pain involved and the unpleasantness of the application. The latter objection is one of the most frequent reasons why prophylaxis is avoided or improperly applied. It takes no great stretch of imagination to conceive the positive messiness caused by a full urethral injection of a silver salt solution followed by a thorough inunction with calomel salve. Can you picture any ones going through this procedure with any degree of enthusiasm?

THE PENNSYLVANIA IDEA

To overcome some of the objections to the prophylactic stations and to make reliable prophylaxis as generally accessible as possible, the Pennsylvania State Department of Health took one of the most progressive steps that any official body has taken for some time. A little more than a year ago this board decided to augment its facilities for putting medical prophylaxis on a practical basis, and considered the advisability of making use of the drug stores throughout the state. This decision was eventful in two ways: First, it established a substitute for the government stations which had to be abandoned after the war and, second, it replaced the old dispensary, or "two application," method of prophylaxis by the modern and more accurate tube method.

The only difficulty that seemed to interfere with the successful carrying out of the scheme was that any number of tubes had been put on the market, most of which had little or no claim to scientific recognition.

It is generally conceded by those who have had sufficient experience to warrant their having any opinion on the matter that tube prophylaxis, when the tube employed is a reliable one, is probably the most practical and effective of all prophylactic measures. The experience of the Navy is a striking proof of this statement.

So the Pennsylvania state board made the ruling that only tubes that passed certain given requirements were to receive the official approval. These requirements were strictly drawn and covered the container as well as the ointment within. The regulations that affected the container were concerned with the matter of size and safety to the user; those that affected the contents were tests to establish the necessary bactericidal efficiency.

1. Riggs, C. E.: Naval M. Bull., January, 1921.

The regulations covering the application for approval are as follows: The formula of the tube seeking endorsement must be given. An analysis then is made to see whether it agrees with the ingredients claimed and the amounts stated. Next, bacteriologic tests are made to ascertain the antibacterial activity. For this purpose twenty-four hour cultures of diphtheroids and staphylococci are used, as both are found in the urethra in chronic gonorrhea, and both are more resistant than the gonococcus. Lastly, the existence of undue irritation is determined by injecting the ointment in a rabbit's eye and noting the effect.

From this it will be seen that not only are the obviously commercial tubes elminated and the public safeguarded in this respect, but even the old "two way" dispensary system is improved on; for it is a fact that in the latter method rarely ever was there any uniformity about the composition and strength of the calomel salve or silver salt solution employed. And never were any tests for efficiency made. All tubes after approval, must furnish samples for analysis every month. This insures maintenance of standards.

Now, when you consider that nearly every drug store in Pennsylvania will in this manner be converted into a prophylactic station, and this without cost to the state, and that the prophylactic provided will be of proved efficiency, it is evident that a marked, yes, an enormous reduction of venereal disease is bound to take place.

It should not be forgotten that the other methods of venereal disease control are not being neglected. An educational program is being carried out with great vigor and every effort made to procure moral and social improvement. Clinics have been established all over the state, and the physician individually has been enlisted in the movement.

At the present there are twenty-eight clinics under state control, and 115 clinics are working in cooperation. These clinics are directed to search out the source of infection and become responsible for the subsequent treatment and disposition of each case.

Many jails, almshouses and other state institutions have been making routine examinations of inmates. The House of the Good Shepherd in Philadelphia has provided sixty beds for rehabilitation and reconstruction work; and a state institution with 400 beds, devoted entirely to public health menaces infected with syphilis, is under project.

It may be well to call to mind that in Pennsylvania the state has powers of quarantine over venereal cases, and thousands of such cases have been already isolated.

THE COST TO THE STATE

The result of the Pennsylvania idea should appear before long. In the larger cities, like Philadelphia and Pittsburgh, the more important hospitals should note a decrease in their venereal disease outpatient departments. A marked proportionate, state-wide reduction in the venereal rate, not observed simultaneously in the surrounding states, would support the conclusion that the Pennsylvania idea is sound in conception and practical in execution.

Not the least important part of the idea is the unique feature that the medical prophylaxis does not cost the taxpayer a penny. Already shadows are being cast before. The handwriting experts are beginning to scrutinize the mural decorations with great interest. In Washington, the Interdepartmental Social Hygiene Board has been done away with. The more than two million dollars which it required to carry on was considered unjustifiable.

The Pennsylvania idea costs the state nothing. But when the eventual figures are computed and the total tabulated, I venture to make the prediction that the great state of Pennsylvania will appear with a balance sheet that will make some of the other states sit up and rub their eyes.

Book Notices

Die Syphilis des Zentralnervensystems: ihre Ursachen und Behandlung. Von Professor Dr. Wilhelm Gennerich. Paper. Price, 56 marks. Pp. 265, with 4 illustrations. Berlin: Julius Springer, 1921.

This monograph is considerably smaller than the well-known book of Nonne on "Syphilis and the Nervous System," but it is a more complete work on the treatment of neurosyphilis, to which 160 pages are devoted. It is based on the detailed study of 8,000 cases observed during a period of twelve years. The chief aims of the author are: To make clear the manner in which syphilis first attacks the nervous system; to show how specific treatment promptly and properly applied may save the patient from permanent involvement of the central nervous system and under other conditions actually favor and further the development of "metasyphilitic" affections, and finally, to give detailed directions for treatment at all stages. He believes that many untreated patients later develop tertiary syphilis of some organ, while early treatment, not repeated in time or to sufficient extent, favors localization of the disease in the more inaccessible meninges, with subsequent development of metasyphilitic disease. It is, therefore, all important to be on guard and treat promptly the early and latent meningeal involvement, and if this is done he is confident that further syphilitic disease of the central nervous system can be avoided. The author is a firm believer in intraspinal arsphenamin treatment, for the development of which he gives credit to Wechselmann and Swift and Ellis without mentioning the equally early work of Marinesco and Ravaut. Gennerich's own method consists of the intraspinal injection of arsphenamin sodium dissolved in a small amount of 0.4 per cent. salt solution and mixed with 50 or 60 c.c. of the patient's spinal fluid. He considers the removal of such a large amount of fluid devoid of danger, as it is immediately reinjected. In ordinary meningeal or cerebral syphilis and in general paresis the dose is generally between 1 and 2 mg., while in tabes or myelitis only from 0.5 to 0.7 mg. is given. The smaller dose is especially advisable when the sphincters are disturbed. Intravenous arsphenamin treatment is also recommended, but mainly as supplementary to the more efficient intraspinal one. The author does not claim to cure general paresis, but remissions of long duration were produced in a great many cases. The chief value of intraspinal therapy is said to be in the early stages of meningeal involvement when, according to the author, it alone will check further development of the disease. Altogether, this work is an important contribution to the therapeutics of neurosyphilis, and it deserves careful and unprejudiced study by all who desire to be up to date in this subject.

Types of Mental Defectives. By Martin W. Barr, M.D., Chief Physician, Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa., and E. F. Maloney, A.B., Professor of English, Girard College. Cloth. Price, $3 net. Pp. 175, with 188 illustrations. Philadelphia: P. Blakiston's Son & Co., 1920.

This is a useful book for teachers, students and practitioners. The combination of the portraits and case histories gives a quickly acquired and vivid idea of the types dealt with. It is too bad that some of the portraits are not better. There are a few fairly long histories; these naturally are of the higher, more complex types: the high grade imbeciles, idiot savants, etc. The other histories are short; but, wasting no words, cover most of the salient details. The point of view of the authors shows the influence of the newer, more flexible ideas of psychiatry. For example, in speaking of the idio-imbeciles, the gaining of some satisfaction from their work is held responsible for preventing them from lapsing into idiocy. On the other hand, one or two statements, if taken literally, seem rather misleading: "became insane from masturbation"; "difficulty in cutting her teeth and paralysis ensued." A sidelight is thrown on the concept of dementia praecox in the chapter of that heading in which are described cases of insanity developing in the feebleminded characterized chiefly by attacks of more or less prolonged emotional outbursts. These suggest the emotional outbursts of adolescent children, and perusal of the chapter suggests that they are much more common in so-called cases of dementia praecox developing in the feebleminded than they are in more normally evolved individuals. The chapters on epileptics, microcephalics, Mongolians, in fact in all types with very marked physical maldevelopments, indicate the gloomy prognosis, the unresponsiveness of these unfortunates. The improvement consequent to careful training of the idiot savant class shows the influence of egoistic satisfaction on the general life of the individual, even though complete development and evolution are impossible. These patients seem to lead contented lives with a minimum of shelter. However, when too much stress is put upon them they retreat into themselves and show their best side only after returning to the shelter of the institution life.

Leitfaden der Elektrodiagnostik und Elektrotherapie für Praktiker und Studierende. Von Prof. Dr. Toby Cohn. Sixth edition. Paper. Price, 30 marks. Pp. 226, with 72 illustrations. Berlin: S. Karger.

This edition of Toby Cohn's handy volume on electrodiagnosis and electrotherapy seems to have undergone slight changes; nevertheless, the author has thoroughly revised his work, paying attention to details and leaving the general arrangement of the book as before. A feature of the work which commends it to the physician is the insertion of plates with colored tissue paper prints on which are indicated in red the motor and nerve points used in electrical testing and in treatment. It is this feature which makes the book almost indispensible to one who makes use of electricity as a means of diagnosis and treatment. The author is further to be commended for the manner in which he introduces his reader to the various electrical apparatus and their uses, assuming nothing for granted on the part of the reader. The subject of electrodiagnosis, especially the reaction of degeneration—a bugbear to most practitioners—is explained in an easy and intelligible style; and finally, electrotherapeutics is given conservative and dignified consideration. Of the several books on the subject of medical electricity, this one has the outstanding merit of being complete, concise and eminently practical.

The Shibboleths of Tuberculosis. By Marcus Paterson, M.D., Medical Superintendent, Metropolitan Asylum Board, Colindale Hospital. Cloth. Price, $5 net. Pp. 239. New York: E. P. Dutton and Company, 1920.

A shibboleth, according to the Encyclopedia Britannica, is a catch phrase or cry to which the members of a party adhere after any significance or meaning which it may have imparted has disappeared. Dr. Paterson, who conducts a large institution for the treatment of tuberculosis in Great Britain, lists forty-nine shibboleths relating to tuberculosis, and analyzes them in such a way as to point out their erroneous and misleading character. He is a firm believer in the treatment of tuberculosis by autoinoculation induced through graduated labor: he does not believe in the rest treatment. Among some of the shibboleths which he destroys are that persons who have tuberculosis should not marry; that clubbing of the fingers is a sign of tuberculosis; that you can detect active tuberculosis by means of roentgen rays, and that farm colonies are necessary for the after-care of tuberculous persons. Dr. Paterson's method of presentation is vigorous and stimulating, and his book should interest all who are interested in the treatment of this disease.

Taschenbuch der Knochen- und Gelenktuberkulose (Chirurgische Tuberkulose) mit Einem Anhang: Die Tuberkulose des Ohrs, des Auges und der Haut. Ein Leitfaden für den Praktischen Arzt. Von Dr. H. Schwermann, Facharzt für Tuberkulose, Oberarzt am Sanatorium Schwarzwaldheim Schömberg-Neuenbürg. Paper. Price, 15 marks. Pp. 150, with illustrations. Leipsic: Curt Kabitzsch, 1920.

This little volume is a laudable attempt to present to the general practitioner a guide to the early recognition of surgical tuberculoses, at the time when treatment is most effective. It is a book for refreshing one's knowledge on this subject, although not introducing anything new. The general part takes up the pathology, roentgen diagnosis, specific diagnosis, bacteriology, therapy and prognosis, and the special part the various bones and joints as they are severally affected. The part on diagnosis is most valuable to the practitioner. The special treatment advised, while not appealing to the specialist, is yet too complicated and too important for the practitioner to undertake safely.

Medicolegal

Examination and Choice of Methods—Failure to Use Roentgen Rays—Expert Evidence

(Schumacher v. Murray Hospital et al. (Mont.), 193 Pac. R. 397)

The Supreme Court of Montana, in reversing a judgment obtained by the plaintiff, an administrator, for alleged malpractice in the treatment of one Currier, says that the latter sustained an impacted fracture of the right hip joint or neck of the femur, accompanied with a dislocation of the hip joint, but the injury was diagnosed as a dislocation of the hip joint, and, it was alleged, treated as such for about fifty days. It was undisputed that the defendants did not use the roentgen ray until the thirty-sixth day. The physicians in effect said that they had no reason to suspect the existence of the fracture, and that, even if they had discovered it earlier, there would have been no change in the treatment under the conditions existing; and there was no change in treatment prior to the discovery of symptoms indicating pus.

Currier was entitled to an ordinarily careful and thorough examination, such as the circumstances, the condition of the patient, and the physician's opportunities for examination permitted and demanded. Whether the conditions surrounding the patient demanded the use of the roentgen ray was a question for the jury. Whether or not the physicians were guilty of failure to use reasonable care and diligence in discovering the extent of Currier's injuries was necessarily involved in the question as to whether he received proper treatment and examination. The plaintiff's experts were asked whether the failure to use the roentgen ray under the conditions was want of care. The answers of two of them did not disclose the necessity of the use of the roentgen ray except in case of doubt, and the third witness merely said that he used it in his own practice in all cases, but did not know the practice of others in that regard. Such testimony did not prove negligence or want of care or skill. Under any conditions, whether or not failure to use the roentgen ray to determine the nature and extent of Currier's injuries was a want of care was a question to be decided by the jury, and a requested instruction should have been given to the jury that it could not consider any of the testimony in this case with reference to the failure of the defendants to take a roentgenogram of Currier's hip unless it found from the evidence that the plaintiff had proved by a preponderance of the evidence that it was usual and customary under like circumstances to take a roentgenogram, and that ordinarily skilful and careful physicians and surgeons under similar circumstances would have done so; proof of the failure of the defendants to take a roentgenogram of Currier's hip by itself was not evidence of negligence on their part. The instruction was applicable to the evidence, and embraced correct principles of law.

There can be no question that recovery could not be had without expert testimony supporting the charge of malpractice. But the consideration of evidence necessary to a determination of the issues would be taken from the jury by an instruction that the question as to whether or not the defendants in treating the injury used that degree of reasonable care and skill used by physicians and surgeons engaged in the same line of practice in similar localities was a question to be determined from the expert testimony of physicians and surgeons, and the jury must base its findings as to such questions on the testimony submitted by the physicians and surgeons as expert witnesses relative thereto. Of course, in the absence of expert testimony in behalf of the plaintiff in a malpractice case, the court is not justified in submitting the case to the jury. But, when competent expert evidence has been received, it is to be considered by the jury only as other evidence in the case. On request, an instruction should have been given that expert evidence is entitled to importance only when fairly given by one properly accredited through his experience and study in the particular science on an hypothesis which is true in the relation of its parts to the whole case, which is the subject of inquiry: that is to say, the value of an expert witness depends on the knowledge, learning and experience of the expert and on the facts on which it is based. Therefore, if the jury finds that the opinions expressed by any expert were given in answer to hypothetic questions which were incomplete in the presentation of the material facts as shown by the evidence, the jury is at liberty to give the testimony of such expert only such weight as the jury believes it may be entitled to in view of all the established facts in the case.

Another requested instruction which should have been given to the jury was that a physician or surgeon is not bound to use any particular method of treatment, and if among physicians and surgeons of ordinary skill and learning more than one method of treatment is recognized as proper, it is not negligence for the defendants to adopt either of such methods; and the fact that some other method of treatment existed, or some other physician or surgeon testified that he might or would have used or advised the other or different method, does not even tend to establish negligence of improper examination or treatment on the part of the defendants; nor would it be an act of negligence or impropriety for the defendants not to have adopted such method, so testified to by such other physician or surgeon.

The fact that other physicians might have adopted other methods does not necessarily render the attending physician liable, nor show negligence or want of skill or care. If the method adopted is one which has substantial medical support, it is sufficient. And, where there is a difference of opinion among practical and skilful surgeons as to the practice to be pursued in certain cases, a physician may exercise his best judgment, employing the methods his experience may have shown to be best, and mere error of judgment will not make him liable in damages, in the absence of a showing of want of care and skill. Nor is an incorrect diagnosis of itself sufficient to establish liability. The plaintiff must show that such mistake was due to a failure to use ordinary care and diligence and to exercise reasonable learning, skill and judgment in his examination and treatment.

City Not Liable for Negligence at Hospital

(Zummo v. Kansas City (Mo.), 225 S. W. R. 934)

The Supreme Court of Missouri, Division No. 1, in affirming a judgment in favor of the defendant city, says that the plaintiff's petition disclosed that her claim was founded on the assumed liability of the defendant in damages for her husband's death under circumstances which indicated by necessary inference that the defendant, in its municipal capacity, owned and operated a hospital in which it received the plaintiff's husband, who was sick, as a patient, and carelessly and negligently, by its agents and servants in charge of the hospital, caused him to be confined in a cell with an insane patient known by it to be violent so as to require restraint, who killed him. These facts raised the question whether the defendant was liable in damages on account of acts done or omitted by its agents and employees in the conduct of its hospital, which, in effect, is answered in the negative. Among other things, the defendant was created the governmental instrument of the state in the enforcement of all laws relating to the public health, with discretion to make by ordinance rules and regulations including the support, maintenance and confinement of insane persons. In these respects it was the arm of the state government, including the use of its legislative powers so far as consistent with the constitution and laws of the state.

This being the case, the same exemption that was enjoyed by the state itself from liability for damages inflicted by its officers and its agents in the performance of similar duties attached to the defendant city. For these purposes it was not merely an agency of the state, but was, under the constitution, an integral part of the state government, and partook of its immunities as well as its duties. No element of safety is more important than those pertaining to the public health. The health and police departments of the city are parts of the general government of the state as administered for those purposes. The duty resulting in the injury out of which this action grew related as plainly to the police power of the state as the duty of its officers in suppressing disorder and maintaining the peace.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.
American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Climatological and Clinical Association, Lenox, Mass., June 3-4.
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston, June 3-6.
American Psychopathological Association, Atlantic City, June 11.
American Radium Society, Boston, June 6-7.
American Surgical Association, Toronto, Canada, June 14-16.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
Conference of State and Provincial Health Authorities, Boston, June 3-4.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Maine Medical Association, Bangor, June 28-29.
Massachusetts Medical Society, Boston, May 31-June 1.
Montana, Medical Association of, Billings, July 13-14.
National Tuberculosis Association, New York, June 13-17.
Nevada State Medical Association, Elko, June 24-25.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
Southern Minnesota Medical Association, Winona, June 27-28.
Tri-State Meeting (Oregon, Washington and Idaho), Portland, Ore., June 30-July 2.

ASSOCIATION OF AMERICAN PHYSICIANS

Thirty-Sixth Annual Meeting, held, May 10-11, 1921, at Atlantic City

Dr. W. S. Thayer, Baltimore, Presiding

Case of Disseminated Subcutaneous Sporotrichosis with Lung Metastasis

Dr. L. M. Warfield, Milwaukee: A negro had followed the races as a stable boy; had had venereal disease; had a swelling on the top of the right foot, which broke down, and other lesions occurred, with nodules, all over the body. There was a 4 plus Wassermann reaction, and the leukocytes numbered 17,000. Treatment consisted of the intensive administration of potassium iodid. The patient became weaker and died. At the necropsy a nodule was found in the right hilum of the lung, which produced sporotricha, as did also all the nodules on the body. The organism grew best at 37.5 C.; it was pathogenic for white rats and rabbits. In lung conditions the organism is found in the sputum. The lesions closely simulate those of syphilis, and are misleading on account of the giant cells. Cases do not usually end fatally.

Secondary Mold Infections of the Lung.

Dr. Charles P. Emerson, Indianapolis: Penicillium infection is not supposed to be pathologic, but I have seen two cases occurring in a man of 53, and a woman of 34. The first patient had a tickling of the throat; the sputum contained "slugs," and he had acute spells of respiratory distress and dyspnea, but no loss of weight and strength, and no fever. His appearance suggested the last stages of fibroid tuberculosis, but the sputum continually produced mycelia. The roentgenologist diagnosed a mold infection of the lung. The culture always gave penicillium. On potassium iodid, the man did fairly well, was able to work, and had but slight respiratory distress. The second patient, a woman, aged 34, was sent to Colorado, although she protested she always felt well. Penicillium was always found in the sputum cultures. The question is whether penicillium can be a primary invader of the lung; if it is secondary, to what is it secondary? Great caution must be taken in not confusing these cases with tuberculosis, and sending the patients to sanatoriums, as mine were, where they are exposed to the danger of contracting that disease. In another instance, two cases of sporotrichosis were reported in one family, mother and daughter. The relation to the buckwheat crop in this case could not be disregarded.

DISCUSSION

Dr. L. G. Rowntree, Rochester, Minn.: Does sodium iodid have any effect in these cases? There is a tremendous difference in the toxicity of potassium iodid and sodium iodid. Many syphilographers are using tremendous intravenous injections of sodium iodid. Stokes, at the Mayo Clinic, uses 50 c.c. of sodium iodid intravenously. If there is any response to this drug in this condition, the large doses will be more effective.

Dr. George Blumer, New Haven, Conn.: Did you use tuberculin in those cases?

Dr. T. R. Boggs, Baltimore: I should like to draw attention to a very important reason for nondiscovery of mold infections of the lung. We have gotten away from studying the sputum in gross, and it is easy to overlook massive infections in sputum, when you only use the ordinary staining methods with anilin dyes. The mycelium is so distorted by the heat and fixation that it is not recognizable. The spores stain imperfectly. and are supposed to be large cocci. I think that we must study the sputum first in gross and then by microscopic methods, or we shall overlook these cases, which must be vastly more frequent than any one realizes. The study of black and white surface on glass, use of the loop, and study of such particles on acid carbohydrate mediums as will restrain growth of other organisms and permit development of the fungi are essential points. Recognition of fungus infections in the tissues is not easy by any section or fixation method. Special attention must be paid to the methods of demonstrating these infections.

Dr. Solomon Solis-Cohen, Philadelphia: In many laboratories, no matter what the sputum is sent in for, you get back the same answer: "No T. B." If the laboratory technicians were sometimes interested in what is present as well as what is absent, they might occasionally report: "Unknown organism."

Dr. W. S. Thayer, Baltimore: A woman presented a picture of bronchial and peribronchial obstruction and great dyspnea. We thought it was an aneurysm. She showed induration at the roots of both lungs, but nothing definite in the sputum and no syphilis, although there was a 4 plus Wassermann. She was sent to Asheville, and Dr. Minor said it was not tuberculosis but probably a mold infection. She returned to her physician and was given vigorous antisyphilitic treatment with arsphenamin. Later I found her specimens in the laboratory. The lungs showed extensive areas of firm, slaty color, and so much sclerosis that it seemed as if the bronchi were grasped in a vise. In the tissue we found the sporotrichum. It was cultivated, but not identified, that is, the group was not determined. Unfortunately, there was little sputum when she was in the hospital, and examination of the fresh specimen was neglected, which is just as important as examination of fresh blood, and neglect of this point accounts for failure to recognize these cases. In another case, the man showed an acute respiratory infection, with some remarkable subcutaneous nodules, like lipoma, and afterward seeming like subcutaneous gummas. We suspected sporotrichosis. It was not syphilis. He has been treated well with potassium iodid and is better, but we are not encouraged over the prognosis. There is no definite pulmonary disease.

Dr. Charles P. Emerson, Indianapolis: We did not use sodium iodid; we used potassium iodid. I studied the roentgenograms; the picture is quite different from that of the tuberculous lesion. We did not use tuberculin. We felt that the complement fixation test was better. We are finding aspergillus as well as penicillium. I could find only one other case in the literature.

DISCUSSION

Dr. G. M. Kober, Washington, D. C.: The so-called eliminative treatment, advocated by Hugh Bennett more than fifty years ago, consisted in the administration of tablespoonful doses of a mixture composed of liquor ammoniae acetatis, 7 ounces, and spiritus aetheris nitrosi, 1 ounce, repeated every two or three hours, until diaphoresis set in; then the inter-

vals were lengthened. In the light of modern pathology, these diaphoretic and diuretic agents evidently subserve a useful purpose in the elimination of toxins, and the blood being determined more or less to the periphery may also have a beneficial effect on the heart and lungs. This treatment appears to prevent the development, in all but bad, chronic heart cases, of the dangerous symptoms, such as demand the administration of oxygen.

Experiments in Epidemiology.

DRS. SIMON FLEXNER and H. L. AMOSS, New York: These studies consisted of artificial control of epizootic outbreaks. The organism used was *B. typhi-murium*. The mice were assembled to represent a village. One hundred normal mice, free from *B. typhi-murium*, were put in twenty cages. Ten mice were then fed a heavy suspension of the organism, and were put among the hundred normals. Roaches and flies were eliminated. Eight of the ten infected mice came down, and seven of the normal mice, by contact. After thirty days, another series of mice was brought in. The epidemic progressed in a series of waves, the crests of which became smaller. Among the first mice exposed the deaths were higher and more frequent than among the others. After two weeks there were no more deaths. The mortality now was 68 per cent.; originally it was 58 per cent. They were again restocked, and the mortality now was 14 per cent. It was supposed that greater mortality would occur among new arrivals, but it was about the same among old and new. The number of carriers was found to be in inverse proportion to the death rate—the higher the death rate, the fewer the carriers. The carriers had agglutinins in the blood, but these were not protective against a new epidemic wave. The strains of organisms had different virulence at different heights of the disease.

Symptomatic Treatment of Pneumonia

DR. JAMES H. MEANS, Boston, and DR. A. L. BARACH, Baltimore: There are two ways of combating the symptoms, reduce the demand or increase the supply of ventilation: (1) Alter metabolism and correct acidosis by giving alkali to insure normal hydrogen concentration of the blood. Sodium carbonate could be used, even if there were no free carbonic acid, because alkali tolerance is increased in pneumonia; (2) oxygen therapy can be used to improve blood flow, especially in anoxemia; (3) we can remove abdominal distention and improve the pulmonary bellows. The correction of acidosis and anoxemia would improve chances of recovery by leaving the patient free to combat the infection.

DR. C. F. HOOVER, Cleveland: With regard to the source of anoxemia and the relation between anoxemia and air hunger, the latter term describes the sensations of the patient. The patient may have extensive pneumonia with pronounced cyanosis but have no air hunger, although he may have hyperpnea. This does not come into the field of consciousness of the patient as air hunger. I had a man with complete consolidation of the entire right lung, without any nonsaturation of the lung, and no anoxemia of the aortic blood. This man had a tuberculous pneumonia and showed a pale, ischemic lung. A pneumococcus patient with cyanosis and anoxemia has a red hyperemic lung; therefore, it is due to the unrespired blood from the lung to the aortic stream. In the ischemic lung there is no unrespired blood contributed to the aortic stream. In the cardiac conditions, I have seen two patients with arteriovenous aneurysm, and the heart became enlarged. There is increased burden on the heart without increase in the capillaries. Patients with arteriovenous aneurysm have enlarged ventricles, but the auricles are not enlarged. One cannot demonstrate enlargement of the right auricle. When dealing with large heart in pneumonia, we must determine whether it is a compensatory measure or increase of the minute flow of blood. If it is a compensatory measure, there will be enlarged right auricle. If there is no auricular enlargement, one should not give digitalis. If there is auricular enlargement, one should give digitalis.

Case of Alkaptonuria, with a Study of Its Metabolism

DRS. C. P. HOWARD and R. H. GIBSON, Iowa City, Iowa: A man had symptoms of a brain lesion, probably tuberculoma. The urine showed a reducing body. The specimen showed dark brown pigment, recognized as alkapton. It is a hydroquinon-acetic acid. Twelve cases have been reported in America. They are familial, but not congenital. Often they come in children of consanguineous marriages, when the parents are cousins. There are few symptoms. Rarely ochronosus occurs. An inborn error of metabolism is the cause of the disease. Protein diet increases it. The change probably occurs in the body tissues. There is disturbance in the conversion of phenylin or tyrosin to homogentisic acid, and acetone is produced. In our patient there was rather high nitrogen retention. The sulphur production was normal.

DR. SOLOMON SOLIS-COHEN, Philadelphia: I believe in maintaining the alkalinity of the urine, which is a clinical test capable of being carried out by the nurse or by intelligent members of the family. As a rule of thumb, it answers the purpose and with a continuous administration of alkali one can use any alkaline diuretic. The indication for the empiric use of oxygen has gone through many successive waves of acceptance and rejection. Oxygen must be administered in a proper way so that the patient really gets it. Oxygen is a life-saving measure. If we use it as a routine measure, we shall waste a lot of oxygen, but we will save life. Another question is that of abdominal distention. The physician does not pay sufficient attention to the condition of the abdomen. In the old days, we percussed the right chest in typhoid; in pneumonia we must percuss the left side to determine distention of the stomach, which is much more frequent, and fatally so, than distention of the intestine. Lavage, and administration of pituitary extract, guided by the systolic blood pressure, tend to prevent gastric and abdominal distention.

DISCUSSION

DR. T. B. FUTCHER, Baltimore: I have reported alkaptonuria with ochronosus in a case in which the cartilages of the ears, the finger nails, and the cheeks had this peculiar slate color. There were three cases in that family.

Bearing of Evolution of Pneumonic Exudate on Local Chemical Factors Influencing Recovery and Resolution in Lobar Pneumonia

DR. FREDERICK T. LORD, Boston: The pneumonic process goes through a certain evolution. There is increased serum at first, and later increased hydrogen ion concentration of the pneumonic lung. The organism may be killed by the hydrogen ion concentration, but, as in the test tube, addition of serum may prolong the life of the organism. Diminution of serum and increased acid may achieve the death of the organism. The hydrogen ion concentration is important to enzyme action in general. There is a serum and enzyme balance, which probably protects the framework of the lung. When diminution of serum occurs, there is setting free of the enzyme, which spits up through the amino-acid nitrogen. The lung is spared by the antiferment in the capillary circulation. Delayed resolution is caused by too little enzyme or too much serum.

Plaguelike Infections

DRS. RICHARD P. STRONG and W. T. COUNCILMAN, Boston: Plaguelike organisms resembling *B. pestis* are found in rats, including (1) the group of hemolytic septicemic organisms affecting chickens, rabbits and swine; (2) pseudotuberculosis and (3) typhoid organisms, such as *B. typhi-murium* and the hog cholera bacillus. One organism that is pathologic for animals is *B. toulerence*, a very minute, round or rod shaped organism, which causes necrosis and proliferation of the vascular endothelium, causing congestion of the large lymphatics. Necropsy reveals rigor mortis and a granular surface of the liver like pepper grains. This is so characteristic that with the naked eye one can distinguish the lesions of *B. toulerence* from those of *B. pestis*.

DISCUSSION

DR. W. W. FORD, Baltimore: A colored man complained of very severe fever. The temperature was 104 F. There was no evidence of venereal infection, but he gave an obscure history of syphilis ten or twelve years previously. There was very marked enlargement of the inguinal and axillary glands. The picture was suggestive of bubonic plague. The

material aspirated from the glands gave cultural reactions which seemed to be those of *B. pestis*. McCoy decided it was not plague on the basis of the lack of virulence for animals—we thought it was a nonvirulent plague organism. The man recovered spontaneously. He did not have plague. In Brazil a plaguelike organism causes slight inflammation.

Dr. Hideyo Noguchi, New York: Was this a direct contact infection? This organism is 0.2 micron in size. Will it assume a form which will pass through an ordinary filter?

Dr. R. P. Strong, Boston: We do not know anything about the mode of infection in this case. Dr. McCoy found that the organism would not pass through the Berkefeld filter.

Dr. William H. Park, New York: In New York City we have not had a case of plague in thirty years. We keep on examining rats, and this means a good deal of labor. We have examined several thousand rats and have never found a plague bacillus. Rats are found with plague before human beings contract it.

Dr. Richard P. Strong, Boston: When in doubt we should always send the stuff to Washington. A few examinations carefully made are worth more than a great many. The examinations on decomposed bodies are of no value.

Pathology and Etiology of Typhus Fever

Dr. S. B. Wolbach, Boston: Lice feeding on typhus patients were studied. It was possible to infect only a small number of lice from the patient. Inseparable from the infection was the finding of minute filamentous bodies in the gastro-intestinal tract of lice. These stained by Giemsa were nonmotile and could not be cultivated. The general evidence of infection consists in finding bodies consistent with Rickettsia in experimental lesions. While these have not been reproduced in culture, one cannot rely blindly on the laws of Koch, and valuable evidence can be obtained without cultures, in carefully controlled work with animals or intermediate hosts, known to contain the virus. The lesions caused by typhus virus are vascular, with proliferation of the endothelium of the vessels. This explains the lesions in the central nervous system. There is reaction of the neuroglia, and small nodules are formed throughout the central nervous system. The manifestations depend on the distribution of these nodules. Coma, delirium and death occur with extensive involvement, according to whether the lesion is located in the midbrain, medulla or cortex. Rickettsia organisms have been found in trench fever, as well as in typhus, but they are larger, extracellular and stain more deeply with Giemsa.

DISCUSSION

Dr. A. D. Hirschfelder, Minneapolis: Has Dr. Wolbach encountered fever or other manifestations as the result of individuals feeding apparently normal lice from an apparently normal source? When we were working on the development of substances to kill lice we had an experience which we did not find duplicated in the literature. Moore was feeding about 2,000 lice per day and came down with what seemed to be German measles when there was an epidemic of that disease. A few months later he had a second attack with a second rash. He had glandular enlargement with some fever. We then studied the effect of feeding lice on volunteer workers, and took careful records of the temperature. The lice were grown from eggs taken from the Minnesota lumber camps. Three out of four individuals developed fever and glandular enlargement, and we found an eruption similar to German measles. The fever came on within an hour after feeding. One individual who took exercise had a temperature of 103 F. Four individuals had slight fever without glandular enlargement. Three had fed lice during the previous summer and we thought that there was some phenomenon of hypersensitiveness to account for the three having a greater reaction than the four who had never fed lice before. We have been able to find fever as the result of feeding apparently perfectly healthy lice. The permanence of the reaction and substances indicated that it was not trench fever.

Dr. Emanuel Libman, New York: Is there any relation between this organism and the bacillus of Plotz found in 53 per cent. of the endemic cases in New York and in 100 per cent. in Russia? It occurs early in the disease. You never find it in the blood in infected animals, but it occurs in the blood of human beings thirty-six hours after the crisis. The blood is then no longer infectious for animals. The organism is constantly found in typhus, but not after the blood has ceased to be virulent. In typhus fever there is a reaction against proteus X 19 that reaches a height at the crisis and then disappears. All the immune reactions are not present before the crisis; they are increased after the crisis, and are highest at the end of the second week. In guinea-pigs there is no complement fixation and no agglutination, but after the crisis in guinea-pigs and in human beings you can get the Dale reaction. Owing to accidents, the cross immunity tests could not be made. The Plotz bacillus is gram-negative, but becomes gram-positive later. Evidence so far shows that it is probable that Rickettsia are bacteria. Transfer the Plotz bacillus in the gram-negative state to fluid medium and you get an organism indistinguishable from Rickettsia. When you go back to the solid medium it is gram-positive. Those who grow Rickettsia from lice must prove that it is not the typhus bacillus.

Dr. R. P. Strong, Boston: From Dr. Wolbach's investigation we must regard Rickettsia as a group of micro-organisms, of which two species are pathogenic for man, one giving rise to typhus, the other to trench fever. There is a third species, apparently saprophytic for man, and there may be others occurring in the intestine of normal lice. There may also be parasitic ones.

Dr. Hideyo Noguchi, New York: There is an intracellular invasion by the organism, indicating morphologic changes. Trachoma bodies also have cell inclusions; when they enter the cells they seem to break off into minute granules. They take Giemsa stain. This may be a special group of organisms, not bacteria, but there are similar morphologic changes, in other organisms.

Dr. Homer F. Swift, New York: A similar experiment was performed with Rickettsia, by the British. The lice were placed on a patient with trench fever. Part of them were kept at a temperature of 30 C. Another group were kept at from 15 to 17 C. Those kept at 30 C. developed Rickettsia and the others did not. Both sets were infectious by the subcutaneous test; therefore Rickettsia may be a degeneration form of cells.

Dr. S. B. Wolbach, Boston: None of us had any ill effects from normal lice, from as many as 2,000. After completing controls to our own lice, we took lice from Polish people, collected from the public bath house. Mr. Baker collected these. He became ill. Before his illness we found Rickettsia in the lice. They were of the extracellular type. He had a typical case of trench fever. It was a matter of thirteen or fourteen days when the Rickettsia bodies began to appear. Mr. Baker, after his recovery, continued to infect clean lice with these bodies. We made one series of attempts to cultivate the Plotz bacillus in ascitic fluid. We got cultures in 50 per cent. Some were contaminations. The late stages of the disease showed a high percentage of streptococci. Our attempts were not adequate controls of Plotz' work. Dr. Libman land more stress on tinctorial reactions than we did. The Giemsa stain is a tricky stain. You can make it blue of pink according to the fixative used. There are some inconsistencies, but the Plotz bacillus and Rickettsia may prove to be the same organism. There is a sequence in the development of Rickettsia in lice that makes us regard it as distinct from ordinary bacteria. We found great difference in Rickettsia according to the degree of temperature. We have frequently reported sections as negative and later found a single cell infected with Rickettsia. Often there is a large form coiled in the cell. In the second stage, the bacillary form, the cell is enormously distended with minute forms. That is characteristic of the group. Bacot reported a similar organism in bedbugs in England. The filamentous forms in smear preparations stain bluish with Giemsa. They break up into granules. We did not go as far as that, except that we found the corresponding morphologic type. I think we might use the direct method of settling the question, by making a few experiments injecting the eggs. One worker found infected eggs in the Mexican typhus.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifteenth Annual Meeting, held in Brooklyn, May 3-5, 1921

The President, DR. J. RICHARD KEVIN, Brooklyn, in the Chair

The Future of Medicine in America

DR. LEWELLYS F. BARKER, Baltimore: Progress in medical sciences is to a large extent dependent on advances in the underlying sciences of physics, chemistry, biology, psychology and sociology, and on the training of prospective medical students in these fundamental sciences. Special institutes for intensive work in psychology, sociology and psychobiology are urgently needed. If advances in the preclinical subjects are to continue, it will be necessary to make careers in these preclinical sciences more attractive to young men. While the development of specialties in medicine has brought with it special difficulties and disadvantages, on the whole the advances made in the clinical sciences by means of specialization have been astounding. That there will be a cessation of this tendency to specialization seems unlikely; on the contrary, the differentiation of workers will in the future, in my opinion, be even greater, for men have found that mastery comes through limitation of field, and concentration of interest and effort. Coincident, however, with this increasing division of labor, provision must be made for the synthesis of results of the special workers into harmonious wholes. For this integrative function men of wide training and sympathies, with comprehensive grasp, possessing the so-called encyclopedic type of mind will be needed more than ever before to sift the essentials from the nonessentials, to arrange, classify and reduce to manageable volume, the total results of all the special workers.

The value of the group method of diagnosis is now recognized. The problem of rural medical service remains to be solved, and the medical profession should set to work to solve it at once. It may be wise to have county hospitals and a motor service to care for the county. It seems likely that state medicine in one form or another is coming. Would it not be well for the medical profession to see to it that its beginnings should be such as are best suited for the welfare both of the public and of the medical profession? It is becoming ever clearer that in the future medicine will be largely preventive in function. It is safe to predict that there will be a great expansion of the United States Public Health Service and city departments of health throughout the country. Health centers with Red Cross support will soon be springing up everywhere.

JOINT MEETING OF SECTION ON MEDICINE WITH SECTION ON PUBLIC HEALTH, HYGIENE AND SANITATION

The Relation of the State Department of Health to the Medical Profession

DR. MATTHIAS NICOLL, Albany: The assumption that preventive medicine is the chief, if not the only, function of a health department is untenable. A health department should be interested in all matters involving the health, happiness and life of the people. Physicians are abandoning the rural districts. About eighty-three communities have appealed to the state department of health to send them a physician. As a remedy for this situation the health department, for the last two years, has introduced measures into the legislature designed as a possible solution of the problem. As a further remedy small medical schools should be fostered, encouraged and their financial needs provided for, since the men attending these schools are more likely to remain in small cities, towns and rural communities than the men from the universities. In the natural course of events it is quite doubtful if the average physician will be able to secure an adequate financial return in the cities, and inevitably he will be forced to seek smaller cities in the rural communities.

Group Consulation Clinic Experiment

DR. EDMUND C. BODDY, Rochester: In trying out the group consultation clinic it is doubtful whether the commissioner was actuated by the tendency of the practice of medicine to develop along the lines of socialization and group practice rather than to utilize those facilities that have already developed, namely, the state department of health, state department of education, state hospital commission, state commission for mental defectives, state charities aid association and American Red Cross. Six clinics were held in series of twos, differing from one another in the method of reaching the people and receiving patients. In the first two, popular publicity was used in advertising the clinic; admission was granted to all; the name of the family physician was secured, and the report of the examining physician forwarded to him. The second series was conducted with popular publicity, but a card of admission was required, signed by the attending physician, and all reports of examinations were forwarded to him. In the third series of clinics, publicity was omitted, except that directly among the physicians, who were invited to send to the clinic any patient on whose case they desired consultation. Many physicians who attended the clinics expressed themselves as well pleased with the idea and the service rendered; on the other hand, criticism was heard as to the benefits obtained. Some of these criticisms were based on a misconception of the experiment. Many who had much to say in favor of child welfare clinics, tuberculosis clinics, venereal clinics, etc., criticized the consultation clinics, which were simply a grouping under one administrative head of these various clinics. It is not maintained that the group consultation clinic in itself would answer all the needs of a community for adequate medical service, but rather that it would point the way by demonstrating to physicians and the general public how they might develop the idea, utilizing those agencies which exist in the community.

Studies on Experimental Measles

DR. FRANCIS G. BLAKE, New York: There has been induced in monkeys, by the injection of nasal washings, a group of symptoms which showed the characteristic phenomena of measles. This reaction has been successfully transmitted by nasopharyngeal washings, tissue emulsion and blood through a considerable series of animals, and the lesion has been shown to be histologically similar to measles in man. The development of immunity following infection was also investigated. It seems that one attack confers immunity against subsequent infection.

Intestinal Tuberculosis

DR. LAWRASON BROWN and MR. H. L. SAMPSON, Trudeau: Of 19,612 persons dying of tuberculosis in the state of New York, 3.5 per cent. were certified as having abdominal complications. Of eighty-nine consecutive cases studied at Trudeau, intestinal tuberculosis was found in 6 per cent. The symptoms of intestinal tuberculosis are diarrhea, or diarrhea alternating with constipation, pain, tender points in the abdomen, at times rigidity, irregular temperature with subnormal fluctuations, and marked nervousness. Digestive disturbances and failure of the pulmonary condition to improve are further evidences of intestinal tuberculosis. The finding of the tubercle bacilli in the feces is of little value. The bismuth meal and the roentgen-ray examination are valuable aids in the diagnosis of intestinal tuberculosis. Failure of the cecum to fill, with segmentation of some of the coils of the small intestine, and hypermotility are indications of intestinal tuberculosis. Colitis occurring in a tuberculous patient is nearly always a tuberculous colitis.

DISCUSSION

DR. J. W. DRAPER, New York: A study of 150 specimens of cecum removed at operation showed only 3 per cent. of tuberculosis.

DR. MARY D. ROSE, New York: The proper use of tuberculin may save some of these cases of intestinal tuberculosis which otherwise would be lost.

DR. LAWRASON BROWN, Trudeau: I have never seen a case of primary tuberculosis of the stomach. The source of infection in tuberculous peritonitis, I think, is from the sputum through the intestinal walls. It seems that the parts of the intestinal tract subjected to the greatest strain are affected first. We have found about 85 per cent. of intestinal tuberculosis at or around the ileocecal valve. In our series we had no primary intestinal lesion at all.

Nature of Hypertension

Dr. Henry A. Christian, Boston: The chief factors in increasing blood pressure are: (1) Anything that decreases the peripheral stream or contracts the vessels raises the blood pressure; (2) any increased output of blood, other factors being equal, raises the blood pressure; (3) anything that increases the total volume of blood, other things equal, increases the blood pressure; (4) anything that increases the viscosity of the blood raises the blood pressure. Most observers regard the first and third as the chief factors in producing hypertension. Observations are in agreement with the idea that vasomotor spasm, kept up continually, may produce eventually organic lesion. If one accepts this theory, many cases of hypertension can be explained. On this theory one can explain why the blood pressure remains practically always above normal and why it rises or falls abruptly. All are agreed that the kidney can bring about this change through failure to eliminate toxic substances which remain in the blood; it is also quite generally agreed that other factors beside renal lesions may have this effect. I would, however, warn the endocrinologist against explaining high blood pressure on the ground of endocrine disturbance, since on this point nothing has been definitely proved. Infection probably plays a considerable part in producing these vascular changes. Possibly sodium chlorid does also, but because of its irritating effect on the vessel walls rather than because it draws fluid into the blood stream. Nervous strain must be accepted as another important factor. Hypertension has other causes than renal insufficiency. Its presence does not make the diagnosis of chronic or acute nephritis; its causes are probably not one but many. The mechanism is probably not the same in each case, but with certain variations lies in changes in the peripheral blood stream. It may be said that hypertension is due to disturbances in the peripheral cardiovascular system in much the same way as we say that fever is an indication of infection, and by the same token hypertension is just as little a disease as fever. If one assumes that the causes of hypertension are multiple, there will be no single way of treating every case; but there are a variety of therapeutic measures which, if applied to individual cases on a correct basis, will give satisfactory therapeutic results.

Symptoms of Hypertension

Dr. Alfred Stengel, Philadelphia: A certain number of cases of hypertension fail to show renal inadequacy. The first symptom is fatiguability. This is perhaps a nervous symptom; it does not seem to be cardiac fatigue or reflex cardiac fatigue. Other nervous symptoms not so important are neuralgic pain in the upper spine and occiput, and severe headaches. There is a class of patients with hypertension who may exhibit temporary aphasia, unconsciousness, and apoplectiform seizures followed by temporary paralytic symptoms. It is difficult to say that in certain types of cases with apoplectiform seizures these are due to hypertension and not to an actual lesion in the brain. But these slight attacks of unconsciousness, followed by a little aphasia and temporary loss of power, and disappearing completely have only one explanation: that some vasomotor disturbance occurs as a result of the hypertension. Patients often have hypertension for a long time without symptoms; and when they begin to have symptoms they rarely begin with cardiovascular symptoms first, but with symptoms referable to the nervous system. When cardiovascular symptoms manifest themselves they are sometimes in the form of throbbing in the small vessels, but more frequently are referable to the heart and large vessels. Many cases of hypertension may be recognized with the finger on the pulse, and accentuation of the second aortic sound; however, accentuation of the second sound is not always marked. It is only by taking the blood pressure that definite evidence of hypertension is established. A large number of cases of supposed cerebral disease are probably not due to that condition but to disturbances of the circulation.

Treatment of Hypertension

Dr. W. D. Alsever, Syracuse: There can be no established treatment of hypertension, since it is neither a disease nor a sign of a single malady. The quantity of food taken is more important than the kind. With mild hypertension, 25 or 30 calories per kilogram of body weight is often sufficient. The amount of protein should be limited to that necessary for good nutrition. Unless the kidneys are defective, enough water should be taken to keep the quantity of urine above 1,500 c.c. and the specific gravity below 1,020. In permanent hypertensions, the measures applicable to mild hypertension apply with added force, and further measures are indicated, such as lowered protein and caloric values, limitation of the quantity of salt to 2 gm. a day, and the giving of no more water by mouth than is excreted in the urine and stools. Mental overwork is more to be dreaded than physical fatigue. Tincture of aconite is the best drug for maintaining the blood pressure at a lower level. The d'Arsonval current will diminish hypertension, and is useful in emergencies, but should not be used as a substitute for regulation of the patient's life.

Points of Contact Between Some Surgical Conditions and Cardiac Disorders

Dr. Samuel Levine, Boston: It is important to bear in mind the possibility of coronary thrombosis with cardiac infarction in patients presenting the picture of acute upper abdominal disturbance when it occurs in patients over 40 years of age. Most cardiac patients stand operation very well. A much more important decision to make is not whether the patient suffering from cardiac disease can stand operation, but whether the operation is indicated.

Diagnosis of Myocardial Disease

Dr. Harold E. B. Pardee, New York: Physical signs and symptoms cannot be depended on to make the diagnosis, nor can tests of the ability of the heart to perform work. Variations in electrocardiographic records are coming to tell more and more about the contraction of the muscle fibers of the auricles and ventricles. The different abnormalities of the record are not so much the result of different degrees of myocardial involvement as they are of different location of the process. This method of examining the heart should serve to correct our clinical diagnosis of myocarditis and to reduce the 52 per cent. or more of error due to diagnosing myocarditis when it is not.

Tuberculosis of the Pericardium

Dr. William W. C. Maclachlan, Pittsburgh: In a review of 1,000 case records from Dr. Oskar Klotz's department at the University of Pittsburgh, with reference to pericarditis in general, our findings are in close agreement with those of other observers. There were, among these 1,000 cases, ten cases of pericarditis which were frankly tuberculous: Of the debatable tuberculosis cases, there were forty instances of chronic fibrinous adhesions in the pericardial sac; of these, twenty-three were totally and seventeen partially adherent. Among these cases, three were undoubtedly tuberculous and five probably so. There was definite evidence to indicate that spontaneous healing of the tuberculous process in the pericardium undoubtedly occurred, probably more often than had been imagined. This material indicated that the development of lesions in the pericardium had little or no relation to the extent of the tuberculosis in other parts of the body. It was surprising to find but three cases of tuberculous pericarditis among twenty-three of general miliary tuberculosis.

Transient Myelosis in the Course of Acute Infectious Disease

Dr. Simon R. Blatteis, Brooklyn: A man, aged 45, gave a history of having just passed through an attack of influenza and possibly of endemic typhus. While under observation, his leukocyte count reached 100,000; myelocytes, 48 per cent, and eosinophils, from 10 to 14 per cent. There was an enlarged liver and spleen, and there were other findings suggesting myelogenous leukemia. The blood count returned to approximately normal and the symptoms cleared up. A study of this case leads to the conclusion that many so-called cases of leukemia are after all only cases of infection presenting an unusual leukocytosis. It is possible, however, that an early myelogenous leukemia may be set in motion by an acute intercurrent infection.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

April, 1921, **1**, No. 7

Borderline Carcinoma of Cervix and Its Treatment. E. A. Weiss, Pittsburgh.—p. 661.
Some Factors that Determine Tissue Resistance to Cancer. J. E. Davis, Detroit.—p. 668.
*Preparation of Skin for Operation; Use of Picric Acid. H. W. Hewitt, Detroit.—p. 672.
Cases of Postoperative Convalescence Complicated by Faulty Functioning of Ductless glands. C. L. Bonifield, Cincinnati.—p. 677.
Treatment of Abortion Complicated by Sepsis. G. A. Peck, New Rochelle, N. Y.—p. 679.
*Analysis of Two Hundred Gynecologic Cases Treated with Radium at Woman's Hospital in New York State. E. W. Titus, Washington, D. C.—p. 685.
Case of Adenoma Hidradenoides Tubulare Destruens. E. Schwartz, New York City.—p. 695.
*Detachment of Adherent Placenta and Delivery in Abortion. C. E. Ruth, Des Moines, Iowa.—p. 700.
Female Pelvic Ureter. D. W. Tovey, New York.—p. 706.
Pathologic Leukorrhea and Its Treatment. F. Reder, St. Louis.—p. 710.
*Gynecologic Backache. E. A. Bullard, New York City.—p. 717.
*Appliance for Aseptic Vaginal Manipulations. O. E. Kuhn, Berkeley, Calif.—p. 721.
*Dermatitis Gangrenosa (Bullous) in a Newborn Infant. M. A. Tate, Cincinnati.—p. 724.
Five Cases of Tumors of Pelvic Organs. G. Van A. Brown, Detroit.—p. 726.
Congenital Absence of Vagina and Uterus. D. Hadden, Oakland, Calif.—p. 732.
Large Mesocolic Hernia Simulating Cholecystitis. I. Olmsted, Hamilton, Ont.—p. 733.

Picric Acid as Skin Antiseptic.—The staff of Grace Hospital, Detroit, has used a 6 per cent. picric acid solution in ethyl alcohol in 926 cases, and it is now the adopted method of skin preparation in that hospital. They had eight infections in 269 cases, or slightly less than 3 per cent. The merits of this method of preparation are that it is simple, cheap and efficient. It does not injure the skin in any way, and may be used on any part of the body; it does not injure the peritoneal coat of the intestine; it contains no proprietary preparation, and its antiseptic strength may be standardized.

Use of Radium in Gynecology.—In carcinoma of the cervix Titus says radium has proved itself to be the most dependable palliative in advanced cases; a reliable adjunct to surgery in the operable cases; capable of relieving pain and hemorrhage and prolonging life. In properly selected cases of myoma uteri it is a strong rival of surgery. In large tumors requiring operation, it will control hemorrhage and allow delay until there is an improvement in health. In intractable menorrhagia of young women it has solved a difficult problem. Mortality and morbidity in gynecologic practice has been reduced materially by the use of radium. Its power to prolong life and restore a certain number of individuals to a useful life, makes it an economic factor to the state. Titus suggests that radium may eventually remove carcinoma of the cervix from the domain of surgery.

Detacher for Adherent Placenta.—Ruth describes an instrument—a "detacher" which he has devised for the detachment of adherent placentae in cases of abortion.

Gynecologic Backache.—In a series of 721 cases of backache studied by Bullard, 85 per cent. of the patients were cured by an appropriate operation. About 15 per cent. of this series having one or more common gynecologic causes of backache present were not relieved of the backache by anatomically satisfactory operations. These cases suggest that perhaps 15 or 20 per cent. of all women with retroversion, prolapse, pelvic inflammations, obstetric lacerations, or pelvic tumors, do not have backache.

Instrument for Aseptic Vaginal Manipulation.—The object of the instrument devised by Kuhn is to provide a practical aseptic passageway through the vagina to the uterus during manual examinations by eliminating from the field, the vulva and vagina. The instrument consists of two parts; a glass tube and a thin rubber tube attached to a rubber shield.

Gangrenous Dermatitis in New-Born.—The case cited by Tate is of interest because of the extent of involvement and the rapidity of gangrenous spreading. Numerous bullae were present on the face and the body; the entire occiput was soft and flabby to touch; mouth and tongue were covered with mucous patches; there were gangrenous patches on both feet; the large toe on the left foot and the second on the right were undeveloped. The gangrene of the feet spread until it reached half way up the legs, involving the whole of both feet, and on close examination it gave a sharp line appearance as if a cord had been tied around them. On the left hand the first and fourth fingers were gangrenous, and the third finger partially so. The thumb and first finger of the right hand were partly gangrenous. The child died on the seventh day. It is believed that the condition was probably secondary to a syphilitic base.

American Review of Tuberculosis, Baltimore

April, 1921, **5**, No. 2

*Sunlight and Artificial Light Therapy in Tuberculosis. E. Mayer, Saranac Lake, N. Y.—p. 75.
*Heliotherapy in Surgical Tuberculosis. C. L. Hyde and H. Lo Grasso, Perrysburg, New York.—p. 159.
Costs of Tuberculosis. L. I. Dublin and J. Whitney, New York.—p. 178.

Sunlight and Artificial Light Therapy in Tuberculosis.—This subject is reviewed by Mayer from every angle in order to reach a tangible conclusion as to the value of light therapy. From clinical experience with surgical tuberculosis, evidence points to the greater value of the ultraviolet rays, although it appears that the heat rays may also aid. Insufficient comparative and statistical studies on patients, especially on those with pulmonary disease, Mayer says, leaves much to be desired. In surgical tuberculosis in children excellent results have been obtained from sunlight in the treatment of bone, joint, skin and peritoneal disease. However, it seems better, especially in the lowlands, to remove débris (pus, sequestrums, etc.) first and then apply radiations. In disease of the genitourinary tract, eyes and larynx, only occasionally favorable results have been had. General exposures have given only slight and doubtful improvement in laryngeal tuberculosis. Sunlight in intestinal tuberculosis has only rarely given good palliative results, with cessation of abdominal pain and diarrhea. In tuberculous adenitis, probably better and quicker results are obtained in the infiltrative stage with the roentgen ray. In suppurating glands it seems better to excise radically, and follow up with solar exposures, although at high altitudes good results are obtained by aspiration followed by sunlight. Hilum tuberculosis in children seems especially suitable for light treatment. Rollier's results in surgical tuberculosis cannot be denied, but Mayer points out that the patients remain under his care for prolonged periods of time and orthopedic principles are carried out in great part. The part of air baths in these cases should also be given due credit. From a consideration of the results obtained with artificial light exposures, it appears that in surgical cases this means of radiation does not promise as much as sunlight, except in the handling of superficial tuberculosis, enteritis and possibly laryngitis. However, it may act as a fair substitute for sunlight in glandular, osseous, and peritoneal tuberculosis. Longer periods of radiation are necessary. In intestinal tuberculosis, exposures to the mercury arc have given palliative results, with cessation of abdominal pain, diarrhea, fever and bacilli in the stools. This appears to be a real indication for a trial of the lamp. The use of reflected ultraviolet rays in laryngeal tuberculosis is still in the experimental stage. In pulmonary cases, artificial light may act as a stimulator of metabolism and a psychic aid; or it may act by depleting, and then in turn causing an overfilling of the pulmonary circulation, this being the result of the cutaneous irritation which brings about a dilatation of the superficial vessels. In pulmonary disease the quartz mercury arc is less dangerous than sunlight and may help individual cases, but at present there are no satisfactory criteria for the selection of these cases. Any pulmonary case may be given a trial if only for the psychic effect. The results in some of these cases can prove favorable in the relief of symptoms. In general brunettes fare better than blondes. The quartz light seems therefore only an occasional aid for these cases and its advantages

should not be exaggerated. Sunlight in pulmonary cases, if employed at all, must be used very cautiously, with a careful selection of the patients, preferably the stationary types, well nourished, who have little or no fever. Brilliant results cannot be promised. The air bath probably plays a more important part in improving the vigor than has been realized. It must yet be proved whether other factors are not to be given greater credit. The action of light on ferments and so-called "antibodies" and other constituents of the blood, as well as its means of influencing the deeper organs, is mostly a matter of speculation up to the present. Mayer warns against becoming too enthusiastic because of isolated successes. Most of the favorable clinical reports of light radiation still rest upon empirical evidence. Scientific work has not yet offered any very helpful therapeutic results. However, it does not seem that light should prove an important means of treatment. An excellent bibliography is appended to this paper.

Heliotherapy in Tuberculosis.—After six and a half years' experience with this method of treatment, Hyde and Grasso have become convinced that much better results can be attained in these cases if the disease is not looked on by orthopedists and surgeons as a purely surgical one. This type of disease is nothing more than general constitutional with local manifestations and must be treated as such until surgical interference becomes imperative. The work done at the J. N. Adam Memorial Hospital is described. The favorable progress of the cure is in direct proportion to the intensity of the pigmentation of the skin. The degree of pigmentation is used as an index to prognosis. The most striking local result in the treatment of joint tuberculosis by heliotherapy, and the one of greatest importance and advantage in early cases, is the preservation of motion in the affected joint. The sun acts as an agent of repair on bone tissue. The effect on sinuses and ulcers is one of marked reaction. The effect on lymph nodes is a gradual reduction of their size, and in broken down nodes their contents are often absorbed. The effect on effusions in joints, peritoneum and pleural cavity is one of absorption. This is most noticeable in peritonitis.

Archives of Surgery, Chicago

May, 1921, **2**, No. 3

Reactions to Parenteral Introduction of Horse Serum in Man. F. B. Gurd, Montreal.—p. 409.
*Relation of Multiple Vascular Tumors of Bone to Myeloma. H. G. Wells, Chicago.—p. 435.
*Three Cases of Subperitoneal, Pedunculated Adenomyoma. T. S. Cullen, Baltimore.—p. 443.
Normally Developing Elbow. I. Cohn, New Orleans.—p. 455.
*Histogenesis of Malignant Tumors of Testicle. O. T. Schultz and D. N. Eisendrath, Chicago.—p. 493.
*Accessory Pancreatic Tissue. Report of Two Cases. E. J. Horgan, Rochester, Minn.—p. 521.
Deaths Occurring in Gynecologic Service of Johns Hopkins Hospital during 1919. H. N. Shaw, Baltimore.—p. 535.
Diverticulum of First Portion of Duodenum. E. K. Cullen, Detroit.—p. 542.
*Effect on Kidney of Various Surgical Proccdures on Blood Supply, Capsule, and on Ureters. S. W. Harrington, Rochester, Minn.—p. 547.
*Tuberculosis of Bone. Results of Study. N. Allison, St. Louis.—p. 593.

Relation of Multiple Vascular Tumors of Bone to Myeloma.—In the case cited by Wells were found illustrations of two different pathologic processes in the involved bones. Although unquestionably the condition was one of multiple myelomatosis of the bones, yet some features seemed to correspond perfectly to what has frequently been described as either angiosarcoma or multiple endothelioma of bone. Therefore, a growth that begins as a myeloma may take on the characteristics of a neoplasm of vascular origin, with no remnants of the original tumor to be found in the entire bone tumor. As an explanation of the production of these highly vascular growths of embryonic type of blood vessels replacing tumors in the bones, these points are advanced by Wells: Because of the unyielding character of the osseous shell of the bone-marrow tumors, the growth of the tumor cells is more likely to shut off the blood supply and to produce necrosis than is the case in tumors located in other tissues. Following the necrosis, hemorrhage replaces the absorbed material, and organization of the resulting clot takes place. Because of the firm outer shell of intact bone, the organization does not follow the course usual in organization in other tissues, for the contraction and obliteration of the capillaries cannot take place. Instead, the new connective tissue becomes more or less edematous or of a myxomatous type, since it cannot contract to form scar tissue, and the new formed vessels persist in their large embryonal form, or even dilate with absorption of the clot, and later secondary proliferative changes of the intima of these blood channels may still further enhance the resemblance to an endothelial neoplasm. The observations lend support to the opinion expressed by others, notably Ewing, that many of the tumors described as multiple vascular endotheliomas of bone, and sometimes also as bone aneurysm, are really myelomas. This view is in harmony with the fact that myelomas are the chief form of multiple bone tumors, and that the frequency, if not the existence, of true endothelioma, is becoming less and less supported. It is, of course, probably that other bone tumors than myelomas may undergo the same sort of hemorrhagic necrosis and replacement by vascular new tissue.

Subperitoneal Adenomyoma.—Cullen is convinced that a diagnosis of subperitoneal, pedunculated adenomyoma of the uterus is impossible unless, perchance, a submucous adenomyoma has been previously expelled, and even then a subperitoneal nodule might be only a simple myoma. In one of Cullen's cases there was extension of the uterine mucosa into the muscle and in the other two cases there was a diffuse adenomyoma of the uterine wall. Cullen urges that adenomyomas should be removed as soon as discovered.

Histogenesis of Testis Tumors.—One case of tumor of the testis is reported by Schultz and Eisendrath and fourteen other specimens were examined. The fifteen tumors, all malignant, subdivide themselves thus: Five with definite heterologous structures, the atypical tissue being hypoblastic in character; three without heterologous elements, but with atypical tissue of the hypoblastic type; one without heterologous elements, but with atypical tissue probably of epiblastic origin; six spermatocytomas, all without heterologous tissue. Believing that tumors of hypoblastic or epiblastic type are derived from teratoma, the authors divide them into two groups, which will cover all the malignant tumors of the testis of clinical importance: I, embryomal carcinoma, and II, spermatocytoma. If extreme cases are omitted, the average age in the two groups is, respectively, 26.3 years and 42.6 years. The higher average age incidence of the second group is not due to a longer clinical duration of the tumors of this group; on the contrary, the rate of growth of the tumor is more rapid and the duration shorter in the second group than in the first. A new classification of these tumors is presented.

Accessory Pancreatic Tissue.—In a series of 321 consecutive necropsies in which the entire length of the intestine was opened in 314 cases, Horgan found accessory pancreases in two cases (0.6 per cent.). In one case the aberrant tissue was in the stomach; in the other, in the duodenum. In several instances, Horgan has observed accessory pancreatic tissue in the jejunum at operation. In one instance, it was about 3 inches from the ligament of Treitz opposite the mesentery, and it was necessary to go below it in order to perform a gastro-enterostomy. The author reviews the embryology of the pancreas in an effort to ascertain the cause of abnormally situated masses of pancreatic tissue.

Effect on Kidney and Ureter of Surgical Procedures.—The problems studied by Harrington have been classified into four series, and the phases investigated have been arranged in groups: 1. The effect on the kidney and ureter of complete sudden occlusion of the ureter or of complete sudden occlusion of the ureter and the collateral venous circulation. 2. The effect of occlusion of the various vascular radicals of the kidney. 3. The effect on the kidney and ureter of trauma to the ureter. 4. The effect of decapsulation of the kidney. For details the original should be consulted.

Tuberculosis of Bone.—The material collected during the treatment of fifty cases of bone tuberculosis was studied by Allison from the clinical standpoint, the cases used presented varying types of those manifestations usually associated with infectious bone lesions. In most cases, the symptoms and physical data made diagnosis of the tubercle bacillus as the etiologic factor a matter of no great difficulty. In some cases, diagnosis of tuberculosis was not made certain until the material obtained at operation was sectioned and studied micro-

scopically, and the confirmative evidence of animal inoculation was received. The pathologic process was found to be not essentially different in its manifestations wherever it may occur. If tissues are involved that possess the property of rapid proliferation when infected, this process will be observed when the tubercle bacillus is the agent. If tissues are involved which do not rapidly proliferate under infection, destruction will be observed when the tubercle bacillus is the agent. The process of tuberculosis, as it affects bone tissue of various types and joint structures, is one and the same. Variations are due only to the characteristics of the tissue infected. Allison regards it as unwarranted to classify this disease as to the type of reaction observed. He is opposed to the terms employed in the older literature as classifications, such as infiltrating, atrophic, caseous and hypertrophic tuberculosis of the bone. This is especially true of such descriptive terms as "chronic synovial tuberculosis" and "fungating" or "granulating tuberculous synovitis." His observations on this series of fifty cases incline him to believe with E. H. Nichols that the disease is primarily osseous.

Boston Medical and Surgical Journal

May 5, 1921, **184**, No. 18

*Vitamins in Milk. M. J. Rosenau, Boston.—p. 455.
*Review of Three Hundred Cases of Blood Chemistry. E. B. Bigelow, Worcester, Mass.—p. 459.
Need of Health Centers. E. V. Delphey, New York.—p. 463.
Possible Case of Nephritis in a Child, with Edema and Without Albuminuria. J. L. Morse, Boston.—p. 467.

Vitamins in Milk.—One of the newer facts recently disclosed is that milk is not equally rich in all vitamins, but contains these essential accessory dietary factors in variable amounts. The antiscorbutic value of milk depends almost entirely on the fodder of the cow. Human milk, no doubt, also varies with the nature of the mother's food, and in some instances is deficient, owing to eccentricities of diet or to poverty. The quantity of vitamins in plants probably varies with the soil in which they are grown and animals in turn suffer by lack of, or profit by richness of, vitamins in plant foods. Milk is usually rich in all three vitamins. It is unusually rich in fat soluble A, contains an abundant amount of water soluble B, and a variable, but ordinarily sufficient quantity of antiscorbutic vitamin. Therefore, it protects against all of the known deficiency diseases. It has long been known that the effect of heat on vitamins varies with the reaction and other factors. Most vitamins are more readily affected by heat in an alkaline medium than in an acid one. Fortunately, most foods are acid. Milk is acid from the time it leaves the udder. With regard to the effect of heat upon antiscorbutic vitamin, it has been shown that the duration of the heating process is of greater importance than the degree of temperature to which the food is subjected. Dry milk may retain its antiscorbutic virtue in spite of drying, canning and ageing, especially if well packed and hermetically sealed. It loses its potency after it is exposed to the air. Canned milks and dried milks, then, retain the fat soluble A and water soluble B vitamins in almost their original potency. The only vitamin in these preparations that may be affected is the antiscorbutic vitamin. The amount of this in canned milk will vary with many factors, primarily, the amount in the original milk, and, secondarily, on the process of heating and evaporation, with special reference to oxidation.

Diagnostic Value of Blood Chemistry.—Specimens of blood were obtained from 300 adult patients and examinations of 458 different specimens were made by Bigelow. The patients were nearly all hospital cases and seriously sick at the time of examination. The tests were made on selected cases only, in which the clinical condition at the time of examination suggested the possibility of findings that would be of assistance in diagnosis, prognosis or treatment. An estimation of the blood sugar, urea nitrogen and creatinin was made in each case. In general, these examinations, whether they proved to be normal or abnormal, were found to be functional tests of value in the fuller consideration of cases. Prognosis is extremely poor when there is a high retention of creatinin, and rather poor when a high urea retention. The determination of the alkali reserve is valuable in diabetes mellitus and to a lesser degree in nephritis. Repeated blood sugar determinations are invaluable as guides in the treatment of diabetes mellitus.

May 12, 1921, **184**, No. 19

Instruction in Climatology in Medical Schools. R. DeC. Ward, Cambridge.—p. 477.
*Hereditary Edema (Milroy's Disease). Report of Three Cases. C. F. Painter and H. C. Bean, Boston.—p. 479.
Results of Nerve Injuries Apparently Due to Birth Trauma. E. Friedman, Boston.—p. 482.
Goiter—Analysis of One Hundred Operated Cases. A. M. Rowley, Hartford, Conn.—p. 486.
Severely But Not Totally Disabled in Industry; Special Reference to One-Armed. L. Elocsser, San Francisco.—p. 489.
Administration of Ether by an Intravenous Method. H. Q. Gallupe, Boston.—p. 495.

Hereditary Edema.—Painter and Bean suggest the endocrine gland theory to account for this disease. If such cases are congenital, then there must be an inherited insufficiency or hypersecretion of some or all the endocrine glands. However, if this is the case, there should be other manifestations of the disorder. So far, the evidence is lacking.

Canadian Medical Association Journal, Montreal

April, 1921, **11**, No. 4

Art of Medicine. F. Brodie, Vancouver.—p. 237.
Résumé of Diabetes Mellitus. R. W. Mann, Toronto.—p. 243.
Diverticula of Urinary Bladder. E. R. Secord, Brantford, Ont.—p. 252.
Value of Fluoroscopy in Diagnosis of Abdominal Conditions. L. J. Carter, Brandon, Man.—p. 256.
Intestinal Obstruction from Gallstones. G. H. Clement, Vancouver.—p. 262.
Two Cases of Carcinoma of Stomach. F. N. G. Starr, Toronto.—p. 263.
Cases Illustrating Anomalies in Treatment of Gastric and Duodenal Ulcer. H. A. Gibson, Calgary, Alberta.—p. 269.
Case of Syphilitic Cirrhosis of Liver, Successfully Treated by Antisyphilitic Measures and Repeated Tappings. A. Schmidt, Montreal.—p. 271.
Malignant Disease of Lungs, Secondary to Carcinoma of Prostate. D. W. McKechnie, Montreal.—p. 272.

Florida Medical Association Journal, St. Augustine and Jacksonville

April, 1921, **7**, No. 10

Non-Surgical Drainage of Pathologic Gallbladders. G. M. Niles and H. N. Kraft, Atlanta, Ga.—p. 154.
Fatal Case of Pemphigus: Bullous Eruptions. J. L. Kirby-Smith, Jacksonville.—p. 157.
Internist and Surgeon in Relation to Acute Abdominal Diseases. R. R. Kime, Lakeland.—p. 159.
Nurse in Relation to Child Conservation. J. Van De Vrede.—p. 162.
Vaccine Treatment of Nephritis. G. H. Sherman, Detroit.—p. 166.

Georgia Medical Association Journal, Atlanta

April, 1921, **10**, No. 11

Surgical Kidneys. J. P. Proctor, Athens.—p. 375.
Implantations in Sunken Orbit After Enucleation of Eye. J. C. McDougall, Atlanta.—p. 379.
Diphtheria. C. A. Almand, Atlanta.—p. 382.
Posture in Puerperium. A. B. Patton, Athens.—p. 385.
Fractures of Lower End of Humerus Involving Elbow Joint. O. L. Miller, Atlanta.—p. 386.
Four Cases of Meningo-encephalomyelitis. D. H. DuPree, Athens.—p. 389.
History Taking in Infants and Children. W. W. Anderson.—p. 391.
*Case of Appendicitis Due to Oxyuris Vermicularis. R. B. Patrick, Waycross.—p. 394.
Case of Pulmonary Thrombosis. J. J. Clark.—p. 396.

Appendicitis Due to Oxyuris Vermicularis.—Eight mature threadworms were found by Patrick in the appendix of a girl, aged 11 years. The walls of the appendix were thickened and scattered over the mucous membrane were numerous small punctate hemorrhages. The first stool after operation was examined, and many eggs of the oxyuris were found. No threadworms were seen. From the vagina a greenish, purulent discharge was noted.

Johns Hopkins Hospital Bulletin, Baltimore

April, 1921, **32**, No. 362

*Dangers to Life of Severe Involvement of Thorax in Rickets. E. A. Park and J. Howland, Baltimore.—p. 101.
*Diphtheria Bacillus Carriers. W. L. Moss, C. G. Guthrie and J. Gelien, Baltimore, Md.—p. 109.
Studies with Lecithin and Cholesterin in Relation to Antihemolytic Property of Human Serum. H. M. Clark and F. A. Evans, Baltimore.—p. 113.
*Variations in Bacterial Flora of Upper Air Passages During Course of Common Colds. A. Bloomfield, Baltimore.
*Hemolytic Influenza Bacilli. T. M. Rivers and E. L. Leuschner, Baltimore.—p. 130.
*Experimental Observations on Bone Marrow. G. B. Wislocki.—p. 132.

Danger to Life of Rachitic Involvement of Thorax.—Examination of twenty-two children by Park and Howland proved that deformity and normal thoracic function are compatible, in other words, that the element of danger is not the deformity but the loss of rigidity of the thoracic well.

Diphtheria Bacillus Carriers.—Moss and his associates hold that a positive throat culture, an elevation of temperature and a pathologic throat condition without definite membrane formation are insufficient evidence on which to base a diagnosis of diphtheria with entire certainty. Virulence tests are necessary to avoid inflicting needless hardships on carriers of avirulent diphtheria bacilli.

Bacteriology of Common Colds.—On clinical grounds, the view was advanced that the common cold is an infectious disease analogous to influenza, featured by the frequent development of complications in the upper air passages such as sinus infections, tracheitis and otitis. A review of the literature by Bloomfield showed no convincing evidence that any known organism is the primary cause of the cold. The cultural studies fail to show in uncomplicated cases any variation in the flora which would enable one to select any organisms as the cause of colds. On the other hand, where clinical complications occurred pathogenic organisms were definitely associated with them. Bloomfield feels, therefore, that the primary cause of colds is probably an organism as yet unknown and certainly not one of the usual pathogens such as a streptococcus, pneumococcus, *B. influenzae* or staphylococcus. But the primary cold, whatever its final cause, alters the mucous membranes in such a way as to allow secondary bacterial invasion and consequent frequent development of local complications. The cultures clearly indicate that such complications are due to a variety of bacteria such as pneumococcus, streptococcus and staphylococcus.

Hemolytic Influenza Bacilli.—On account of the meager description given to the original *B. influenzae,* especially concerning hemolysis, it seems best to Rivers and Leuschner to regard both hemolytic and nonhemolytic aerobic, nonmotile, gram-negative, hemoglobinophilic bacilli as influenza bacilli, and disregard any such confusing terms as "Bacillus X" which in itself represents not one organism but a group.

Phagocytes in Bone Marrow.—Observations made by Wislocki show that the bone marrow of the rabbit contains cells which are extremely phagocytic toward inert particulate material afloat in the blood stream. Some of these are endothelial cells which line the vascular channels of the marrow, others are reticulum cells which form the supporting tissue for the blood-forming elements of the marrow. These phagocytes are present at birth. Microscopic examination reveals that the distribution of these phagocytic cells in the bones closely concides with that of the blood-forming elements. The cleared tissues of rabbits injected during life with carbon particles give an accurate picture of the gross distribution of the marrow. The amount of marrow in flat bones is in direct proportion to the amount of cancellous or spongy structure which the bone possesses.

Journal of Experimental Medicine, Baltimore

May 1, 1921, **33**, No. 5

*Superinfection in Experimental Syphilis Following Administration of Subcurative Doses of Arsphenamin or Neo-Arsphenamin. W. H. Brown and L. Pearce, New York.—p. 553.
Behavior of Bacteria Toward Gentian Violet. J. W. Churchman, New York.—p. 569.
Communal Activity of Bacteria. J. W. Churchman and M. C. Kahn, New York.—p. 583.
*Fate of Lymphocyte. C. H. Bunting and J. Huston, Madison, Wis.—p. 593.
*Relation of Antibody and Antigen to Serum Disease Susceptibility. G. M. Mackenzie and W. H. Leake, New York.—p. 601.
*Studies on Measles. III. Acquired Immunity Following Experimental Measles. F. G. Blake and J. D. Trask, Jr., New York.—p. 621.
*Studies on Blood Changes in Pneumococcus Infections. Formation and Fate of Methemoglobin in Blood. W. C. Stadie, New York.—p. 627.
Fibrin and Serum as Culture Medium. A. H. Ebeling, New York.—p. 641.
Flagellum of Micro-organism of Rat-Bite Fever. K. Adachi, Fukuoka, Japan.—p. 647.
*Immunologic Study of Stains of Bacillus Pfeifferi Isolated from Case of Meningitis. R. A. Anderson and O. T. Schultz, Chicago.—p. 653.
Incidence of Blackhead and Occurrence of Heterakis Papillosa in Flock of Artificially Reared Turkeys. H. W. Graybill, Princeton, N. J.—p. 667.

Superinfection in Experimental Syphilis.—The experiments reported on by Brown and Pearce consisted of the infection and treatment of two sets of rabbits—one with arsphenamin and the other with neo-arsphenamin—after which they were re-inoculated for the purpose of determining their susceptibility to a new infection as indicated by the production of lesions at the site of inoculation. From the facts presented, it is concluded that the existence of an infection with *Spirochaeta pallida* does not constitute a bar in itself to the introduction and propagation of a second infection in the same animal; that, just as there is a period following a first inoculation during which a second infection may be implanted with the production of characteristic primary lesions, conditions may again arise in animals which have once become refractory to a second inoculation, that will favor the introduction of a new infection with the formation of lesions presenting the characteristics of an original or first infection. In certain instances the treatment given had rendered infected animals more susceptible to infection than the normal controls.

Fate of Lymphocyte.—Although the count of circulating lymphocytes in the blood stream remains constant, more lymphocytes enter the blood from the thoracic duct during twenty-four hours than are present in the blood at any one time. According to Bunting and Huston this excess of lymphocytes is not destroyed in the blood stream. The cells migrate from the blood vessels into the mucous membranes and through them to their surface. This occurs chiefly in the gastro-intestinal tract, and it is apparently in the mucosa and especially within the intestinal lumen that the function of the lymphocyte is normally performed.

Relation of Antibody and Antigen to Serum Disease.—Studies by Mackenzie and Leake on nineteen patients to whom foreign serum had been administered for therapeutic purposes are reported. The results lend further support to the conception of serum disease as an antigen-antibody reaction. The possibility that the results indicate a factor which may be important in the mechanism of natural immunity is discussed.

Acquired Immunity Following Experimental Measles.—It is shown by Blake and Trask that monkeys which have recovered from experimental measles are immune to reinfection with the virus of measles, irrespective of whether the virus is of homologous or heterologous origin. In this respect experimental measles in the monkey corresponds with measles as observed in human beings, and the result is the same whether the virus is inoculated on the respiratory mucous membrane or is injected intravenously.

Blood Changes in Pneumococcus Infections.—In the occasional cases of pneumonia which show a decrease in the oxygen capacity of the blood, Stadie is of opinion that the decrease is probably due to a formation of methemoglobin. The latter is removed from the circulation, however, as rapidly as it is formed, so that it can seldom be detected even qualitatively, and is probably never a cause of cyanosis.

Immunologic Study of Pfeiffer's Bacillus.—Five strains of *Bacillus pfeifferi* were isolated by Anderson and Schultz from a case of meningitis. These strains came from the spinal fluid, blood, nose, throat and nasopharynx. Immunologic reactions show no definite relations between these strains, although those from the nose, throat and nasopharynx might be presumed to be related to one another. It is also presumable that the spinal fluid strain was derived from the upper air passages, and that the blood was invaded from the meninges. In spite of immunologic differences, it is believed that the five strains were genetically related.

Kentucky Medical Journal, Bowling Green

April, 1921, **19**, No. 4

*Prostatectomy J. H. Peak, Louisville.—p. 148.
Extensive Epithelioma of Face; Treatment of Basal Epithelioma. W. J. Young, Louisville.—p. 154.
Diagnosis and Treatment of Peripheral Nerve Injuries. B. F. Zimmerman, Louisville.—p. 160.
Clinical Significance of Wassermann Reaction. W. J. Young, Louisville.—p. 162.
Abduction Treatment in Fracture of Surgical Neck of Femur. C. C. Garr, Lexington.—p. 170.

Perthes' Disease (Osteochondritis Deformans Juvenilis.) Report of Case with Presentation of Patient. O. R. Miller, Louisville.—p. 172.
Extensive Tuberculosis of Hip Joint; Case Report. W. B. Owen, Louisville.—p. 174.
*Elephantiasis. W. H. Strother, Owensboro.—p. 175.
Co-ordinated Endeavor in Medicine Means Standardization and Efficiency. I. Abell, Louisville.—p. 176.
Harrison Narcotic Law. F. M. Stites, Hopkinsville.—p. 179.
Pulmonary Tuberculosis. J. A. Kirk, Owensboro.—p. 180.
Will Dieting Mother Influence Growth of Fetus in Utero? S. P. Oldham, Owensboro.—p. 182.
Radiotherapy in Malignancy. J. P. Keith, Louisville.—p. 184.
*Five Cases of Fecal Obstruction Due to Foreign Bodies Lodged in Intestinal Tract. A. D. Willmoth, Louisville.—p. 188.
Spread and Treatment of Syphilis. C. E. Harkey, Paducah.—p. 190.
Economy. C. V. Starks, Evarts.—p. 192.
Cancer Problem. W. Barrow, Lexington.—p. 193.
*Intestinal Obstruction. J. H. Caldwell, Newport.—p. 197.
Signs and Symptoms of Renal Tuberculosis. W. T. Briggs, Lexington.—p. 200.
Tonsils, Teeth and Nasal Accessory Sinuses as Source of Focal Infection.—J. A. Stucky, Lexington.—p. 205.
Diverticulum of Small Intestine. F. T. Fort, Louisville.—p. 208.

Prostatectomy.—Peak has performed 500 suprapubic and 300 perineal prostatectomies with only four fatalities and these followed the suprapubic operation. The first fatality occurred in a patient, aged 84 years, who never rallied from the effects of the anesthetic, and died the same afternoon, evidently from the anesthetic and the shock. The second patient was practically well as far as the prostatic operation was concerned and was about ready to leave the hospital, when pneumonia developed and he died at the end of the fourth week. The third patient was 18 years of age and had a rapidly growing fibrosarcoma of the prostate which was easily removed. Death occurred eight weeks after the operation from extension of the malignant process. The fourth died on the fifth day from exhaustion. He was 74 years old and very feeble, and would not permit the catheter to remain in position.

Elephantiasis in Native Kentuckian.—The case reported by Strother occurred in a negro, aged 45 years, a native of Kentucky who had never been outside the state. Twenty-five years ago he had syphilis for which he received treatment for a short time. In June, 1917, he had an attack of chills and fever, leaving him weak. His feet began to swell and, in February, 1918, the skin burst, discharging much serous fluid, after which he was unable to lie down in bed. He was unable to lie down for three years before he died. There was considerable ulceration and a very foul odor that was nearly unbearable. In appearance the case was one of elephantiasis involving both lower extremities up to the knee. Both legs were amputated above the knee. The patient died from shock, due to hemorrhage, on the ninth day.

Nonsurgical Treatment of Fecal Obstruction.—Willmoth warns not to open the abdomen too quickly in cases in which the history would lead one to suspect an obstruction of the intestine from ingesta. Repeated efforts with enemas will usually remove the obstruction. In the cases cited by Willmoth the obstructing agents were potatoes, grapes and popcorn. In one case a gallstone was the cause. It was removed from the intestine by operation.

Causes of Intestinal Obstruction.—In nine cases cited by Caldwell a variety of conditions caused the intestinal obstruction, such as a fibrous appendix which adhered over the cecum, causing a sharp kink in bowel and complete obstruction; appendix adherent deep in pelvis; pyloric obstruction by carcinoma of left kidney; perforated duodenal ulcer and general peritonitis; strangulated femoral hernia; carcinoma of lower end of sigmoid; intussusception of the ileum; a thick band of omentum adherent to the small bowel about 8 to 10 feet from the stomach, and a carcinoma involving posterior wall and lesser curvature of stomach, which was adherent to the under surface of the liver.

Medical Record, New York

May 7, 1921, **99**, No. 19

What About a Cure or Preventive of Tuberculosis? S. J. Maher, New Haven, Conn.—p. 769.
A Clinical Study of Tuberculosis in Children. A. Levinson, Chicago.—p. 773.
Extermination of Mammals. Their Economic Value, and Their Great Importance to Man Through Study of Their Comparative Anatomy. R. W. Shufeldt, Washington, D. C.—p. 777.
Concept of Roentgen-Ray Pathology. XIII. Enteropathy. A. J. Pacini Washington, D. C.—p. 782.
*Tetanus, with Recovery, Showing Some Unusual Features. B. L. Sulzbacher, Kansas City, Mo.—p. 786.
Two Cases of Acholuric Jaundice, Familial Type, with Splenomegaly. D. H. Hallock, Southampton, N. Y.—p. 787.
*Foreign Bodies in Abdomen. Report of Case of Eight Years' Duration. H. J. Hartz, Philadelphia.—p. 788.

May 14, 1921, **99**, No. 20

Problem of Psychopathic Hospital Connected with Reformatory Institution. E. R. Spaulding, New York.—p. 815.
Science of Logic Versus Influenza. J. J. Hurley, Boston.—p. 821.
What Constitutes a Fair Estimate of Loss of Use of Eye in Workmen's Compensation Cases? W. Mehl, Buffalo.—p. 826.
Tragedy of Abdominal Incision. J. W. Kennedy, Philadelphia.—p. 828.
Prognosis and Treatment of Pneumonia. L. Fischer, New York.—p. 829.
Concept of Roentgen-Ray Pathology. XIII. Enteropathy. A. J. Pacini, Washington, D. C.—p. 830.
Newer Technic for Deep Roentgenotherapy. J. T. Stevens, Montclair, N. J.—p. 834.
Case of Urologic Tuberculosis. M. Zigler, New York.—p. 835.

Cure of Tetanus.—The case reported by Sulzbacher emphasizes the necessity of a large dose of antitoxin, as an absolute phophylactic, and the advisability of immediate cultures, aerobic and anaerobic. A child, aged 21 months, was run over by a motor truck and sustained a severe injury of the leg, laying bare much tissue. Repair of the torn muscles was attempted and the child was given 500 units of tetanus antitoxin. Progress was not unusual until the fourth day, when the temperature rose to 104.8 F. after appropriate local treatment. The temperature fell approximately 5 degrees. On the afternoon of the fifteenth day beginning rigidity of the extensor muscle of the neck and the masseter muscles was noted with other signs of tetanus. Owing to the fact that a prophylactic dose of antitoxin had been given fear was held lest anaphylaxis might develop on its subsequent use. The patient was thoroughly tested with a small dose given subcutaneously and observed for one hour. No reaction having developed, a full dose of 5,000 units was administered, followed by doses of 1,500 units every eight hours. Chloral hydrate, 2 grains, was given at hourly intervals to control convulsions. The injections for the greater part were given subcutaneously and in the deep tissues of the wound. In all 14,000 units were used. Convulsions ceased within twelve hours and rigidity entirely disappeared in thirty-six hours.

Sponge in Abdomen.—A woman who had a fibroid tumor removed developed an umbilical hernia following immediately the operation. Eight years later the uterus, one tube and ovary, and a piece of omentum containing a mass were removed. Incision of the mass show it to contain a sponge, which was left in the abdomen at the previous operation eight years before.

Missouri State Medical Association Journal, St. Louis

April, 1921, **18**, No. 4

*Clinical Significance of Low Blood Pressures. G. H. Hoxie, Kansas City.—p. 113.
Aneurysm of Femoral Artery; Report of Case Operated by Obliterative Endoaneurysmorrhaphy. W. E. Leighton, St. Louis.—p. 115.
*Comparison of Influenza Epidemic of 1918, with that of 1920 at University of Missouri. D. G. Stine, Columbia.—p. 117.
*Use of Oxygen in Gynecologic Diagnosis. H. E. Happel, St. Louis.—p. 123.
Ultraviolet Ray in Treatment of Cutaneous Diseases. R. C. Lounsberry, Springfield.—p. 126.
*Case of Thoracopagus Delivered by Cesarean Section. E. H. Bounds and A. L. Shanks, Hannibal.—p. 127.

Significance of Low Blood Pressures.—Hoxie concludes that a blood pressure below 100 mm. of mercury, systolic, is abnormal, and that it indicates a lower efficiency of the blood. There are two types of low blood pressure: the one due to congenital conditions (the so-called temperament, diathesis, or constitution); the other due to endocrine exhaustion (this exhaustion being due to infectious diseases or overexhaustion and exposure). Of the endocrine glands, the ones most usually affected are those of the genital sphere. The suprarenals occasionally show involvement, but more usually it is the thyroid, and still less frequently the pituitary. The management of these cases demands a differential diagnosis between the two groups, and in the case of the congenital group, an explanation to the patients of the mode of life necessary for

them if they are to be even relatively efficient. In the other group of cases a patient search needs to be made for occult infections, and if these can be removed and an efficient tonic therapy instituted, the outlook for a return to the normal is good.

Camphor in Influenza.—In Stine's experience, camphor is the best drug with which to control the initial toxemia of the disease, and gives the best results in preventing and combating the secondary infections.

Use of Oxygen in Gynecologic Diagnosis.—Happel regards this method as being a safe and painless means of obtaining information which has been hitherto gained by laparotomy, a major surgical operation. It furnishes aid in diagnosis and prognosis, and should save women from numberless useless operations, such as dilatation and curettement, plastic operations on the cervix or shortening the round ligaments when the tubes are hopelessly obstructed.

Thoracopagus Delivered by Cesarean Section.—The fetus delivered by Bounds and Shanks had two perfectly formed heads, necks and shoulders with the thoracic portion of the bodies fused into one down to the umbilicus. From the umbilicus downward, the pelvis, hips and legs of both were normal. Both were females. In the back, where the fusion of the shoulders took place, was the right arm of one child with finger nails one-fourth inch long. This arm extended around the opposite child as if in embrace. The roentgen ray showed two distinct spinal columns. No postmortem examination of the viscera was allowed. The monstrosity weighed 12½ pounds.

Tennessee State Medical Ass'n Journal, Nashville

April, 1921, **13**, No. 12

Historical Data of Our Own Professional Men and Biographical Sketch of Thomas Crutcher Osborn. D. J. Roberts, Nashville.—p. 441.
Management of Summer Diarrheas. B. S. Veeder, St. Louis.—p. 447.
Central or Intracapsular Fractures of Neck of Femur. W. C. Campbell, Memphis.—p. 453.
Operative Treatment of Fractures. B. Malone, Memphis.—p. 455.
Gangrenous Tonsillitis; Report of Two Cases. O. Dulaney, Dyersburg.—p. 458.
Case of Brain Tumor Showing Value of Barany Tests as Early Diagnostic Methods. L. Levy, Memphis.—p. 460.
Barany Tests. J. J. Shea, Memphis.—p. 462.
Cases Showing an Unusually High Degree of Hyperopia. E. C. Ellett, Memphis.—p. 466.
Congenital Sarcoma of Orbit. E. B. Cayce, Nashville.—p. 467.
Plea for Early Removal of Hypertrophied Tonsils and Adenoids in Children. L. M. Scott, Jellico.—p. 468.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

April 23, 1921, **1**, No. 3147

*Postural or So-Called Static Deformities. A. S. B. Bankart.—p. 587.
Nature of Flutter and Fibrillation of Auricle. T. Lewis.—p. 591.
*Etiology of Rickets. D. N. Paton and A. Watson.—p. 594.
*Tuberculosis Immunizing Vaccine. N. Raw.—p. 594.
Surgery of Peripheral Nerve Injuries of Warfare. H. Platt.—p. 596.
*Herpes and Varicella. E. H. R. Barries and E. Dunderdale.—p. 600.
Chronic Suppurative Otitis Media: Followed by Left Temporo Sphenoidal Abscess and Meningitis. F. H. Diggle.—p. 600.
Lethargica Encephalitis Treated with Influenza Bacillus Antigen. W. M. Crofton and D. Costello.—p. 601.
Artificial Respiration in New-Born. W. O. Greenwood.—p. 601.
Olive Oil Soft Soap as a Shampoo in Pityriasis Capitis. K. W. Poole.—p. 601.
Congenital Deficiency of Diaphragm. G. S. Barnett.—p. 602.

Postural Deformities.—The principal cause of deficient postural activity Bankart says is mental fatigue or inertia. Temperament, environment, occupation and the general state of health are important factors. The child who sits badly at school and develops scoliosis is the child not with weak muscles, but with the overtaxed brain. This depends more on the mental capacity of the individual than on the actual amount of work done. A clever child may be tempted to compete with older children, while a dull child may be overworked in merely trying to reach an average or a low standard. In such cases, it is useless merely to introduce a course of exercises into the ordinary school routine. Either the routine should be radically altered or the child should be taken away from school.

Etiology of Rickets.—The observations of Paton and Watson show that pups kept in the laboratory develop rickets even on an abundant supply of milk fat (as much as 7.5 or even 11 gm. per kilogram) and oatmeal porridge, but that those on the same amount of separated milk (0.2 to 0.7 gm. milk fat) and porridge develop the disease more rapidly. The energy value of the separated milk diet was necessarily lower than that of the full milk diet (from 207 to 267 calories as against from 270 to 437 calories), and hence it is possible that a low energy intake may predispose to the disease, although it is not a causal factor. In young dogs, under ordinary laboratory conditions, liberal allowance of milk fat up to even 14 gm. per kilogram of body weight neither prevents the onset of rickets nor cures it when it has developed. Pups kept largely in the open air may escape the development of rickets on an intake of less than 1 gm. fat per kilogram body weight. With scrupulous care as to cleanliness it is possible to rear pups free of rickets in the laboratory on an intake of only about 0.5 gm. milk fat per kilogram of body weight, along with bread, provided that the diet affords an adequate supply of energy. The energy value of the diet, however supplied, quite apart from the presence of any hypothetic antirachitis factor in milk fat, would seem to play a part in controlling the development of rickets, but that it is only a contributory part is shown by the development of rickets in pups with a high energy intake when they are confined in the laboratory without scrupulous care as to cleanliness. Milk fat may be reduced to about 0.3 gm. per kilogram of body weight, if its place is taken by an equal amount of lard, without the onset of rickets. The results of these observations do not support the conclusion of the Accessory Food Factors Committee of the Medical Research Council that rickets is a deficiency disease due to lack of an antirachitic factor associated with milk fat.

Tuberculosis Immunizing Vaccine.—Since 1906 Raw has subcultured every month human, bovine and avian tubercle bacilli. The present growths represent the one hundred and eighty-fourth generation. The growths are still profuse and true to type, but they are quite nontuberculigenic and completely nonpathogenic to animals. Every year since 1906 Raw has injected these bacilli into animals with a view to testing their pathogenicity. Until the ninety-fourth generation of subcultures, no change in virulence was noted. After that time attenuation became marked, and in a year or two the cultures were avirulent. Treatment of disease by vaccines prepared from organisms attenuated naturally means that the production of antibodies will take place rapidly without any preliminary shock to the system such as invariably follows the injection of a vaccine prepared from a virulent strain of bacteria. With a view to elucidating the real amount of tuberculosis in man caused by the human and bovine types of bacilli, and also as to immunity produced by one infection toward the other, Raw instituted clinical observation on a large scale in a Liverpool hospital containing 900 beds, of which he had sole charge for eighteen years. In no case of primary pulmonary tuberculosis did he observe during the course of illness tuberculosis of bones, joints, glands, or skin, nor any instance of meningitis. Among the surgical cases of tuberculosis twenty-eight developed lung symptoms; twenty-five died. In all cases the infection of the lung was either by direct extension from cervical glands to the apex of the lung, or from a primary focus in the abdomen extending upward through the diaphragm to the bronchial glands and lungs. This large clinical experiment convinced Raw that the human body is attacked by two quite distinct forms of tuberculosis—the one conveyed from person to person by direct infection and attacking chiefly the lungs, or so-called consumption, and the other conveyed by milk from tuberculous cows, and developed in the first few years of life. These two diseases are caused by different types of tubercle bacilli which will not live in the body at the same time, and, what is of the highest importance, one disease produces immunity to the other. Hence Raw always uses a vaccine prepared from bovine cultures in the treatment of the human infections and vice versa. The vaccine which he has had

prepared from his attenuated cultures is a bacillary emulsion of the bacilli, and contains all the products of the bacillus. It is nontoxic and avirulent, and produces no reaction even in large doses. For purposes of immunization in susceptible children six injections are given at weekly intervals, and repeated in three months. The doses recommended are 0.001, 0.002, 0.003, 0.004, 0.005 and 0.006 mg. No symptoms whatever have been observed to follow these injections. In the treatment of the active disease the doses used are much larger than have been possible hitherto; it is recommended that the treatment should consist of at least twelve injections given in increasing doses at intervals of seven days. The doses commence at 0.001 and increase to a maximum dose of 0.025 mg. The vaccine should be freshly prepared from the cultures, and should not be used after one month. This vaccine, prepared as it is from avirulent cultures, can be used with complete safety in any stage of the disease, and even in advanced cases great relief from night sweats, toxic symptoms, and erratic temperatures has been noted. The results in suitable cases are excellent. Raw has succeeded in completely immunizing highly susceptible animals against tuberculosis by the use of attenuated cultures which have required fourteen years' subculturing in the laboratory, and he firmly believes that if all children with a tuberculous history could be safely vaccinated in the manner described they would be placed in a better position to resist infection at home.

Herpes and Varicella.—Harries and Dunderdale record an outbreak of varicella in a ward, apparently originating in a case of herpes zoster.

Dublin Journal of Medical Science

April, 1921, No. 14

Ventriculography. A. A. McConnell, Dublin.—p. 145.
Sacralization of Fifth Lumbar Vertebra. M. R. J. Hayes, Dublin.—p. 152.
*Operation for Treatment of Frequent Luxation of Shoulder Joint. E. J. R. Evatt, Dublin.—p. 161.
*New Method in Pituitary Surgery. A. K. Henry.—p. 163.

Operation for Frequent Luxation of Shoulder Joint.—Evatt describes an operation in which the joint is approached from behind. The part of the humerus which lies immediately behind the insertion of the teres major is exposed, and a hole, with a diameter of about three millimetres, is drilled horizontally through it by means of an Archimedian drill near the upper border of the teres major muscle. Similarly a hole is drilled through the axillary border of the scapula, immediately above the origin of the teres major. A fine silk suture is passed through the hole in the bone; a very stout cord of silk is now threaded through the loop of the fine suture, and by means of it is drawn through the hole in each of the bones in turn, the cord must be brought across on the deep or anterior surface of the scapular head of the triceps muscle. The arm is now straightened out and abducted until it forms with the body an angle of about seventy-five degrees; the cord is pulled taut and firmly tied, and the incision closed. The arm is bound to the side until the wound heals.

New Instrument in Pituitary Surgery.—An instrument has been devised by Henry which admits of sufficient intermittent control, by the taking of successive roentgenograms, to give an accurate means of access to the gland. By its aid capillary tubes containing radium emanation can be inserted directly into the tumor itself, or if desired, the fossa may be evacuated by a special auger-bit. Any manipulation is available which can be carried out through a tube, and instruments resembling those designed for use with the urethroscope, or cystoscope may be employed for this purpose.

Glasgow Medical Journal

April, 1921, **95**, No. 4

*Etiology of Osteomalacia in Bombay. H. S. Hutchison and P. T. Patel.—p. 241.
Typhoid and Paratyphoid Fevers. A. J. Wilson.—p. 256.
Sequels of Influenza. M. F. Guthrie.—p. 267.

Etiology of Osteomalacia.—Hutchison and Patel are convinced that the large preponderance of osteomalacia among Mahomedan women in Bombay proves definitely that lack of fresh air and exercise is by far the most potent factor in the production of the disease. Examination of a considerable number of persons failed to disclose evidence to show that dietetic deficiency is a cause of osteomalacia, as the disease is not uncommon among the wealthier classes of the community; while among the poorer classes the deficiency of animal fat in the diet is common to all. There is no reason to believe that child marriage and prolonged lactation are important factors. The more or less sudden onset associated with fever in many cases and the rapid softening of the bones suggest a possible infective condition.

Lancet, London

April 23, 1921, **1**, No. 5095

Loose Bodies in Joints. A. G. T. Fisher.—p. 839.
Nature of Flutter and Fibrillation of Auricle. T. Lewis.—p. 845.
*Permanent Drainage of Only Kidney. W. H. Battle.—p. 848.
Biochemistry of Germs and Other Proteins, with Special Reference to Problems of Immunity. D. Thomson.—p. 849.
*Basal Metabolism and Its Clinical Measurement. H. G. Earle and J. S. Goodall.—p. 853.
Case of Tuberculous Salpingitis. E. Drybrough-Smith.—p. 854.
*Case of Transfixion by Steel Rod. N. C. Lake.—p. 855.

Permanent Drainage of Only Kidney.—Battle is convinced that his case goes far to show the superiority of the operation of nephrotresis as the one of choice when the ureter has been badly injured and the circumstances make it impossible to re-establish the channel by any method of ureteroplasty. His patient has worn a silver tube for five years. This tube fits closely at a point corresponding to the lumbar fascia, but is easily taken out and replaced. The skin around is healthy, dry and without any trace of irritation. There is no leakage by the side of the tube which is removed, cleaned and easily replaced daily. There was no urinous odor. The patient is well.

Kymograph Attachment for Benedict Metabolimeter.—So as to overcome certain objections Earle and Goodall have devised a kymographic attachment for the Benedict apparatus using glazed paper and a pen, whereby a permanent record in ink of the whole test is obtained, as in the case of a polygraph. With the kymograph clock traveling at a known speed and a scale similar to that attached to the apparatus the oxygen absorption can be determined from the record at any point of the test. Further, valuable information is obtained of the character of the respirations in respect of depth, frequency and regularity, and any hyperpnoea, such as might be caused by deficient carbon dioxid absorption is at once detected. An attachment like this can be made with very little additional cost, and by using glazed paper which can be kept rolled, the kymograph can be reduced in size and the inconvenience of smoking and varnishing avoided.

Transfixion of Body by Steel Rod.—Lake cites the case of a man who was working at the bottom of an elevator shaft, when a steel rod, ½ inch in diameter and 54 feet long, weighing 34½ pounds, fell vertically from a height of 50 feet. The rod entered his body just behind the left shoulder and made its exit at a point on the inner aspect of the right knee. When about 9 feet of the rod had passed through and embedded itself in the ground below, its career was arrested. Between three and four feet of the rod traversed the man's body, while about forty feet projected above. On admission to hospital he was suffering from considerable shock, recovery from which was, however, rapid. After passing through the posterior aspect of the left lung the rod penetrated very obliquely through the bodies of three or four vertebrae in the lower dorsal and upper lumbar regions. Leaving the vertebral column in the right lumbar region the rod could be felt below the pole of the right kidney and just behind the inferior vena cava. At this point it passed for about half an inch into the peritoneal cavity without causing any damage, and again became extraperitoneal by penetrating the psoas muscle. It appeared to leave the abdominal cavity by drilling a hole through the brim of the pelvis behind the acetabulum, and having passed down the back of the thigh, guttered the internal condyle of the right femur before leaving the body. A light screw thread was tapped on the lower end of the rod, the stock being used as a convenient handle for traction. The upper end of the rod having been sterilized, traction was applied in the direction of the curva-

ture on the rod, which was thus slowly removed while a close watch was kept for internal hemorrhage, etc. The shock of removal was very great but yielded to appropriate treatment. Examination of the patient since the operation has revealed no signs of any extensive nerve injury nor damage to other important structures. The patient made an uneventful recovery.

April 30, 1921, **1**, No. 5096

*Actinomycosis; Especial Reference to Vaccine Therapy. L. Colebrook.—p. 893.
Production of Bactericidins by Micro-Organisms. J. W. McLeod and P. Govenlock.—p. 900.
Mobile Ascending Colon. E. R. Flint.—p. 903.
*Experimental Investigation into Action of Certain Electrical Treatments; on Blood, Blood Pressure and Metabolism. W. Bain, W. Edgecombe, W. S. Kidd and S. Miller.—p. 905.
*Delayed Manifestations of Syphilis, Including Report of a Case of Syphilitic Duodenal Ulcer. H. Spence.—p. 908.
Case of Acute Phlegmonous Gastritis. F. W. Eurich and J. Phillips.—p. 910.
Gangrene Due to Carbon Monoxid Poisoning. V. D. Thandavaroyan.—p. 910.

Vaccine Therapy of Actinomycosis.—Colebrook has treated about twenty-three cases of actinomycosis with vaccines always in association with simple surgical measures. In all cases a vaccine prepared from strains of *Actinomyces bovis* of human origin was employed, and most of them received in addition other vaccines corresponding to their respective secondary infections. Autogenous actinomyces vaccines were used for eleven cases, most of the remainder being treated by a polyvalent stock vaccine. Generally he has commenced the treatment with doses of 2 or 2½ million fragments at intervals of five days, and gradually increased the quantity as guided by the progress of the patient. The best results have usually been obtained with doses of from 4 to 10 million fragments. In a few cases which were not improving on smaller doses the quantity has been considerably increased—in one case to 75 million fragments—but without any apparent advantage. As a rule, there was no constitutional disturbance of any kind, the actinomycotic focus showed no increased congestion, and at the site of inoculation there was no appreciable reaction. Colebrook believes that the treatment of actinomycosis by vaccines facilitates recovery when efficient surgical drainage of the affected tissues is secured and maintained; when, however, drainage is unsatisfactory, the use of appropriate vaccine will not usually suffice to stay the progress of the infection. This may be due, in large part, to the blood stream having very little access to those lesions by reason of the zone of "wooden" induration which habitually surrounds them.

Action of Electrical Treatments on Blood and Blood Pressure.—The net results obtained from the d'Arsonval high-frequency current were a slight but definite reduction in systolic and diastolic blood pressures; a temporary trifling loss of hemoglobin; a more enduring fall of leukocytes; an increase in output of urea, followed by an increase in the excretion of total nitrogen. The clinical claims made that this form of electrical treatment reduces the blood pressure and stimulates metabolism are substantiated to a moderate extent by these results. The diathermic current causes a slight fall in systolic blood pressure, an increase in leukocytes, and an increase in urea and ammonia nitrogen. The local heat-producing effects tend to substantiate its clinical use in promoting the absorption of local inflammatory products. As to the Bergonie treatment, the current without heat causes a slight rise in hemoglobin value; when heat is added a marked fall takes place. The blood pressure is markedly raised by the current alone to an extent which suggests caution in the employment of this form of treatment in subjects of obesity with a high blood pressure. The addition of heat neutralizes the rise and converts it into a slight fall, a fact which favors the employment of heat in addition to the current in these cases. Conversely in cases requiring sweating baths, in which a fall in blood pressure is undesirable, this effect of heat may be prevented by the simultaneous use of the rhythmic current.

Syphilitic Duodenal Ulcer.—Spence reports a case of syphilitic duodenal ulcer in which a cure was effected by treatment with arsphenamin, mercury and potassium iodid. Both the diagnosis and the cure were confirmed roentgenographically.

Tubercle, London

April, 1921, **2**, No. 7

Tuberculous Hip Disease and Its Simulants. H. Sundt.—p. 289.
*Pathology of Mediastinal Glands in Tuberculosis. S. R. Gloyne.—p. 300.
*Scheme for Dealing with Ambulant Cases of Pulmonary Tuberculosis. F. G. Collins.—p. 306.

Pathology of Mediastinal Glands in Tuberculosis.—The number of glands draining the lung tissue appears to be subject to considerable variation. The average number found by Gloyne in careful dissections of eight cases were: tracheal, 9; interbronchial, 35; bifurcation, 5; superior mediastinal, 10. In each case these figures represent right and left sides added together. Both mediastinal and cervical glands were found to contain histologic tubercles in cases where no naked-eye lesions were apparent. There was not sufficient variation in the severity of the microscopic lesions to demonstrate the line of march of the tuberculous infection along the chain of mediastinal glands. Roentgenograms of glands showing calcareous nodules were readily distinguishable from those showing anthracosis, caseation, microscopic deposits of tubercle or malignant disease, by reason of the extreme density and sharp outline of the shadows produced by the calcareous deposits. The shadow produced by the other substances named did not afford sufficient differentiation to warrant any conclusions.

Recreation Centers for Treatment of Ambulant Tuberculosis Patients.—Collins suggets that tuberculosis recreation centers should be established in populous districts. The site for such centers should be some carefully selected open space within the district and, if possible, easily accessible from all quarters. The center should be under medical supervision, and the rest and exercise of the patients attending there suitably regulated, and every endeavor made to map out roughly their daily life. Care would have to be that the recreation center or day colony did not in any way supplant the sanatorium for early cases or the hospital for advanced cases.

Archives des Maladies de l'Appareil Digestif, Paris

1921, **11**, No. 2

*Gastric Ulcer Suggesting Tabetic Crises. R. Savignac and A. Alivisatos.—p. 73.
*Intervisceral Ganglion. S. Gil Vernet and F. Gallart Monès (Barcelona).—p. 105.
Fate of Amylase in Large Intestine. E. Bianchi.—p. 122.
*Acute Postoperative Esophagitis. F. Moutier.—p. 126.

Gastric Ulcer Suggesting Tabetic Crises.—Savignac and Alivisatos add three more typical cases to the six on record in which a chronic gastric ulcer deceptively simulated the gastric crises of tabes. In the intervals between the attacks there were scarcely any symptoms. The ulcer is on the lesser curvature and induces chronic neuritis, and the patients in this group are always of a neuropathic temperament. Treatment should be more rigorous and kept up longer than with the common forms of gastric ulcer, and operative measures should be considered earlier. The violent pains and profuse, uncontrollable vomiting and the sudden onset and subsidence differ from the gastric crises of tabes only in that they are accompanied by the usual physical signs of gastric ulcer, and also in the benefit from repose, milk diet, bismuth and belladonna or alkalines.

Ganglion Connecting Digestive and Genito-Urinary Organs.—Gil Vernet and Gallart give an illustrated description of what they say is a hitherto undescribed ganglion at the emerging point of the inferior mesenteric artery. It connects the innervation of the digestive tract with that of the genito-urinary organs. This ganglion seems to correspond to the inferior mesenteric ganglion in animals, and it may be the center for vesicorenal, renorenal, urogenital, and reno-intestinal reflex action.

Acute Postoperative Esophagitis.—Moutier refers to injury from the anesthetic, reporting three cases, all in women, who had swallowed the fumes of the anesthetic, almost every inspiration having been followed by a spasmodic swallowing. There was no postoperative vomiting, but signs of esophagitis developed about the twenty-fourth hour, with intense salivation and lacrimation, severe pain in the esophagus, and dysphagia. The symptoms reached their height the fourth day, and all had subsided by the end of the week. Treatment

was with subcutaneous injection of 0.00025 gm. of atropin on two successive days and every two or three hours a large glass of a decoction of linseed containing a teaspoonful of bismuth carbonate and a little magnesium carbonate.

Archives de Médecine et de Pharm. Militaires, Paris

February, 1921, **74**, No. 2

Psychoses in the Army. M. Briand and A. Rouquier.—p. 143.
Epidemic Encephalitis Simulating Multiple Sclerosis. Trabaud.—p. 184.
Epidemic Encephalitis; Seven Cases. Jourdin.—p. 188.

Bulletin Médical, Paris

April 16, 1921, **35**, No. 16

*Recent Therapeutics. G. Lyon.—p. 311.
*Hemoclasis and the Benzoin Reaction. P. Gastinel and P. Jacob.—p. 315.

April 23, 1921, **35**, No. 17

Indications and Formulas for Certain Drugs Useful in Dermatology. Veyrières and Ferreyrolles.—p. 335.

Recent Therapeutics.—Lyon reviews contributions in the line of vaccines, serums and organotherapy, as well as physical agents. He cites Sézary to the effect that tabes seems to be losing its gravity since the introduction of arsphenamin.

Hemoclasis and the Benzoin Reaction.—This communication analyzes the recent literature on the hemoclasic crisis and the colloidal benzoin reaction. The latter is never positive in herpes zoster, and with tuberculous meningitis precipitation never occurs until the fifth tube and continues until the eleventh or twelfth. This forms a zone of reactions special to tuberculous disease of the pia, and may aid in differentiation. A normal fluid never shows precipitation unless, exceptionally, very slight in the sixth to eighth tube. In syphilis, precipitation occurs in all the first tubes, and with general paresis the reaction is obtained in the first and up to the tenth tube. Otherwise it parallels the Wassermann reaction.

Bulletin de l'Académie de Médecine, Paris

April 12, 1921, **85**, No. 15

*Pupil Sign of Pulmonary Tuberculosis. E. Sergent.—p. 448.
Chronic Puerperal Septicemia. Jouin.—p. 459.
Comparison of Strophanthin and Ouabain. A. Richaud.—p. 461.

Pupil Sign of Incipient Pulmonary Tuberculosis.—Sergent remarks that even when the nerve fibers dilating the pupil are not modified enough by the toxins from the tuberculous apical process for mydriasis to occur spontaneously, it can be induced by instilling 2 drops of a 1 per thousand collyrium of atropin. Applying the test alike to both eyes, a more pronounced or more durable response in one eye suggests apical disease on that side. In 10 normal persons, the reaction was always alike in both eyes. In 18 cases of a unilateral tuberculous apical process, this sign was clearly positive in 11 but was negative in 3 long completely healed cases. Preexisting myosis in the other cases reversed the response to the test, the homologous mydriasis occurring tardily and faintly. In 22 suspects, the response to the induced mydriasis test cleared up the diagnosis. Besides these pupil signs of homologous apical disease, there may be characteristic enophthalmos or exophthalmos.

Bulletins de la Société Médicale des Hôpitaux, Paris

April 8, 1921, **45**, No. 11

*Treatment of Syphilis. L. Queyrat.—p. 446.
*Typhoid Bone and Joint Disease. P. E. Weil.—p. 449. Idem with Vaccine Treatment. Sicard and Robineau.—p. 465.
Malformation of First Sacral Vertebra. A. Léri and Engelhard.—p. 454.
Schick Reaction in Prophylaxis of Diphtheria. P. Armand-Delille and Marie.—p. 456; Idem. H. Méry and others.—p. 458; Idem. P. Lereboullet and P. L. Marie.—p. 460.

Treatment of Syphilis.—Queyrat warns that the arsenics used in treatment of syphilis are liable to contain more or less of a substance which is twenty times more toxic than arsphenamin. He urges that the manufacturers should be obliged to state on the label the content of this toxic substance, *amino-oxyphenyl-arsenoxyde*. He thinks that this may have been a factor in some of the disturbances reported. In case of mishap, he urges prompt venesection and instillation by the drip method of 1,000 or 1,500 gm. of physiologic solution with glucose. Epinephrin should be given daily, up to 5 or 6 mg., he adds, ascribing the nervous accidents to malfunctioning of the suprarenals. Lumbar puncture is also required, but the main indication is to give mercurial treatment to check the action of the disease on the nervous centers. Pinard mentioned that the "serous apoplexy" occurs usually only in the young, toward the second or third injection of a series, possibly from reactivation of the disease in the form of a syphilitic meningitis.

Vaccine Therapy of Typhoid Bone Disease.—Sicard and Robineau report six cases with spontaneous recovery and seven in which recovery was accelerated by vaccine treatment. The combination of surgical measures with autogenous vaccines is usually promptly effectual. Rathery has reported great benefit from direct injection of antityphoid serum into the focus of typhoidal periostitis, especially spondylitis.

Gynécologie et Obstétrique, Paris

April, 1921, **3**, No. 4

*Castration for Male Pseudo-Hermaphrodites. L. Bérard and C. Dunet.—p. 225.
Benign Uterine Adenomas of Decidual Type. K. Moukayé.—p. 233.
*Genital Prolapse. H. Hartmann.—p. 245.
Organization of a Maternity. J. Henrotay.—p. 257.
*The Blood in Puerperal Infection. P. Couinaud and R. Clogne.—p. 265.
*Decapsulation of Kidney in Eclampsia. A. Brindeau.—p. 275.

Castration for Male Pseudohermaphrodites.—Bérard and Dunet removed the diseased appendix in an androgynoid pseudohermaphrodite, removing the adjacent testicle as well. The latter proved to be so atrophied that they regretted not having removed its mate at the same time, and present arguments to show the advantages of this in all such cases. The sexual glands are of such inferior structure that their loss will not entail any functional deficit, while their retention exposes to danger of malignant degeneration. They quote some recent statistics which show that about 84 per cent. of cancers of testicles develop in ectopic testes.

Genital Prolapse.—Hartmann reviews the multiple factors that have to be regarded, in different cases, for correction of the prolapse to be effectual.

The Blood in Puerperal Infection.—Couinaud and Clogne expected to find a higher urea content of the blood at and after delivery in both the normal and pathologic cases. The analysis of eighteen cases, however, showed that the urea content of the blood kept within normal range in all the normal cases. Exaggeration of the blood urea, with high proportion of residual nitrogen, was found only in infected cases. They discuss whether this is due to the kidneys or to the liver, adding that functional tests of the liver may usefully supplement chemical examination of the blood in prognosis. It seems to be the rule that azotemia may be expected in acute medical infections; the severer, the graver the condition.

Decapsulation of the Kidney in Eclampsia.—Brindeau urges to try decapsulation of the kidney in eclampsia rebellious to other measures in cases in which the kidneys seem to be blocked and the uterus has been emptied. Evacuation of the uterus may relieve the kidneys without decapsulation.

Lyon Médical, Lyons

April 10, 1921, **130**, No. 7

Balance-Sheet of Intraspinal Anesthesia. P. Santy.—p. 293.

Journal de Médecine de Bordeaux

March 10, 1921, **92**, No. 5

Hydatid Cyst in Brain. Anglade.—p. 119.
*"Oyster Shell" Fracture of Patella. R. Villar.—p. 121.
Strangulation of Hernias of Large Intestine. Fournier.—p. 124.
Iodin Treatment of Epidemic Encephalitis. Boudreau.—p. 126.
Education of Sense of Touch. H. Grenier de Cardenal.—p. 129.

"Oyster Shell" Fracture of Patella.—Villar reports a case in which the patella was split vertically by a shell, the cleavage separating the front from the back. He knows of only three similar cases on record.

Journal de Radiologie et d'Electrologie, Paris

February, 1921, **5**, No. 2

*Gonococcus Rheumatism. Costa and Garcin.—p. 49.
Gallstones in Common Bile Duct. P. Duval and H. Béclère.—p. 57.
*Protection Against Radium Rays. A. Félix.—p. 61.
*Roentgen Treatment of Myoma. A. Béclère.—p. 67.

Gonococcus Arthritis.—The roentgenograms given of several cases of chronic gonococcus arthritis show that the tendency of the bone is to osteoporosis, just as tuberculosis tends to necrosis.

Protection Against Radium Rays.—Félix gives illustrations of various measures for protection, and insists on the necessity for their use, especially refraining from touching the radium tubes with the fingers, always using a protecting forceps. The table is protected with a 2 cm. sheet of lead with a square upright extension reaching to the shoulders. Behind this the operator sits in manipulating the radioactive substances. The benefit from distance should always be borne in mind.

Roentgen Treatment of Myoma.—Béclère describes the technic and method for roentgen-ray sterilization of the ovary at a single sitting, but does not approve of it. Moderate doses at appropriate intervals form a far safer and more effectual method, he thinks, except when the anemia is so extreme that further loss of blood must be prevented at any cost. Even with this, however, it is not always certain that complete amenorrhea can be realized at a single sitting.

Paris Médical

April 16, 1921, **11**, No. 16

Direct Fracture of the Calcaneum. L. Moreau.—p. 305.
*Fatigue Charts. H. Dausset and Boigey.—p. 313.

Fatigue Charts.—Dausset and Boigey comment on the aid afforded in physical training by keeping charts showing the onset and effect of fatigue. They describe with illustrations their method for this.

Presse Médicale, Paris

April 9, 1921, **29**, No. 29

Pathogenesis and Semeiology of Bronzing. A. Sézary.—p. 281.
*Bone Implants in the Spine. A. D. Radulesco.—p. 284.
The Toxins of Helminths. J. Rouillard.—p. 285.

Bone Implants in the Spine.—Radulesco gives an illustrated description of his method of splitting the spinous processes in the diseased vertebrae in Pott's disease in adults. He splits them on the median line, exposing the marrow, and fits between the gaping edges a strip of bone with periosteum, taken from a rib, comprising half of the rib. The outcome was fine, he says, in his seven cases, all with severe spinal cord symptoms. In only one has the preexisting paralysis persisted. He used a circular saw mounted on an electric drill.

April 16, 1921, **29**, No. 31

Inaugural Lecture of Pathology Course. P. Lecène.—p. 301.
*Corpus Luteum in Vomiting of Pregnancy. L. Cheinisse.—p. 307.

Extract of Corpus Luteum in Treatment of Vomiting of Pregnancy.—Cheinisse summarizes recent works on this subject in The Journal and elsewhere, and reiterates the warning that a goiter is an absolute contraindication to this form of organotherapy.

Progrès Médical, Paris

March 19, 1921, **36**, No. 12

*Strychnin Treatment of Melancholia. P. Hartenberg.—p. 123.
Medical Responsibility. Garçon.—p. 124. Conc'n.
Syphilitic Lesion in Caudate Nucleus. Loeper and Forestier.—p. 126.

Strychnin Treatment of Melancholia.—Hartenberg reports the complete cure of melancholic depression in five adults and the nearly complete cure in a sixth case, all treated by strychnin in large doses. The effect does not begin until after 0.05 gm. of the alkaloid have been taken—this requires about a month—and the drug has to be pushed to the limit of tolerance. It takes up to 0.07 or 0.08 gm. to saturate the nervous system. This seems to create a sort of organic shock which rouses from the torpor and restores the patient to normal life. The drug is rapidly eliminated. He gives it in a 1 per cent. solution of strychnin sulphate, 7 drops three times a day at five hour intervals, and increases the dose by 1 drop every day until dizziness, and stiffness of limbs and jaws indicate strychninism. He keeps at the same dose until this reaction has disappeared, and then continues as before. One man of 30, with melancholia and stupor, was restored to normal condition in six weeks. The only partial failure was in a woman with a constitutional tendency to worry. This persisted after the melancholia had subsided. He explains that as strychnin has such a powerful action on the centers of vegetative life, its success is easily understood in melancholia which, he says, is a *maladie de l'affectivité et de la cénesthésie.*

Revue Franç. de Gynécologie et d'Obstét., Paris

January, 1921, **16**, No. 1

*Hysterotomy for Fibromyectomy. L. Dartigues.—p. 1.

Hysterotomy for Fibromyectomy.—Dartigues gives an illustrated description of conservative cervical hysterotomy for removal of fibromyomas. The arteries are not endangered by this unilateral or bilateral deep slitting of the commissure, while it gives ample access for removal of the myoma. He twists a corkscrew into the myoma, and cuts around the portion thus impaled, thus removing the growth, a part at a time, without molesting the adnexa or peritoneum.

Schweizerische medizinische Wochenschrift, Basel

April 7, 1921, **51**, No. 14

*Pneumothorax Treatment of Pulmonary Tuberculosis. O. Weber.—p. 313. Conc'n in No. 15. Supplement. J. Gwerder, in No. 15, p. 351.
*Nontuberculous Bronchial Gland Calcification. M. Gähwyler.—p. 317.
Cancer Mortality in Basel. Jessen.—p. 320.
Mitral Insufficiency with Polyarthritis and Syphilis. E. Attinger.—p. 325.

April 14, 1921, **51**, No. 15

Goiter and Seasons. H. Hunziker.—p. 337.
Interstitial Pregnancy. E. Wormser.—p. 343.
Adulteration of Salvarsan. H. Hunziker.—p. 349.

Artificial Pneumothorax.—Gwerder's experience has confirmed the value of artificial pneumothorax, even when incomplete, in grave bilateral pulmonary tuberculosis as a means of symptomatic relief. In a case described, the upper cavity was of recent date while others lower were old and stationary. The effect of the pneumothorax was thus felt mainly in the upper, recent cavity. The other cavities were only irritated and the local disease whipped up. By reducing the pressure, the effect could be graduated and only the beneficial influence retained.

Nontuberculous Enlargement of Bronchial Glands.—Gähwyler calls attention to seven cases in which the roentgen-ray findings and all the physical findings point to tuberculous disease of the bronchial glands, with pains between the scapulae, and ready fatigue, etc. But the persisting good general health and other features of the cases seem to absolutely disprove a tuberculous affection, and tuberculin tests have been constantly negative for years. The patients are five children between 6 and 16, a woman of 35, and a physician of 38. Gähwyler insists that Nägeli's figures as to the prevalence of tuberculosis need revision, as he classified as tuberculous all calcified glands found in cadavers. The roentgen-ray findings are unable to differentiate tuberculous from nontuberculous calcification.

Pediatria, Naples

March 15, 1921, **29**, No. 6

*Epidemic Cerebrospinal Meningitis in Infants. F. De Angelis.—p. 241.
Diabetes in Boy with Infantilism. F. Amenta.—p. 249.
*Gastric Secretion in the Newborn. R. Pollitzer.—p. 253.
*Dextrin in Infant Feeding. A. Gismondi.—p. 260.
*Hemorrhage in the Suprarenals in the Newborn. S. Tronconi.—p. 266

Epidemic Cerebrospinal Meningitis in Infants.—De Angelis reports complete recovery of three of four infants, from 5 to 7 months old, with severe epidemic meningitis. He injected the antiserum directly into the spinal cavity, giving from 150 to 160 c.c. in about eight daily injections. He reiterates that up to 200 c.c. can be given to young infants without harm; symptoms of intolerance do not develop usually until after several injections, with improvement far advanced. The meningococci disappeared from the fluid after two or three injections. If intraspinal injection is not practicable, or pyocephalus develops, the antiserum can be injected directly into the lateral ventricle which is simple and, he says, harmless. An autogenous vaccine by the vein may usefully supplement the serotherapy in the graver cases.

Gastric Secretion in the New-Born.—Pollitzer has been making a chemical examination of the gastric content of 100

new-born infants before they had received any food. He found early and intense gastric secretion, and remarks that swallowed amniotic fluid may be one of the factors that stimulate the secretory function of the stomach.

Dextrin in Infant Feeding.—Gismondi explains that most of the various infant foods with maltose content have from 30 to 50 per cent. of dextrin to conteract the extreme fermentability of the maltose. He has been experimenting with dextrin alone. Given with cane sugar, half and half, it forms an excellent means of supplying carbohydrates to young infants. He dilutes the milk to 10 per cent. with this, and his experience has been that fermentations are reduced to the minimum thereby.

Hemorrhage in the Suprarenals in the New-Born—In Tronconi's case the infant died the fifth day after birth. The most prominent symptom had been intense jaundice, but hemorrhages were found in both suprarenals. The hematoma in one was so large that it explained the jaundice by pressure on the bile duct. The suprarenals had evidently been diseased, and the Schultze swinging had probably brought on the hemorrhages. The mother died after delivery, and there was much to suggest that her suprarenals had been below par.

Policlinico, Rome

April 4, 1921, **28**, No. 14

Nervous System and Internal Secretions. F. Mosconi.—p. 467. Conc'n in No. 15. p. 513.
Ileus from Gallstones. G. Pansera.—p. 475.
Sneezing May Verify Painful Affection. A. Senigaglia.—p. 477.
Prophylaxis of Rabies. V. E. Ovazza.—p. 478.

April 11, 1921, **28**, No. 15

*Treatment of Ringworm with Radium. L. Mazzoni and V. Palumbo.—p. 503.
Cystic Formations in the Labia. B. Formiggini.—p. 509.
Treatment of Abscesses. L. Morgante.—p. 511.

Radium Treatment of Ringworm.—Mazzoni and Palumbo have confirmed that radium treatment of the scalp causes all the hair to fall out in two weeks; depilation is complete by the eighteenth day. The hair begins to return in about four weeks after the complete fall, and soon it is as thick as before. There is no local or general disturbance from the radium treatment. They have a cap fitted to each patient, made of starched gauze, and tied under the chin with strings from in front of and behind the ears. This cap is covered with six-sided plates, each representing a field of about 6 cm., and holding 1 cg. of the radium bromid, filtered through 1 mm. of aluminum and 4 mm. of rubber tissue, left in place for twenty-four hours. With nineteen radium applicators, the thirty-two or thirty-five zones can all be exposed in two sittings, each of twenty-four hours. The total of irradiation thus amounts to 7,680 up to 8,400 milligram hours. There were no failures in their 132 cases treated to date. Some are still under treatment. The list includes favus, tinea and trichophytosis of scalp and beard, and the disease was always completely cured.

Riforma Medica, Naples

March 19, 1921, **37**, No. 12

Piedra in Sardinia. L. Pais.—p. 266.
Hygroma of Dura Mater. G. Pototschnig.—p. 267.
Postoperative Eventration. U. Feliciani.—p. 270.
*Trauma as Factor in Skin Disease. E. Aievoli.—p. 271.

Trauma and Skin Disease.—Aievoli discusses this subject from the standpoint of workmen's compensation. He comments on the difficulty of excluding malingering, and expresses approval of the German law which compels the insured to enter a hospital for treatment when the results of any trauma are exceptionally prolonged. If the insured declines to go to the hospital, the indemnity is reduced. When the French took command of Alsace and Lorraine they kept this law unmodified, although there is nothing of the kind in the rest of France.

April 2, 1921, **37**, No. 14

*Sexual Neurasthenia. Bruni.—p. 313.
Vaccine Treatment of Surgical Tuberculosis. G. Forni.—p. 315.
*The Nature of Anaphylaxis. E. Pesci.—p. 317.
Hydatid Cyst of the Lung. F. S. Latteri.—p. 318.
Individual Diagnosis of Human Blood. M. Carrara.—p. 321.
Traumatic Lesions from Being Run Over. E. Aievoli.—p. 323

Sexual Neurasthenia.—Bruni reviews the methods for examination and detection of organic causes responsible for sexual neurasthenia in many cases. The urethroscope has thus rendered a cure possible in many instances. He describes further how to combat oxaluria, and insists on the importance of psychotherapy to supplement all other measures.

The Nature of Anaphylaxis.—Pesci concludes from study of the literature and his own experience with guinea-pigs that anaphylaxis is entirely a physicochemical reaction. The idea of production of toxins can be abandoned.

Rivista Critica di Clinica Medica, Florence

Feb. 5, 1921, **22**, No. 4

*Rhizomelic Spondylosis. G. Garin.—p. 37. Conc'n No. 5, p. 49.

Rhizomelic Spondylosis.—Garin reports a case which confirms the constancy and the diffusion of the softening of the bones in this disease. The joint ligaments probably ossify first, while the bones soften. No benefit was obtained from any measures except slight and transient relief of the pain. The literature on the subject is reviewed, and he says that the frequent coexistence of the Strümpell-Marie and the Bechterew types show that they have a single origin.

Rivista di Clinica Pediatrica, Florence

November, 1920, **18**, No. 11

*Hypertrophy of Heart and Anemia in Infants. U. Parodi.—p. 641.
Apparatus for Study of Chemistry of the Respiration in Children. D. Pacchioni.—p. 655.

Hypertrophy of the Heart and Anemia in Young Infants.—Parodi warns to examine for hypertrophy of the heart in cases of grave anemia in infants. In a case described, the enlargement of the heart seemed to be idiopathic in the child, who died at the age of 2½. The anemia had developed at the sixteenth month. A peculiar and persisting pallor, with weakness and occasional dyspnea, first attracted attention, as in the five cases published by Heubner.

December, 1920, **18**, No. 12

*Gravity Abscess in Children. C. L. Rusca.—p. 707.

Gravity Abscess in Children.—Rusca refers to an abscess in the mediastinum, and recalls that a gravity abscess should be suspected in every case of expiratory stridor in children with known Pott's disease. Even when this is not certain, any tendency to Pott's disease in the cervical and dorsal spine should suggest radiologic examination of the mediastinum. The abscess is liable to displace the esophagus.

January, 1921, **19**, No. 1

*Inherited Neurosyphilis. E. Mensi.—p. 1.

Inherited Neurosyphilis.—Mensi found 11.11 per cent. giving a positive Wassermann reaction in 540 young children examined, and in 23 per cent. of 114 cases of disease of the nervous system. He tabulates the details of these 114 cases of nervous disease, and calls attention in particular to a girl of 8 with inherited syphilitic taint who presented the complete clinical picture of cerebrospinal sclerosis. Another girl of 7 presented the spastic paresis described by Marfan, with a tendency to obesity. He compares these cases with Gianelli's case in a young woman with supposed Friedreich's disease, but necropsy revealed syphilitic changes in the central nervous system instead of the findings of Friedreich's disease. Mensi's case corroborates Gianelli's assertion that inherited neurosyphilis may induce the identical clinical picture of familial ataxia and spastic cerebrospinal paresis. The practical importance of the inherited neurosyphilis as a factor in these diseases is evident in the improvement under specific treatment. The psychic anomaly may be due to lesions of the nervous system or to perverted functioning of the ductless glands. The inherited syphilis does not induce actual Friedreich's disease or actual spastic paralysis; it merely simulates them, and under early, intense, and long continued treatment the symptoms may subside. In conclusion, he describes the subsidence in this way of what seemed to be Little's disease in a boy of 4, improvement soon appearing under intramuscular injections of neo-arsphenamin. The importance of supplementary organotherapy is also emphasized.

Anales de la Facultad de Medicina de Lima

February, 1921, **4**, No. 19

*Peruvian Verruga. J. Arce.—p. 5.
*Autoserotherapy in Infections. E. Escomel.—p. 23.
Yellow Fever in Piura. C. E. Zapata.—p. 32. Conc'n.
Epidemic Encephalitis. M. Grossman (New York).—p. 47.
*Peruvian Materia Medica. A. Maldonado.—p. 60.

Peruvian Verruga.—Arce protests against the dictum that enlargement of the spleen forms part of the clinical picture of this disease. It was pronounced in a case he describes, but this was due to superposed malaria, and it subsided as this was cured by quinin.

Autoserotherapy in Infections.—Summarized in The Journal, May 14, p. 1375, when published elsewhere.

Peruvian Materia Medica.—Besides copaiba, aloes, tamarind, the pepper tree and the bread tree, Maldonado reports research on cassia, and other native drugs.

Archivos Latino-Amer. de Pediatría, Buenos Aires

January-February, 1921, **15**, No. 1

*Sinusitis in Infants. J. M. Jorge.—p. 1.
*Case of Prolonged Vomiting. M. Sussini and A. Casaubón.—p. 12.
Torticollis from Typhoid Myositis. F. Bazán.—p. 28.
Nervous Complications of Measles. Alice Armand Ugón.—p. 47.
*Meningitis in Infants. A. Armand Ugón.—p. 53; Idem. V. Zerbino.—p. 56.
*Whooping Cough Plus Pneumonia in Infant. F. Fernandez.—p. 61.

Sinusitis in Infants.—Jorge tabulates the measurements of the maxillary sinus in fifty-six infant cadavers, and describes five cases of this sinusitis in infants less than 3 weeks old. After a few days of swelling of the face and local pain, with fever and agitation or prostration, an abscess formed in the lower lid, gum, or palate. In his first case he opened up the sinus through the gum, but this destroyed the dental germs in the way, and he now prefers to resect the anterior portion of the inferior turbinate bone. Through the opening thus enlarged the sinus drains in the nose and can be rinsed out. This sinus is proportionately large in the new-born.

Prolonged Vomiting.—The child of over 3 had vomited from birth but was still fairly well nourished. The laparotomy revealed hypertrophy of the pylorus, and after this had been corrected the vomiting ceased.

Meningitis in Infants.—In the first infant the serotherapy came too late and the child died, but in Zerbino's case the acute cerebrospinal meningitis was arrested by early and intense serotherapy, with prompt recovery. The mortality in sixteen cases of epidemic meningitis in infants in Montevideo was 43.75 per cent. This high mortality is now being reduced by early and persevering serotherapy.

Whooping Cough Plus Pneumonia in Infant.—The recuperating powers of infants are well shown in the case reported by Fernandez. The child of 8 months had not only whooping cough and pneumonia but presented also typical toxicosis and the grave condition known as decomposition. There were also two days of meningeal symptoms, combated with ice packs, ergot, and rubbing a silver salt into the scalp. The child was given breast milk throughout, and was dismissed in good condition in a little over two months.

Brazil Medico, Rio de Janeiro

March 12, 1921, **35**, No. 11

Favorable Experiences with Ouabain. Areobaldo Lellis.—p. 133.
*Nosography of Northeastern Brazil. A. Gavião Gonzaga.—p. 134.

Nosography of Northeastern Brazil.—Gavião Gonzaga found amebas in eighteen of the 1,235 stools examined at Natal, and other helminths in 495 specimens. He never found the leishman bodies in his research in this province of Rio Grande do Norte, and most of the cases of leprosy are imported. Syphilis is extremely prevalent. There are no facilities for diagnosis of syphilis except by clinical examination, and treatment is difficult.

March 19, 1921, **35**, No. 12

Milk in Transmission of Tuberculosis. M. Curoino.—p. 145.
Social Scourges. Aristides Ricardo.—p. 147.

March 26, 1921, **35**, No. 13

Sterilization from Eugenic Standpoint. Renato Kehl.—p. 155.

April 2, 1921, **35**, No. 14

National Education. Afranio Peixoto.—p. 165.
*Ascaridiasis. P. Palermo.—p. 171.

Ascaridiasis.—Palermo recalls that ascarids are liable to induce anemia, appendicitis, abscesses, fever from the toxins they secrete, and nervous disturbances, besides other lesions from their passage into the liver, pancreas, etc. He thinks that the most serious common injury is the anemia. The hookworm is not the only intestinal parasite that induces anemia. At the same time, he admits that helminths may live in the human intestine without inducing any appreciable disturbance. His research has demonstrated that ascaridiasis in his province, Minas, is almost as common in adults as in children.

Revista de la Asoc. Méd. Argentina, Buenos Aires

March, 1921, **33**, No. 193-194

Cervical Displacement of Heart in Two Calves. L. Van de Pas.—p. 585.
Normal Antibodies in the Blood. A. Sordelli.—p. 590.
Epidemic of Grain Itch. J. Llambias and D. Lorenzo.—p. 596.
Silver Citrate Stain for Neuroglia. J. Lacoste and P. Rojas.—p. 599.
Malformed Spermatozoa in Syphilitics. V. Widakowich.—p. 602.
Destruction of Blood Corpuscles by Snake Venom. Aquino.—p. 604.
Case of Syphilitic Disease of Lung. Elizalde and Montanaro.—p. 608.
*Ayerza's Disease. P. I. Elizalde and F. C. Arrillaga.—p. 613.
Effect of Experimental Suprarenalectomy. J. T. Lewis.—p. 629. Idem. M. A. Catan, B. A. Houssay and P. Mazzocco.—p. 633.
Kidney Functioning after Experimental Denervation. Pico.—p. 637.
Conduction in Beef Heart. P. Rojas.—p. 641.
Adsorption of Snake Venom by Charcoal. M. A. Catan.—pp. 646 and 653.
Hemostatic Action of Emetin. J. Guglielmetti.—p. 657.
Routes of Absorption in the Peritoneum. J. Dutrey.—p. 659.
Production of Diphtheria Toxin. Sordelli and Wernicke.—p. 662.
Heterogenous Antibodies. Sordelli and others.—p. 668.
*Technic for Removal of Tumors in Neck. A. Sacco.—p. 673.
*Obliterating Endarteritis. R. E. Pasman.—p. 742.
*Endoscopy for the General Practitioner. E. Escomel.—p. 747.
Treatment of Amebic Abscess of the Liver. Calcagno.—p. 754.
Lesions in Bundle of His in Heart Block. Arrillaga and Waldorp.—p. 759.
Diagnosis of Pulmonary Syphilis. Arrillaga and Elizalde.—p. 774.
Thyroidin Test for Hyperthyroidism. P. Escudero.—p. 781.
Artificial Pneumothorax in Pleurisy. J. J. Vitón and A. Martín.—p. 794.
The Endocrine Factor in Erythromelalgia. T. Padilla.—p. 804.
Epinephrin Test not Specific for Hyperthyroidism. Escudero.—p. 817.
Disinfection with Violently Agitated Hot Air. M. V. Carbonell.—p. 827.
Model Farm Dwelling for Malarial Region. A. Barbieri.—p. 833.

Black Heart Disease.—Elizalde and Arrillaga give an illustrated description of another case of Ayerza's disease, with necropsy. The purplish to black discoloration of the skin is the ultimate stage of chronic syphilitic bronchopneumonia.

Large Tumors in Neck.—Ten photographs of patients and seven drawings illustrate the preferable technic according to Sacco's experience. The nine patients were all adults, and the large tumors were tuberculous granulomas, gland or bone disease, lymphogranulomas or aneurysms.

Obliterating Endarteritis.—Pasman reports great improvement in two cases under treatment by MacArthur's method, that is, pouring fluids directly into the duodenum, using several liters of fluid, generally Locke's solution.

Endoscopy for the General Practitioner.—Escomel expatiates on the importance of endoscopy, and says that it is within the reach of every one with a simple direct endoscopic tube, painting the mouthpiece black, and using with it the head lamp of the laryngologists. Good work can be done even without complicated endoscopic apparatus with special light bulbs for the interior.

Revista Mexicana de Biología, Mexico, D. F.

January, 1921, **1**, No. 3

The Transcendence of Biology. A. F. Alonso.—p. 109.
*Eugenics from Veterinary Standpoint. S. J. Bonansea.—p. 116.
Case of Excessive Vagotonia. J. J. Izquierdo.—p. 124.
The Logical and Biological Aspects of the Mind. E. Ramírez.—p. 134.
What is Meant by Biology. C. Reiche.—p. 144.

Eugenics from Veterinary Standpoint.—Bonansea has been studying the effect in cows of parenteral injections of autogenous milk and, in other animals, of injection of organ extracts and lecithin. He found the litters larger when the males had been kept fasting for twenty-four hours before being put with the females. Parenteral injection of the cow's own milk increased the output of milk by 2½ quarts a day. These injections did not cause any disturbance unless the cow was diseased, in which case they seemed to whip up the latent disease. When the rabbits and guinea-pigs were injected with lecithin just before being placed with males that had been fasting for twenty-four hours, the litter contained only from 27 to 39 per cent. males instead of the usual 63

to 70 per cent. He gives other practical suggestions for veterinary practice, and ascribes the failure of organotherapy in certain cases to the fact that the extracts were derived from the opposite sex.

Semana Médica, Buenos Aires

March 10, 1921, **28**, No. 10

*Postnatal Phrenasthenia. L. Ciampi.—p. 275.
*Meningitis. M. Castiñeiras.—p. 282.
Abdominal Arteriosclerosis. F. Fernández Martínez.—p. 297.

Postnatal Phrenasthenia.—Ciampi is director of the institution for children with nervous diseases at Buenos Aires, and he describes a case still under observation which he calls the aparetic-aphasic syndrome of postnatal cerebropathic phrenasthenia, saying it is the seventh case to be published. The boy had developed normally until nearly 5. Then came a febrile attack with syncopes but no convulsions; and in a few months convulsions and temporary hemiplegia, and the mental faculties declined to complete feeblemindedness, with progressive loss of speech. An inherited syphilitic taint is probably a factor, and mercurial treatment with sedatives have given the best results to date.

Meningitis.—Castiñeiras argues that the brain and spinal cord are probably involved in meningitis more than we realize. He also insists that in every infectious condition, whatever its origin, we can assume more or less injury of the meninges and, without waiting for certainty, we should proceed with treatment on this basis. In 75 per cent. of the cases we will find that what seemed to be a simple nervous condition was already a typical meningitis.

Siglo Médico, Madrid

March 5, 1921, **68**, No. 3508

Hystero-Epilepsy. E. Fernández Sanz.—p. 213.
Vaccine Therapy in Case of Tachycardia. A. Mut.—p. 219.

Arbeiten a. d. Anat. Institut. d. Univ. Sendai, Japan

Feb. 18, 1921, No. 6

*Comparative Anatomy of Muscles of Shoulder Girdle. S. Nishi.—p. 1.
*Racial Differences in the Scapula. K. Hasebe.—p. 7.
*Anatomy of the Brain Stem. G. Fuse and M. Yamamoto.—p. 21.

Comparative Anatomy of Muscles of Shoulder Girdle.—Nishi discusses the comparative anatomy of the muscular system of monotremes.

Racial Differences in the Scapula.—Hasebe analyzes the findings in 183 individuals of different races in regard to the size and shape of the scapulae. His material includes seventeen from prehistoric skeletons of the stone age, recently excavated in Japan.

The Brain Stem in the Japanese.—Fuse's article forms part of the results of years of research under a special grant. Thirty-one fine plates accompany the article, showing the remarkable difference in the arrangement of the fibers in ninety-one brains and one anthropoid ape. His findings confirm those of K. Schaffer.

Archiv für Kinderheilkunde, Stuttgart

March 5, 1921, **69**, No. 1

Functional Tests of the Vegetative Nervous System in Children. E. Friedberg.—p. 1. Cont'd.
*Ossification of Bones in Hand. E. Stettner.—p. 27. Conc'n.

Ossification of Bones in Hand.—The main points of Stettner's article were given recently in THE JOURNAL, p. 1204.

Deutsche medizinische Wochenschrift, Berlin

April 7, 1921, **47**, No. 14

*Early Diagnosis of Contracted Kidney. Schlayer.—p. 373.
*Xanthochromia in the Cerebrospinal Fluid. E. Leschke.—p. 376.
Treatment of Moist Eczemas. P. G. Unna.—p. 377.
*Chronic Colitis with Endocrine Disturbance. L. R. Grote.—p. 379.
Induced Regurgitation of Duodenal Contents into Stomach. L. Jarno and J. Vándorfy.—p. 381.
Cholangitis Typhosa. G. Neugebauer.—p. 381.
Use of Metal Bolts in Laryngeal Stenosis. Brüggemann.—p. 382.
Constitution of Illegitimate Children. M. Vogel.—p. 384.
The Fürstenau Actinimeter. W. Fink.—p. 385.
Note on Parasyphilis. Lünenborg.—p. 386.
A Type of Tourniquet. F. Krische.—p. 386.
Canvas Underlay for Shifting the Sick and Wounded from One Litter to Another. H. Kritzler.—p. 387.
Hints on Treatment of Dysmenorrhea Virginum, Icterus Catarrhalis and Enuresis Nocturna. G. Schmalfuss.—p. 388.
Management of the Prematurely Born. L. Langstein.—p. 389.
Present Conceptions of Pathogenesis of Malignant Tumors. G. Herxheimer.—p. 390. Begun in No. 13, p. 358.

Early Diagnosis of Noninflammatory Contracted Kidney.—Schlayer has been studying means for recognition of incipient contracted kidney. In cases of so-called essential increased blood pressure, associated with the same clinical picture are two distinct types of disturbed functional phenomena, appearing, however, in different age groups. In one type we find an increased sensibility to sodium chlorid and usually to water, and to various diuretics; furthermore, a tendency to nitrogen retention, notwithstanding a tendency to polyuria. In the second type, in which the subjects are, for the most part, older, there is hyposusceptibility to water and sodium chlorid, and hypersusceptibility to purin bodies. In the first group there is incipient arteriolosclerotic contracted kidney; in the second possibly a more marked type of arteriosclerosis of the large and medium renal arteries. Test ingestion of sodium chlorid, of water, of certain diuretics or proteins classifies the cases by the responses induced, as he explains in detail, and may reveal the pathologic condition in the kidney in its incipiency. The experiences related confirm the wisdom of keeping close supervision over the kidneys whenever the blood pressure is permanently above normal.

Xanthochromia of the Spinal Fluid.—Leschke states, on the basis of his experiments, that xanthochromia of the spinal fluid is caused by the decomposition of hemoglobin, whereby bilirubin is formed, through a ferment produced by the action of the red corpuscles on the cells of the membranes of the spinal cord. Demonstration of bilirubin in the spinal fluid is best accomplished by diazo reaction following the method of Heijmans van den Bergh. Xanthochromia has been reported in 310 cases in the literature as associated with pressure on the cord, hemorrhagic inflammations, and hemorrhage in the central nervous system and its membranes, in which examination of the spinal fluid frequently furnished differential diagnostic evidence. Xanthochromia always occurs when red blood corpuscles find their way into the spinal fluid. Bilirubin is formed, as in other hemorrhagic exudates, within a few days. The Froin syndrome: xanthochromia and coagulation (spontaneously or after addition of fresh serum) is found in only about a fifth of the cases of xanthochromia, and associated with processes narrowing the spinal canal.

Chronic Colitis with Secondary Endocrine Disturbances.—Grote classifies in three groups the affections of the gastro-intestinal canal that are associable with changes of the endocrine system. To Group 1 he assigns the disturbances of gastro-intestinal function that are to be regarded as the immediate expression of a primary pathologic condition in the endocrine glands. Disturbances of gastric secretion associated with exophthalmic goiter are an example in point. Group 2 comprises disturbances in which the gastro-intestinal phenomena cannot be definitely subordinated to the existing pathologic symptoms in the endocrine system but are both possibly ascribable to a third, causal condition. This takes in the field of gastric and intestinal neuroses. In Group 3 may be placed those affections in which the endocrine elements are secondary symptoms. Chronic enteritis, to which a secondary pancreatitis is subjoined, is an illustration. Although little notice has been taken of them, Grote thinks that these secondary functional disturbances of the endocrine glands have a certain amount of importance. During the last six months he observed nine cases of secondary thyroid toxicosis in postdysenteric colitis.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

December, 1920, **52**, No. 6

*Alimentary Amenorrhea. C. Kurtz.—p. 367.
*Quinin as Oxytocic. E. Muschallik.—p. 378.
*Air and Gas in the Uterus. K. Fink.—p. 386.
*Treatment of Febrile Abortion. R. Stix.—p. 394.
*Ophthalmia Neonatorum. W. Buchacker.—p. 406.

Alimentary Amenorrhea.—Kurtz relates that the menses were suspended during the war years in 90.8 per cent. of 142 women in an institution for epileptics. This amenorrhea he ascribes to the lack of proper food. Menstruation has returned now in all but sixty-two; the amenorrhea lasted for about two

years in the others. Emotional influences can be excluded, as a large proportion were imbeciles.

Quinin as Oxytocic.—Muschallik obtained favorable results in 58.6 per cent. of 155 parturients given 0.5 gm. quinin internally twice in half an hour. In another series of fifty cases the quinin was given both by the vein and intramuscular injection, but a favorable result was noted in only 52.1 per cent.

Air and Gas in the Uterus.—Fink relates that in a recent case of sudden death after abortion, the assumption of air embolism was confirmed by necropsy, and he has found three other cases on record in which air embolism occurred tardily. Many fatalities ascribed to hemorrhage may have been due in part to air embolism complicating the anemia. It is important to examine for entrance of air into the heart in all fatalities after placenta praevia or detachment of the placenta by hand, even when an interval of hours or days may have elapsed between the intervention and the fatality. Gas-producing bacteria in the uterus might lead to accumulation of gas, and its fractional passage into the right heart.

Treatment of Febrile Abortion.—Stix remarks that criminal abortion is becoming much more frequent of late, and febrile abortion more common. He insists that all febrile or subfebrile cases should be treated conservatively. The temperature alone is the guide. Only when sudden and profuse hemorrhage forces his hand, does he resort to rapid and vigorous intervention. Otherwise he waits for five days after the temperature is normal before he evacuates the uterus if required. He accepts 37.5 C. in the axilla as the limit. Any fraction of a degree above this forbids active procedure. The patient is kept absolutely quiet in bed with cold moist applications to the abdomen, and light nourishing diet, with abstention from further genital examination.

Ophthalmia Neonatorum.—Buchacker relates that the number of cases has materially increased since 1917, and that the gonococci seem to have acquired special virulence or at least display a special resistance to silver nitrate. The instillation of the ordinary 1 per cent. solution of silver nitrate does not ward off the ophthalmia, but merely retards its development up to the sixth to the tenth day.

March, 1921, **54**, No. 3

*Cleavage of Fetal Membranes. A. Hochenbichler.—p. 143.
Influence of Corpus Luteum or Placenta Lipoid on Menstrual Cycle, etc. E. Herrmann.—p. 152.
*Placenta Praevia. V. Hiess.—p. 165. Idem. F. Lönne.—p. 190.
*Extra-Uterine Pregnancy. Rosenstein.—p. 191

Cleavage of Fetal Membranes.—Hochenbichler emphasizes the importance of the direction in which the fibers run, as a factor in the expulsion of the after-birth.

Placenta Praevia.—Hiess discusses the limits of what we are able to accomplish in management of placenta praevia. In the 257 cases at the Vienna clinic in the last nine years (24,678 deliveries), the rule has been to apply combined bipolar version when the condition calls for immediate hemostasis, regardless of whether the child is viable or not. Delivery followed within twenty minutes in the forty-three cases in which this was done with the os dilated for two fingers or more. The mortality of the probably viable children was 38 per cent., and 6.9 per cent. of the mothers succumbed, but the loss of blood before the woman reached the clinic was responsible for these fatalities. The combined Braxton-Hicks version is too often credited with the deaths for which the preexisting exsanguinated condition is responsible. It was applied in 41 per cent. of all the placenta praevia cases, and the maternal mortality was 3.8 per cent. The inflatable bag was used in 35 cases, the cervix admitting only the finger, and 52.4 per cent. of the children were born alive and none of the women died.

Extra-Uterine Pregnancy.—Rosenstein's experience has confirmed the life-saving importance of reinfusion of the woman's own blood in certain cases of internal hemorrhage. He regards it as a more vital indication to restore the lost blood to the circulation than to arrest the hemorrhage definitely. The blood has to be reinjected under pressure; he uses a syringe for the purpose. As the centers lose their excitability so rapidly with extensive loss of blood, extreme haste is imperative. The changes undergone by extravasated blood in the serous cavities is still a question; it seems to lose its coagulating power. The method, of course, should be reserved for the graver cases as more or less severe disturbances have occasionally been reported from the reinfusion.

Monatsschrift für Kinderheilkunde, Leipzig

December, 1920, **19**, No 3

Infection and Intestinal Disease in Children. Hamburger.—p. 209.
Infectious Gastro-Intestinal Disease. B. Grünfelder.—p. 224.
Advantages of Metal Versus Glass Milk Bottles. Friedel.—p. 233.

Münchener medizinische Wochenschrift, Munich

Jan. 7, 1921, **68**, No. 1

Familial Syphilis. E. Riecke and E. Hoernicke.—p. 1.
Biologic Dosage for Roentgen and Radium Rays. Keysser.—p. 4.
Theory of Narcosis by Inhaled Anesthetics. Meyer.—p. 8.
Improved Mask for Chloroform and Ether. Wederhake.—p. 9.
*Iodin on the Skin in Abdominal Incisions. K. Propping.—p. 11.
Substitutes for Curare. D. Ackermann.—p. 12.
Spirochetes in Intestinal Canal. Langendörfer and Peters.—p. 12.
Silver Arsphenamin in Infantile Syphilis. E. Mengert.—p. 13.
Outbreak of Encephalitis After Neo-Arsphenamin. F. Reif.—p. 14.
Common Type of Mammary Inflammation in Childbed. P. Mathes.—p. 15.

Use of Iodin in Laparotomies.—Propping opposes the use of iodin on the skin in connection with abdominal incisions owing to the danger of damaging the serosa and giving rise to adhesions.

April 8, 1921, **68**, No. 14

*Nonoperative Treatment of Tumors. A. Bier.—p. 415.
*Pathologically Hard Muscles. F. Lange and G. Eversbusch.—p. 418.
*Experimental Modification of Constitution. B. Romeis.—p. 420.
*Paroxysmal Hemoglobinuria. F. Weinberg.—p. 422.
Spirochetes in Brain in Multiple Sclerosis. E. Speer.—p. 425.
Physiologic Treatment of Fractured Forearm. E. Seitz.—p. 425.
Improved Technic for Platelet Count. M. Schenk.—p. 427.
Artificial Feeding of Infants. Rietschel.—p. 433.

Nonoperative Treatment of Tumors.—Bier has been experimenting with protein therapy for twenty years, principally by injecting foreign blood. He found pig blood the best for the purpose and reviews his long and extensive research in this line. This form of protein therapy softens, dissolves and promotes resorption of inflamed tissues, but this alone is not enough to cure malignant tumors. The effect of injections of milk is similar but not so pronounced. In several cases of small, incipient cancer in mouth, breast or stomach, resection far into sound tissue was promptly followed by recurrence, as if the operation had whipped up the malignant disease. No signs of involvement of glands had been discovered at the operation. These experiences have convinced him that in future he had better treat an incipient cancer of the tongue with injection of blood and roentgen-ray treatment. He regards searing with a hot iron as superior to roentgen-ray treatment with inoperable cancer, but the searing must be done with a large cautery, such as is found now only in veterinary practice. He has never seen an inoperable cancer cured by raying. He cites several instances of subsidence of cancer in the course of these twenty years, but they are the rare exceptions. The results on the whole are deplorable. He has never witnessed subsidence of a cancer under induced hyperemia, but Ritter has been more fortunate. The latter has had ten cases much improved, and in one case a large inoperable sarcoma of the shoulder subsided under hyperemia induced by large vacuum cups. There has been no recurrence during the ten years since, and the man served in the war. This tumor gradually subsided without visible necrosis or softening.

Pathologic Hardness of Muscles.—This article discusses five different causes for hardness of the muscles, apart from contraction. The importance of this in general practice is evident in estimating chronic muscular rheumatism. The causes include acute overexertion, chronic fatigue, arterial anemia or venous hyperemia, chilling and deranged metabolism.

Modification of Constitution by Thymus Feeding.—Romeis reports the transformation of weakly and deformed tadpoles into vigorous and normal animals under systematic treatment with calf thymus.

Paroxysmal Hemoglobinuria.—Weinberg reports extensive research in a case in a married man of 25. This case confirms the important share of syphilis in this affection.

Therapeutische Halbmonatshefte, Berlin

Dec. 15, 1920, **34**, No. 24

Institute for the Investigation of Pharmaceuticals. Heubner.—p. 685.
Exercise as Therapeutic Measure. Riesser.—p. 686. Conc'n.
*Treatment of Pyelitis. O. Schwarz.—p. 693.
*Treatment of Pyelitis in Infancy. Langstein.—p. 695.
*Effect of Foreign Bacteria on Intestinal Flora. W. Klein.—p. 696.

March 15, 1921, **35**, No. 6

Prophylaxis, After-Treatment and Indications in General Narcosis. E. Melchior.—p. 161.
Balneotherapy in Obesity. F. Kisch.—p. 168.
Radium Emanations in Treatment of Chronic Arthritis. Werner.—p. 172.
Effect of Primary Sodium Phosphate on Lactation. Mettenheim.—p. 179.

Treatment of Pyelitis.—Schwarz emphasizes the need of early recognition of pyelitis and the necessity of vigorous local treatment until all leukocytes and bacteria have disappeared from the urine.

Treatment of Pyelitis in Infancy.—Langstein protests that the statements above by Schwarz apply only to older children and adults, not to infants. He warns particularly against catheterization of the ureters, or lavage of the bladder in infants. Pyelitis in infants seldom recurs, and Langer and Soldin have shown that the urine of infants is seldom free from bacteria. It almost always contains *Streptococcus lacticus* and occasionally also *B. coli*. The infantile intestine cannot hold back all forms of bacteria—from it they get into the blood stream and thence into the urinary passages. Bacteriologic blood tests show that in children with low resisting powers the resorption of bacteria is increased. Invasion of *B. coli* of itself does not necessarily lead to pyelitis. But if a marked growth of *B. coli*, with suppression of *Streptococcus lacticus*, does occur, pyelitis develops. The infection, then, is traceable to a reversion of the natural milieu resulting from an impairment of the whole organism from various factors. This permeability of the intestinal wall and this particular mode of genesis of pyelitis generally ceases about the end of the child's first year.

Foreign Bacteria as Influencing the Intestinal Flora.—Klein has been experimenting along this line and as the result of his investigations states that with our present methods it is not possible by means of the oral ingestion of even large quantities of bacteria to change, for any great length of time, the intestinal flora of man or animals so that the ingested bacterium remains a steady occupant of the intestine. From his experiments it would appear that immunization procedures offer the best chance of success in any endeavor to add the ingested bacterium to the intestinal flora or to substitute a given bacterium for one already present.

Wiener klinische Wochenschrift, Vienna

March 24, 1921, **34**, No. 12

*Smallpox in the New-Born. G. Morawetz.—p. 129
The Cytolytic Reaction. E. Freund.—p. 130.
Transmissibility of Herpetic Keratitis in Man to the Cornea of a Rabbit. A. Luger and E. Lauda.—p. 132.
The Narcolepsy Problem. Somer.—p. 132. Conc'n in No. 13, p. 147.
*Chondroituria in Pulmonary Tuberculosis. K. Dietl.—p. 133.
Operation for Ptosis. N. Blatt.—p. 134.
Statistical Observations on Stuttering. A. Schick.—p. 134.

Smallpox in the New-Born.—Morawetz relates that a 3½ months old infant, unvaccinated, brought smallpox from a rural community into a Vienna hospital. In the same room, 14 unvaccinated infants were exposed for from one to six days. The day the disease was first diagnosed, all the children in the institution were vaccinated. Of the 13 new-born, 8 came down with smallpox during the next few days. They were all well developed, breast-fed children, from 2 to 5 weeks old, and 7 of the 8 who contracted the infection showed an allergic modification of the disease process, although 2 of them died during the second stage of the fever. The immediate supply of antibodies, which sufficed for the first attack of the virus and gave to the clinical picture its modified character, proved inadequate in the second stage of the fever. This series of cases justifies the assumption that most new-born present at least a partial immunity to smallpox, but that total immunity is not rare.

Chondroituria in Pulmonary Tuberculosis.—Dietl found that as urobilinuria indicates damage to the liver, chondroituria seems to indicate damage to the kidneys. In a number of grave disease processes that affect the most important organs of the body, and especially in febrile infectious diseases (scarlet fever, pneumonia, malaria, etc.), the toxic damage to the liver has been proved by a positive urobilin or urobilinogen reaction. It is therefore desirable to investigate the exact involvement of the kidneys by means of a reagent as sensitive as chondroituria seems to be.

Zeitschrift für Kinderheilkunde, Berlin

Sept. 13, 1920, **26**, No. 5

Treatment of Tetany with Ultraviolet Rays. K. Huldschinsky.—p. 207.
*Epilepsy in Children. J. Husler.—p. 239.
*Whooping Cough plus Spasmophilia. K. Blühdorn.—p. 251.

Fate of Epileptic Children.—Husler reports research in 44 cases of genuine epilepsy in children. Nearly a third died before they had reached their twentieth year. The graver forms of epilepsy seemed to affect children with signs of degeneracy. In a few cases a decompressive operation on the brain improved conditions materially, although no signs of high blood pressure in the cerebrospinal fluid were detected. The seizures gradually subsided in one boy of 7 with grave seizures for a year before the operation, and he is now 20 years old, and normal, with no trace of epilepsy. Unfortunately, the decompressive operation was not always so successful, and some imbecile children succumbed to operative shock.

Whooping Cough Convulsions and Spasmophilia.—Blühdorn emphasizes the importance of diagnosing and treating spasmophilia in children with whooping cough. This element can be eliminated by withholding milk and giving cod liver oil and lime. Great improvement follows when this element in the clinical picture is removed, leaving nothing but the pertussis itself. The absence of any benefit from large doses of calcium testifies that the symptoms are not due to spasmophilia to any extent. He explains further that the disease induces meningitis, and that this is responsible for many of these symptoms. This too calls for special treatment, reducing the pressure by lumbar puncture and giving a sedative. The benefit may be great when lumbar puncture alone or chloral alone has proved ineffectual. In a number of recent cases of serous meningitis in the course of pneumonia, including some with whooping cough, treatment of the spasmophilia materially mitigated the severity of the disease.

Feb. 14, 1921, **28**, No. 1

*Respiration. I. A. Eckstein and E. Rominger.—p. 1.
*Index of State of Nourishment. R. Wagner.—p. 38.
*Diphhteria in the New-Born. E. Rominger.—p. 51.
*Atropin and the Infant Eye. S. Ehrenreich and M. Riesenfeld.—p. 55.
Prevalence of Pulmonary Tuberculosis in Children. Zimmermann.—p. 59.
The Nem System for Dietaries. B. Schick.—p. 62.

Respiration.—In this first report of research on the physiology and pathology of respiration, Eckstein and Rominger deal with respiration in infants. Their improved technic, they say, has cleared up a number of obscure points.

Index of Development and Nutrition.—Wagner says that great interest has been taken of late in Pirquet's geludisi index and in Rohrer's index as the Quakers, who have been giving supplementary food to thousands of German children since the war, demanded an index of the state of development and nutrition as a guide for selecting children to be helped by them. Their aim was to aid the defectively developed and the undernourished. [An article in the *Münchener medizinische Wochenschrift*, Dec. 31, 1920, p. 1523, comments on the valuable information thus afforded by the Rohrer index. This is obtained by dividing the weight, multiplied by 100, by the height. It proved most instructive when applied repeatedly to the same child, as the improvement in the index under the Quakers' feeding was most evident in this, although the children did not always increase in weight beyond others not getting the supplementary food. The Pirquet geludisi index is the cube root of ten times the weight, divided by the sitting height—the distance between the seat of the chair and the top of the head. In robust adults and in sturdy children, this geludisi index is constantly 100. An article in the *Wiener klinische Wochenschrift*, Dec. 30, 1920, states that this index is a good standard for age groups, but does not always apply to individual cases.]

Diphtheria in the New-Born.—Rominger recalls that of forty-three new-born infants harboring diphtheria bacilli, over

23 per cent. developed the disease. His experience further demonstrated that antitoxin treatment did not display any efficacy in these new-born babes, and the diphtheria was always severe, with grave prognosis.

Atropin and the Infant Eye.—Ehrenreich and Riesenfeld instilled one drop of 1:1,000 solution of atropin, diluted, in the eyes of thirty-six infants, making a total of 300 instillations. The effect did not differ materially from that in adults. The limit dose for immobilizing the pupils seemed to be 0.001 mg. of the atropin, for inducing mydriasis, 0.00008 mg.

Zeitschrift für Tuberkulose, Leipzig

April, 1921, **33**, No. 6

*Urine Test for Tuberculosis. H. Alexander.—p. 321.
*Autovaccine made from Sputum. R. Korbsch.—p. 332.
Tuberculosis of the Myocardium in Guinea-Pigs R. H. Jaffé.—p. 334.
Index of Immunity to Tuberculosis. A. Neumann.—p. 339.
Tuberculins for Diagnostic Purposes. A. Wolff-Eisner.—p. 340.

Urine Test for Tuberculosis.—Tests in ninety-one persons with their own urine seemed to confirm the reliability of the reaction that follows intradermal injection with active tuberculosis. Negative results do not exclude it, however. The urine has to be evaporated to one tenth; this is best done in a vacuum.

Autovaccine from Sputum.—Korbsch treats sputum in a Petri dish with a thin layer of 4 per cent. solution of glycerin. As the sputum dissolves, the tubercle bacilli proliferate, and by the sixth day, he says, they can be used, after centrifuging, for an autogenous vaccine without further cultivation.

Zentralblatt für innere Medizin, Leipzig

March 26, 1921, **42**, No. 12

A Case of Saccharine Poisoning. K. Grundfest.—p. 234.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 5, 1921, **1**, No. 6

*Treatment of Asthma. W. Storm van Leeuwen.—p. 628.
The Functioning of the Cerebellum. H. W. Stenvers.—p. 637.
Thrombosis of Splenic Artery. W. J. Bais.—p. 645.
Hippocrates and his "Precepts." H. J. Lulofs.—p. 650.
*Medical Emblems. J. B. F. van Gils.—p. 661.

Treatment of Asthma.—Van Leeuwen reviews recent progress in this line in America and Europe. His own experience, he says, has confirmed the curative value of parenteral protein therapy, and of benzyl benzoate and calcium chlorid in treatment of asthma. He has found the two latter most effectual in inhalation; this brings it directly to the bronchi. His formula is: 20 gm. benzyl benzoate; 16 gm. gum acacia; enough of a 50 per cent. solution of calcium chlorid to bring the amount to 200 gm. Five times a day 10 c.c. are inhaled, using an ordinary inhaler. The benzoate is not a sovereign remedy for asthma but is often effectual. Psychotherapy is a valuable adjuvant, also refraining from meat, fish, beans and peas. He has had patients lose their asthma completely on a purin-free diet, without other measures. Other patients have been cured by protein therapy, injections of small amounts of the protein presumably responsible for the asthma.

Medical Emblems.—Van Gils reproduces eight of eighty engravings depicting medical scenes which he has collected, all dating from the sixteenth century, and portraying numerous medical emblems. Some of the pictures are illustrations drawn to accompany some of Horace's verses. One picture portrays Esculapius healing the sick with the drops of blood from the Gorgon's head held in his right hand. It had no efficacy when held in the left hand. Sambucus (1584) interprets this to mean that only the legitimate practice of medicine has healing power; "Dexter Usus" is the title of this picture.

Acta Medica Scandinavica, Stockholm

April 6, 1921, **54**, No. 5

Blue Disease in Young Man. O. V. C. E. Petersen and others.—p. 395.
*Symmetrical Gangrene. H. Marcus.—p. 413.
*Familial Dementia Praecox with Myoclonus. K. H. Krabbe.—p. 456.
*Studies on Herpes Zoster. H. Enghoff.—p. 468.
*Discutient Phenomenon in Scarlet Fever. W. Schultz.—p. 492.

Symmetrical Gangrene.—Marcus concludes from his experimental research and clinical experiences that symmetrical gangrene is a secondary, infectious disease which develops on the basis of Raynaud's disease. Repeated injection of epinephrin into the ears of fifty rabbits never induced gangrene unless the animals had been infected with streptococci. His research confirms the importance of the internal secretions as a factor in Raynaud's disease, possibly by irritating the sympathetic ganglia in the suprarenals. Sixteen illustrations accompany the article, which is in German.

Familial Dementia Praecox with Myoclonus.—Krabbe describes from Copenhagen three sisters with schizophrenia and myoclonus. The family tree shows 3 with dementia praecox out of 12 in the second generation and 6 out of 24 in the third generation, including the 3 sisters with myoclonus in addition. The fourth generation has 27 members, and all seem normal. The family is Jewish and eminent in commercial life. The founder of the family married his cousin, and his wife's mother also belonged to the same family. The dementia praecox seems to be a recessive mendelian quality in the family.

Herpes Zoster.—Enghoff discusses, in English, the intersegmental overlapping of the sensibility, and the condition of the cerebrospinal fluid in herpes zoster. Seven cases are compared with the literature. He notes the connection between the zoster and subsequent sciatica in one case; in several cases he found lymphocytosis in the spinal fluid, confirming the assumption that zoster is an acute infectious disease.

Induced Blanching of Eruption in Diagnosis of Scarlet Fever.—This sign of scarlet fever has already been described in The Journal, Aug. 14, 1920, p. 512. The effect of intradermal test application of 1 c.c. of human serum is like that of epinephrin, only with the latter the effect is noted at once and subsides in five or six hours in most, while with the serum "extinction phenomenon" the effect is not apparent until the fifth or sixth hour, and then it persists for days.

Hygiea, Stockholm

Feb. 28, 1921, **83**, No. 4

*Phrenocardia. Einar Rodhe.—p. 113.
Septic Osteitis of Dental Origin. U. Hylin.—p. 122.

Phrenocardia.—In two of the three cases described by Rodhe a sexual origin was unmistakable. The clinical picture confirmed in every respect that described by M. Herz in 1909 as a type of cardiac neurosis, sexual psychogenous phrenocardia. But in a third case described by Rodhe the symptoms were typical in the man of 27, but no sexual element was involved. The whole formed a typical traumatic neurosis although assuming the form of phrenocardia.

Svenska Läkaresällskapets Handlingar, Stockholm

March 31, 1921, **47**, No. 1

Rhinolithiasis. H. Key-Aberg.—p. 1.
*Medical Historical Museums. V. Djurberg.—p. 13.

Historical Medical Museums.—Djurberg describes the medical museum at Amsterdam in particular, with twenty-one illustrations. The profession in the Netherlands is proud of its long record, and has been able to secure many interesting relics and reproduce famous paintings on medical subjects. Sections have been fitted up to reproduce obstetric customs, treatment of the insane, etc., in previous centuries. One room is devoted to Boerhaave and his friends, early in the eighteenth century. He says that this museum at Amsterdam is the best arranged and best equipped medical museum in Europe. (The interest taken recently in medical history in the Netherlands is shown by the department devoted to it in the *Nederlandsch Tijdschrift*, and frequently cited in these columns.)

Ugeskrift for Læger, Copenhagen

March 3, 1921, **83**, No. 9

*Prevalence of Scarlet Fever. R. Nielsen.—p. 303.
Disappearance of Leprosy from Iceland. V. Erlendsson.—p. 310.

Prevalence of Scarlet Fever.—Nielsen's statistics show an unmistakable reduction in the number of cases of scarlet fever in children under 5 in Denmark in the last forty years. He ascribes this to isolation of scarlet-fever patients, thus sparing the younger children. This has reduced the mortality decidedly, although the general incidence of the disease has shown slight if any decline.



Hubert Work

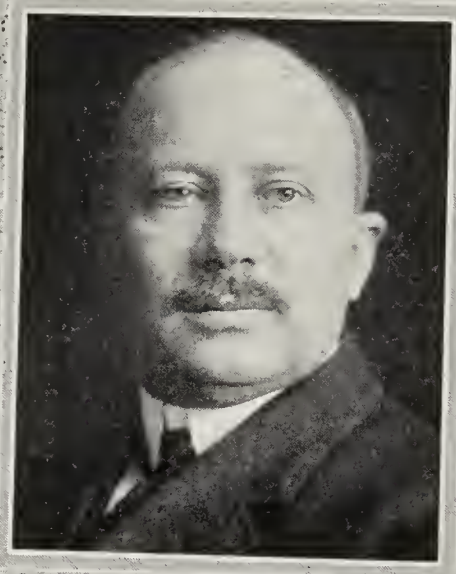
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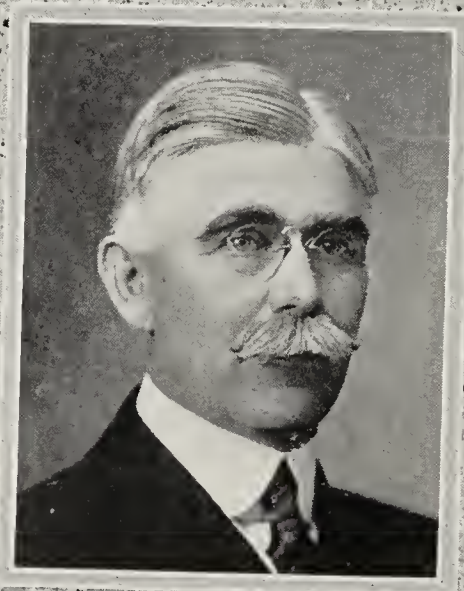
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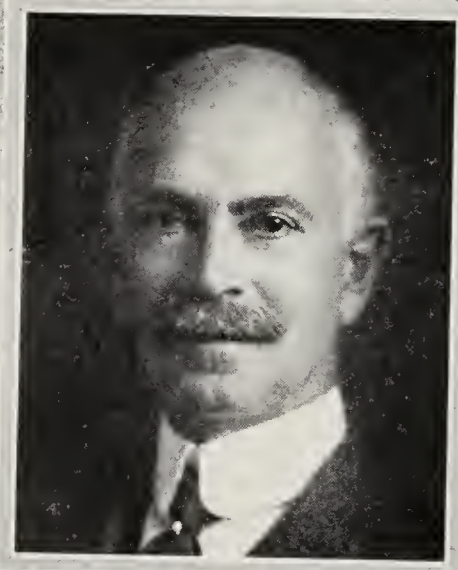
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MYOCARDIAL NECROSIS IN HYPERTHYROIDISM *

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There are probably no cases of exophthalmic goiter in which cardiac symptoms are continually completely wanting. This statement, made recently by Albert Kocher,[1] would no doubt be endorsed by most physicians who have studied especially the condition of hyperthyroidism. The cardiac symptoms naturally vary greatly in degree of severity. There may be only a slight tachycardia, though not infrequently the disturbance of function becomes progressively worse until the patient is permanently incapacitated by myocardial exhaustion and may die suddenly from heart failure.

The nature of the abnormalities of cardiac function in hyperthyroidism is not thoroughly understood, though it is generally believed that they result from the action of secretion products of the diseased thyroid gland acting on the myocardium directly or through its nervous control. In reviewing the descriptions of the heart in various studies of the pathology of exophthalmic goiter, one gets the impression that too often the pathologist has been satisfied with a record of gross appearances, noting dilatation of the right chambers, moderate hypertrophy of the left ventricle and slight fatty change, followed by an inadequate microscopic description or none at all. Considering the importance of the cardiac symptoms and the extent of clinical investigation of them, histologic studies of the heart in this disease are remarkably few and are constituted of brief observations in a very limited number of cases. Thus, Simmonds,[2] in a study of lesions in eight necropsies, cursorily dismisses the cardiac changes with the statement that with the exception of a tolerably constant dilatation of the right and moderate hypertrophy of the left ventricle, he found at most only a slight fatty change of muscle fibers, and this in very limited extent. Fahr [3] is of the opinion that histologic changes in the myocardium have not been searched for any too zealously because of the prevailing view that the cardiac disorders are due to action of a toxic substance first of all on nerves of the heart. At any rate, until the observations of Fahr, only fatty degeneration of the cardiac muscle had been described, and he contributed a study of five cases showing evidences for the first time of actual destructive lesions of the myocardium. The first two were girls, aged 21 years, who died of "heart failure" following partial strumectomy. Histologically, an interstitial myocarditis was found consisting of an accumulation of round cells between the muscle fibers and, in the neighborhood of small vessels, also degenerative changes (type not specified), fragmentation and destruction of muscular fibers. In two others, women, one aged 43, the other, 53, only small interstitial round-cell infiltrations were found, and in a fifth, a man, aged 48, who died of an intercurrent paratyphoid infection, there were, in addition to small interstitial infiltrations, fatty degeneration and focal hyaline necrosis.

Recently I have studied anatomically the hearts from two cases of hyperthyroidism, in both of which auricular fibrillation had been present some time before death. In each instance the cause of death was evidently myocardial exhaustion. In these hearts there was found acute necrosis of the myocardium, in one so extensive as to involve a large part of the left ventricular muscle.

Acute necrosis of the myocardium is a very severe lesion, and the type present in these hearts is not frequently found, especially in adults. For convenience of description, three types of myocardial necrosis may be mentioned: (1) infarction of the myocardium due to occlusion of a terminal artery, (2) infectious myocarditis, in which foci of necrosis are associated with the presence of the infecting micro-organism, and (3) toxic myocarditis, a focal or diffuse death of muscle cells in the absence of occluding vascular lesions and local infection. The last type is rare in adults, and in children in whom it occurs somewhat more commonly it is found only in association with extreme intoxication, usually by diphtheria or scarlet fever. It is to this type that the lesions of the heart in the two cases of hyperthyroidism belong. Its presence is indicative of an extreme intoxication, and yet there was no evidence in either of an infection of sufficient virulence to be alone responsible for the necrosis. It is equally difficult to conceive of so acute and uniform a lesion being the outcome of a slowly progressive degeneration of the myocardium resulting from the action of secretion products of a diseased thyroid gland. It seems more reasonable to suppose that these hearts, overstimulated by disease of the thyroid and laboring in a condition bordering on exhaustion, were in a state of greater susceptibility to injury by toxic substances such as may have resulted from a relatively mild terminal infection, which under ordinary circumstances would not have materially injured the myocardium.

One of these cases was an example of exophthalmic goiter; the other belonged to that rather indefinite group

* From the Department of Pathology, Medical School of Harvard University, and Peter Bent Brigham Hospital.

1. Kocher, Albert, in Kraus and Brugsch: Spezielle Pathologie und Therapie **1**: 751, 1919.
2. Simmonds, M.: Deutsch. med. Wchnschr. **47**: 2164, 1911.
3. Fahr, T.: Centralblatt f. allg. Path. u. path. Anat. **27**, No. 1, 1916.

of hyperthyroidism in which cardiac symptoms are likely to be most distressing, and not infrequently terminating in sudden death from circulatory failure.

The clinical histories of these two cases, which were studied at the Peter Bent Brigham Hospital, are of such interest that, with the permission of Professor Christian, I have abstracted them rather fully.

REPORT OF CASES

CASE 1.—*History.*—A white man, aged 45, was admitted the second time, Nov. 24, 1919. The diagnosis was: chronic myocarditis, auricular fibrillation; hyperthyroidism; syphilis; aortitis; chronic prostatitis.

Summary of Previous Admission.—The patient was admitted first, Sept. 30, 1919, and stayed until October 1, when he insisted on going home, even though strongly urged to remain in the hospital. His complaint on entering the surgical service was hyperthyroidism, but he was transferred to the medical service because of a cardiac decompensation. He remained only three days. He was given digitalis and advised to return to the hospital at the earliest possible time. The past history included typhoid fever, and a chancre at the age of 21. The present illness had a duration of fifteen years, with repeated periods of great nervousness, exophthalmos and loss of weight, with a feeling of weakness. He was treated in various hospitals, with remissions during which he could work. Physical examination revealed an enlarged thyroid gland and marked exophthalmos, accompanied by an enlarged and irregular heart with a systolic murmur.

Present Illness.—Since leaving the hospital, Oct. 1, 1919, the patient had remained in bed at home, except on Monday and Tuesday of each week, at which time he would go down to his office. His hyperthyroidism had not troubled him since he left, but his dyspnea and general weakness had increased in severity, particularly during the last two weeks. At present he could walk only about one-half block or so before he was compelled to stop to "catch his breath." For the last three or four weeks the patient had had a bad cough, which had been producing considerable quantities of frothy white phlegm, often containing small amounts of blood. These coughing spells had increased in severity so that each night he had spells of about an hour's duration in which he coughed and vomited. During the last week or two he had had spells of coughing and vomiting for an hour or so in a milder form during the day. He had spat up no blood during these spells until two days before. About one month before, his ankles and lower legs began to swell more, and had been edematous since then. His abdomen during the last two weeks had increased in size enough to compel an alteration in his clothing. He had taken no medicine since his supply of digitalis gave out six weeks before.

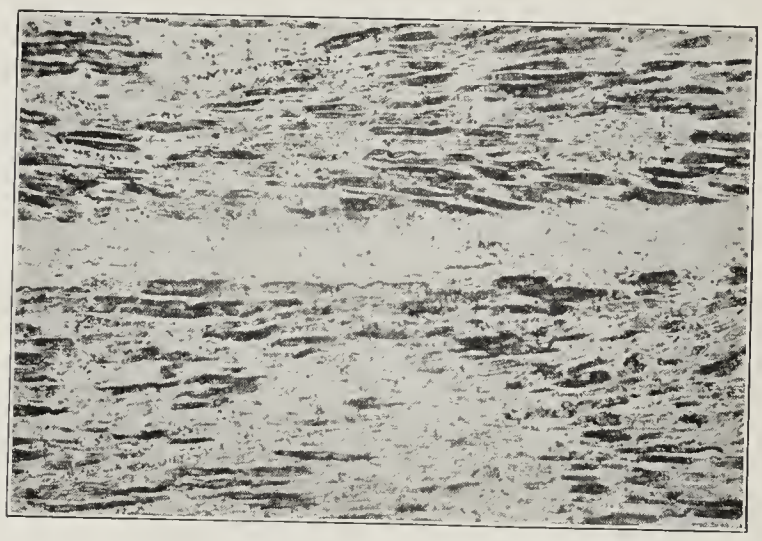


Fig. 1 (Case 1).—Low power view of left ventricular myocardium, showing diffuse necrosis and edema.

Physical Examination.—The patient was emaciated though well developed, mentally clear, and had a slightly nervous attitude. The hair was scant, gray and fine. The face was not remarkable except for protruding eyeballs. The skin was slightly jaundiced, but had no eruptions or pigmentation. The pupils were unequal, the left being the larger, and were irregular, reacting to both light and distance. There were no abnormalities of the sclerae, no photophobia, lacrimation, diplopia or nystagmus. Von Graefe's sign was absent. There was considerable exophthalmos, which was about equal on the two sides. The conjunctivae were normal. There was no gross disturbance of vision and no lid-lag. Glasses were not worn. A watch was heard at 30 cm. on both sides. The normal voice was heard without difficulty. There were no stigmas or tophi. The breath was offensive. There were no ulcerations or pigmentation in the mouth. The lips were of normal color. The teeth were in poor condition, many being missing and carious. There was some pyorrhea. There was no bleeding or lead line of the gums. The tongue was not coated; it protruded in the median line with only slight tremor. There were no mucous patches. The tonsils were small, cryptic and ragged, with slight exudate. The pharynx was slightly inflamed; there was some catarrh. The reflexes were present. There was enlargement of the thyroid on each side of the median line. There was visible pulsation, palpable thrill and an audible systolic bruit. There was no stiffness of the neck or tracheal tug. The thorax was symmetrical. Respirations were 32 per minute. Expansion was equal on both sides. There were no abnormal pulsations. Heart examination revealed diffuse apex impulse located in the fifth intercostal space. The right border of dulness measured 5 cm. from the midsternal line. The left border of dulness was 14 cm. from the middle of the sternum. There was a soft systolic murmur heard best at the apex, but easily heard all over the precordia. It was transmitted to the left axilla and up into the neck. The force of the heart beat was uneven, and its action was very irregular. The radial pulses were equal and absolutely irregular. There was marked pulse deficiency. The pulse rate was 140 per minute. The vessel walls were not hardened. The blood pressure was: systolic, 135; diastolic, 70. Excursion of the lungs was equal. Tactile fremitus was normal; also the voice sounds. A few coarse râles were heard in the bases of both lungs in the back, where there was also slight dulness to percussion. The abdomen was symmetrical; there was no spasm or tenderness. Shifting dulness was present, and also a questionable fluid wave. There were no herniae. Reflexes were normal. A firm, hard edge to the liver was palpable near the epigastrium, 3 cm. below the costal margin. It was slightly tender. The penis was edematous. The scrotum was filled with fluid. Neither the penis nor the testicles were tender. A few palpable lymph nodes were felt in the submaxillary triangle. None were felt in the axillary, epithrochlear or inguinal regions There was only slight tremor of the hands. The reflexes were slightly exaggerated, and all were present. The knee jerks were exaggerated. There was edema of both ankles and lower legs. The patient had worn elastic bandages for fifteen years on the legs to prevent much swelling.

Summary.—A married man, aged 45, a salesman, formerly a hotel manager, was sent in with the complaint of dyspnea, weakness, and swelling of the abdomen and legs. He left the hospital, October 1, after being urged emphatically to remain longer because he seemed to be just on the edge of decompensation. He left, however, and had conducted his business two days a week in his office for the last seven weeks and had remained in bed the rest of the time except for a short time of sitting at the dinner table each evening and going back and forth to the toilet. He had gradually developed marked dyspnea, swelling of the lower limbs and ankles, ascites, and edema in the penis and scrotum. During the last two weeks he had failed rapidly, and his decompensation had become more marked. Physical examination revealed an enlarged thyroid gland, exophthalmos, unequal pupils, and an enlarged and absolutely irregular heart, with a soft systolic murmur heard all over the precordia.

The diagnosis was: auricular fibrillation, chronic myocarditis, with decompensation, hyperthyroidism, syphilis.

Clinical Course.—November 26, there was marked exophthalmos. There was a loud bruit and thrill over the thyroid, particularly the left lobe. The heart measured 14 cm. to the left, and 5 cm. to the right. The sounds were of poor quality and absolutely irregular. There was edema of the bases of the lungs, and fluid in the abdomen. There was more or

less general anasarca. The diagnosis was: exophthalmic goiter, chronic myocarditis, auricular fibrillation.

November 29, it was recorded that on admission, the patient was given 1.6 gm. of digitalis in one dose. There was a wide pulse deficiency. The digitalis caused this to disappear. The pulse had fallen to about 100. This dose was given on the 24th. On the 27th he was started on 0.1 gm. of digitalis three times a day, which had continued to cause only a very slight separation of the pulse rate and rate of the heart beat; but the general tendency of the two rates was downward. The patient so far had had a very satisfactory diuresis.

December 7, it was stated that since the last note patient's pulse had continued to drop from 100, till for the last three days it had averaged about 70. For the last two days there had been no pulse deficiency whatever. Accompanying this drop in the pulse rate there had been a wonderful diuresis. The patient's weight had dropped from 67 kg. on admission to 54.2 kg. on this day. He was now able to lie nearly flat in bed. Dyspnea had almost completely disappeared. His improvement had been remarkable. The phenolsulphonephthalein test on the 26th was 40 per cent. The clinical pathologic condition was otherwise negative except for a moderate secondary anemia.

December 9, the patient was improving rapidly. The pulse was now slow. There was auricular fibrillation, with great cardiac hypertrophy and a loud systolic murmur at the apex.

December 13, it was noted that during the last week the pulse had not risen above 80, and there had been little or no pulse deficiency. The patient's weight had remained about the same. At the present time he had little or no edema.

December 19, the blood pressure was: systolic, 106; diastolic, 65. The patient had been doing very well. The pulse had been about 80, and the temperature had been normal. He still had a slight pulse deficiency. He was gaining in weight.

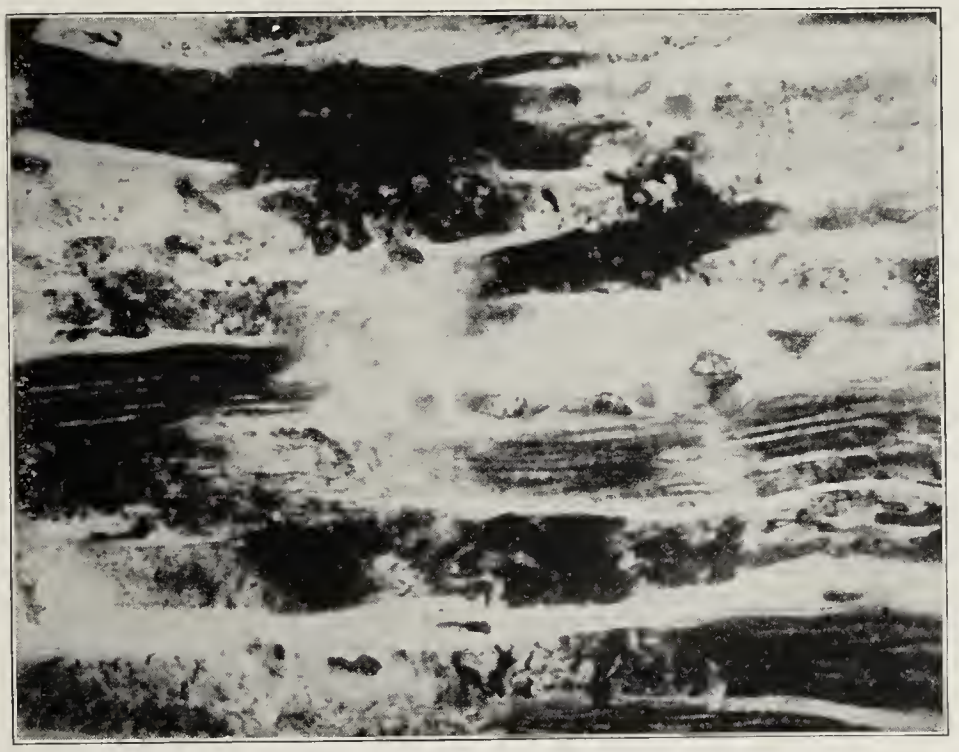


Fig. 2 (Case 1).—High power view of specimen shown in Figure 1.

December 23, the apex impulse was seen in the fourth space 15 cm. to the left. The left border of dulness by percussion made 12.5 cm. in the fifth space. The action was absolutely irregular. There was a blowing systolic murmur at the apex, and a harsh systolic murmur at the base. There was no murmur in diastole and no pulse deficit. There was still a moderate exophthalmos. The veins of the chest were prominent.

December 26, percussion dulness in the second interspace was 5 cm. to the right, and 3.5 cm. to the left. In the third interspace it was 5 cm. to the right, and 3 cm. to the left. The right border of dulness was 4 cm. from the midline, and the left border was 14 cm. There was a systolic murmur over the precordium. The action was absolutely irregular. A roentgenogram of the chest revealed apparent diffuse dilatation of the aorta and enlarged heart. In the opinion of the surgical examiner, thyroidectomy was out of the question, the cardiac condition being well established, not to speak of the aortic dilatation. He stated that if the patient desired he would offer vessel (pole) ligation, but certainly not urge it.

January 10, the heart action was absolutely irregular, with a rate of 80. There was no pulse deficit. There were signs of moderate left hydrothorax. In the last week the patient's temperature had been slightly elevated, going up a little above 100. The pulse began to come up around 90. January 7, he was started on 0.1 gm. of digitalis twice a day. January 9, he was found to have a moderate amount of fluid in the left chest. January 10, he was tapped, and about a liter of fluid removed. He had a slight amount in the right chest, but it was hardly sufficient to withdraw. He showed a slight amount of edema when up for a short time each day in a chair. He showed very little improvement from day to day, and apparently was making very little progress.

January 14, the patient had been in the hospital fifty-one days. January 11, his left chest was tapped, and 1,200 c.c. of blood tinged fluid was removed with considerable coughing. This subsided, and in about twenty-four hours he was much better. Three days later the patient asked the nurse for a glass of water, and while this was being obtained for him, he became very cyanotic, and his respirations ceased. The heart continued to beat for some minutes afterward, and the muscles about his chest and arms showed fibrillary twitchings.

The metabolism averaged +21 from normal.

The blood, November 24, was: hemoglobin, 60 per cent. (T.); red blood cells, 3,200,000; white blood cells, 5,050; smear: polymorphonuclears, 63 per cent.; lymphocytes, 20 per cent.; large mononuclears, 12 per cent.; eosinophils, 5 per cent.; no nucleated or stippled reds; some anisocytosis and poikilocytosis; color good; platelets normal. December 3, white blood cells, 3,900. December 12, white blood cells, 4,800. December 22, hemoglobin, 100 per cent. (S.); red blood cells, 3,396,000. January 2, white blood cells, 4,800. January 8, white blood cells, 5,000.

Necropsy.—Seven hours after death there was considerable exophthalmos, and the thyroid gland was enlarged. The peritoneal cavity contained 700 c.c. of blood-stained fluid. The left pleural cavity contained 1,500 c.c., and the right pleural cavity, 100 c.c. of similar fluid. The right lung was large and boggy, the left lung contracted and atelectatic. The heart was dilated, extending 7 cm. to the right and 10 cm. to the left of the midline. The enlargement was due mainly to dilatation of the right side. There was moderate dilatation and hypertrophy also of the left ventricle. The ascending aorta was dilated, its wall measuring 8 cm. in width after being opened, and moderate arteriosclerosis was present. The myocardium on section was grayish brown, flabby, and showed a few light streaks. The mediastinum contained in the situation of the thymus a mass 6 cm. long by 2.5 cm. wide, which extended down, partially covering the pericardium. On section it was composed of firm, fatty tissue in which were embedded several irregularly spherical, discrete, purplish masses, resembling swollen lymph nodes but containing considerable blood. These did not have the appearance of thymic tissue in gross. The gastro-intestinal tract showed marked hyperplasia of lymphoid tissue of the gastric mucosa which, in consequence, was very nodular. The spleen weighed 275 gm. and showed passive congestion with hyperplasia of the lymphoid follicles. The pancreas showed fatty infiltration and fibrosis. The liver was small, weighed 1,000 gm., and was diffusely but not coarsely nodular. On section it showed definite cirrhosis. The kidneys were congested. The thyroid was enlarged, vascular and soft. Its cut surface presented a smooth, pinkish, rather gelatinous appearance. The testicles were flabby.

Microscopic examination revealed atelectasis and chronic passive congestion of the lungs. There was no evidence of acute infection. The heart showed marked edema and a very diffuse acute necrosis of the myocardium of the left ventricular wall (to be described more in detail later). There were

lymphoid hyperplasia of the stomach, intestine and spleen; progressive atrophic cirrhosis of the liver with numerous vacuolated nuclei of the liver cells suggesting intranuclear glycogen; edema and congestion of the kidneys; atrophy and aspermatogenesis of the testicles, though interstitial cells were present in about normal numbers and contained an abundance of yellow pigment. The aorta showed arteriosclerosis but no evidence of syphilis. The thyroid was very hyperplastic. No colloid was present. The acini were lined by cuboidal or columnar epithelium, a great deal of which was desquamated, the cells showing much breaking up of cellular cytoplasm. Foci of lymphocytes were present here and there, as well as occasional large acidophilic epithelial cells.

The tissue from the thymic region showed the arrangement of lymph glands with active central lymphoid follicles and dilated spaces about the periphery, which contained numbers of large free cells with round or oval vesicular nuclei and abundant cytoplasm. Some of these cells were phagocytic and resembled endothelial cells; others had a pinkish, finely granular cytoplasm. Large mononuclear eosinophilic cells were frequently seen. Red blood cells were numerous within the spaces. No Hassall's corpuscles were present. These nodules of cells are considered to be altered thymic tissue.

This case presented many characteristic evidences of hyperthyroidism of the exophthalmic goiter type, with myocardial insufficiency the most prominent and important manifestation. Unfortunately, only the left ventricular myocardium was studied microscopically, but this showed a very diffuse and severe acute change. There was uniform and extreme edema, and in many sections the majority of myocardial cells were necrotic. This lesion was patchy in distribution; areas of necrosis varying in size from a single cell to foci of macroscopic dimensions. The necrosis, being very acute, showed various transitions in its progress, but there was little or no cellular reaction. The blood vessels of the myocardium did not present any obvious lesions, and there was no recognizable relation between areas of necrosis and vascular supply. No fibrous scars or foci of round cell infiltration were present, that is to say, no evidence of previous injury and repair was found. Perinuclear pigmentation was increased in amount. The general interstitial edema of the myocardium was very striking, being indicated by the presence of an abundant albuminous granular precipitate and of vesicular bodies everywhere within the interstitial tissue and between capillary walls and muscle fibers. Vacuolation of cells, indicating fatty degeneration, was inconspicuous and confined to a degenerating cell here and there. Fatty degeneration obviously played a relatively unimportant part in the lesion present. The important and characteristic lesion was myocardial necrosis, represented by a granular disintegration of the cells. No diffuse hyalinization analogous to Zenker's degeneration of voluntary muscle was present, but primarily a breaking up of cellular contents into granules of varying size. The earliest apparent change in many cells was a "balling up" of material composing the Q-bands, while Krause's membrane still persisted. The granules thus formed stained less intensely with phosphotungstic acid hematein than the normal Q-bands. The regular striations then disappeared, although large distorted hyaline transverse striations might appear by what seemed to be a coalescence of adjacent granules.

Two types of disintegration may ensue on these earliest changes: There may be a complete or partial solution of granular material so that only shadowy collapsed cellular remains persist, consisting of numerous delicate longitudinal threads; or dense irregular masses of hyaline material may appear with innumerable granules between. Often in the latter event the volume of the cell is increased beyond the normal, and a particularly dense mass of hyalin may form a transverse band across the cell, causing its surface to bulge perceptibly. The granules varied in their staining properties, some appearing basophilic, others acidophilic. The nuclei in the course of this process first become shrunken, vaculated or pyknotic, and then disappear. Although cellular reaction is very inconspicuous, occasionally necrotic cells containing hyaline masses and granules are invaded by mononuclear phagocytes, a few of which are to be seen also between cells. No polymorphonuclear leukocytes are present. Certain cells in early stages of degeneration contain numerous small vacuoles, indicative of fat, always situated within the sarcoplasm between muscle fibrils. These cells also may undergo granular disintegration, as described above. It is of some importance, as bearing on the structure of myocardium, that very frequently one observes necrosis of a heart muscle cell sharply limited by the intercalated disk between two cells, as if each cell were a physiologic unit, rather than merely a portion of syncytium. The necrosis is quite similar in appearance to that occurring in the heart sometimes in diphtheria, except that it is more diffuse and there is less evidence of cellular reaction.

CASE 2.—*History.*—A white woman, aged 45, who was admitted, April 10, 1920, complained of "shortness of breath." The diagnosis was: hyperthyroidism; chronic myocarditis; pleuritis (chronic fibrous), bilateral; acute bronchitis. She had been married twenty years. Her husband died one year before she was admitted of "tuberculosis of the throat." Six children were living and well. There had been no miscarriages. The patient was in the habit of drinking two cups of tea and two cups of coffee daily. She did not use alcohol or drugs. She had been engaged in housework eight hours a day in private homes for the last year, previously working in her own home.

There had been no headache until the preceding winter, when headaches occurred three or four times a week, and were severe, not localized. Glasses were required for reading. There was no failing vision, inflammation or pain. There was no loss of hearing, pain in the ears or discharge. The patient had always been susceptible to head colds; there was no discharge from the nose, epistaxis or symptoms of obstruction. The patient had worn two sets of false teeth for twenty years. She had had tonsillitis once; no sore throats. She had not been hoarse until recently. There was occasional dull pain in the left lower chest. She never had any severe pain either here or over the precordia. There was no palpitation. She was short of breath as a child, and had had shortness of breath most of her life, but had never awakened from sleep at night with it. She had had a cough almost every winter for the last five years, accompanied by much expectoration, more marked in the morning. The preceding January the patient raised about one-half cup of bright red blood following an attack of coughing. For a week following the sputum was blood-streaked. She had had no chills and no night sweats. She ate regularly, with good appetite. The bowels were regular without catharsis. The patient said the blood she raised last January probably came from the stomach. Menstruation started at 17. The last period occurred in January, 1920. Menstruation had always been regular until the spring of 1919, when she had amenorrhea for four months. There had been no pain or metrorrhagia. The best weight had been 155 pounds twenty-five years before; the weight was 130 pounds one year before. She lost 15 pounds following the death of her husband and an attack of tonsillitis.

Four months before, the patient had a very severe headache, much worse than ever before. She felt nauseated and sick at her stomach, although there was no severe pain in the stomach region. At this time, following a severe attack of coughing, she raised about one-half cup of bright red blood, which, she recalled, was not frothy and came up without effort. She went to bed and remained there three days without medical attention. She then got up, but was able to do only light housework. The shortness of breath which had troubled her more or less all her life, and especially during the last two years, had become aggravated. She since then easily became short of breath, even without exertion. Since that time also the cough which she had had most of the winter had become worse. It had been accompanied generally by thick, tenacious sputum, and there had been considerable expectoration in the morning. During the last week she had not been able to sleep because of severe discomfort and dyspnea at night.

Physical Examination.—She was fairly well developed, poorly nourished, and lay in bed propped up on pillows. She was a little dull and retarded mentally. The hair was grayish brown, of normal amount and texture. The face was somewhat pinched. The lower jaw and the malar bones were prominent. The skin was brownish, normal in texture, felt

somewhat clammy, and there was no eruption. The pupils were equal in size, and reacted to light and distance. The sclerae and conjunctivae were normal. There was no photophobia, lacrimation, diplopia, palsies, lid-lag or exophthalmos. There was marked lateral nystagmus to the left, less so to the right. The lips were cyanotic and dry, with no herpes, ulcerations or fissures. The teeth were all missing; plates were worn. The gums were of normal redness, with no bleeding, lead line or pyorrhea. The tongue was dry, not coated, and protruded in the midline; there was a fine tremor; no mucous patches were noted. The thyroid was questionably palpable. No lymph glands were felt. Pulsation in the carotids was strong. There was no stiffness or tracheal tug. The thorax was symmetrical, of long, narrow type. With deep respiration the thorax seemed to move *en masse*. The movement was equal on both sides. Breathing was rapid, shallow, and not abnormal in type. The breasts were equal in size, with thickly pigmented areolae and nipples. There were no masses or tenderness. The apex impulse in the fifth space was 10 cm. from the midsternum. It was very forcible and tapping, and there was a suggestion of a thrill at the apex. Auscultation revealed a loud, booming first sound. No murmurs were heard at the base or the apex. The rhythm was absolutely irregular. The rate was about 120 per minute. The left border of the heart was percussed 12 cm. from the midsternum; the right was 4 cm. Supracardiac dulness was 6 cm. The radial pulses were equal, but absolutely irregular in rhythm, full and bounding, suggestive of the Corrigan type. The rate was 120 per minute. The walls were easily compressible, but not sclerosed. The blood pressure was: systolic, 160; diastolic, 68. On examination of the lungs, tactile fremitus was not increased. The percussion note was tympanitic in front and back except behind over the body of the right scapula, and between this area and the spinal column where the note was dull. On auscultation a few small, moist râles were heard in the second right interspace near the sternal margin, and also behind just beneath the spine of the right scapula. Over the area in the region of the scapula the breathing was bronchovesicular in type. The upper limit of dulness of the liver was over the sixth rib. The edge was felt 1.5 cm. below the costal margin in the midaxillary line. The surface was smooth and hard. The edge was sharp. It was not tender. There was a rapid tremor of both hands; no clubbing of the fingers. The nails were blue, and the fingers were congested.

Summary.—A poorly nourished middle-aged woman, with a negative family history but a history of exposure to tuberculosis by her husband, who died of "tuberculosis of the throat" one year before, had had measles, whooping cough, pneumonia, scarlet fever, mumps and tonsillitis. Besides these of importance in her present history were headaches, which she had often throughout the last winter, with which she would awaken and which left her in the late afternoon, and the cough which she had had every winter for the last five years, which was accompanied by much expectoration of thick sputum. The main symptom of her present illness was shortness of breath. She stated that she had had more or less of this all her life, but it had grown worse of recent years, and had become especially noticeable the last five months. Four months before admission she raised about half a cup of bright red blood following a severe and prolonged attack of coughing, and had not been able to do anything but light housework since. She coughed frequently, and generally raised thick, tenacious sputum. The main findings in the physical examination were cyanosis of the lips and hands, dulness over the right scapula with bronchovesicular breathing, a few small, moist râles in the same region, and râles in the second right interspace in front of the same type. The heart was enlarged; the rate, 120 per minute, irregular, with no murmurs. The first sound was loud, and there was a purring feel to the apical impulse, but no definite thrill. The liver edge was palpable in the midaxillary line 1.5 cm. below the costal margin. Its surface was hard and smooth; its edge, sharp but not tender. The radials were equal, but there was absolute irregularity. The blood pressure was: systolic, 160; diastolic, 68.

The diagnosis was: chronic myocarditis; auricular fibrillation; chronic bronchitis; pulmonary tuberculosis (?).

Clinical Course.—April 11, the apex was well localized in the fifth space 11 cm. to the left of the midline. The impulse was tapping in quality. The right border of dulness was 5 cm. The first sound at the point of maximum impulse was snapping and loud, followed by a short, soft, systolic murmur. No diastolic murmur was heard. The second sound was not increased. There was no thrill. The rhythm was absolutely irregular, indicating auricular fibrillation. The patient was moderately cyanotic. The pulse was of moderate size. There was no marked deficit. There were diffuse râles and ronchi throughout both chests. The cardiac condition was probably a mitral stenosis with auricular fibrillation.

April 12, the blood pressure was: systolic, 145; diastolic, 95. The vital capacity was 1,000 c.c.

April 13, the heart measured 12 cm. to the left. The action was very rapid and irregular. There were cardiac hypertrophy and auricular fibrillation.

April 14, the heart sounds were irregular and rapid. The first sound was very snapping in character, with an accompanying systolic murmur. The second sound was heard. There was no diastolic murmur. In the left interscapular region behind, there were a few fine, crackling râles, and breathing was bronchovesicular in character. The blood pressure was: systolic, 170; diastolic, 80. The vital capacity was 1,300 c.c.

April 15, the blood pressure was: systolic, 160; diastolic, 38 (?).

April 17, the patient was noted as a cardiac case who came in about a week ago pretty well decompensated. The blood pressure was 160, temperature 101.6. The pulse ranged between 100 and 138, with a slight deficit. She was very dyspneic, orthopneic and cyanotic. She was much relieved by bleeding 400 c.c.. Digitalis, 1.5 gm., was given without effect. Forty-eight hours after this she was started on 0.2 gm. every four hours. After six doses of this it had to be discontinued because of vomiting. There followed an immediate drop in the pulse to 90, with about 10 deficit. Since this, the pulse had gone up slightly, but the general condition seemed to be better. She was comfortable. There was only slight dyspnea, and the appetite was fairly good. Her history was pretty definitely that of tuberculosis, but so far the sputum had been negative for acid-fast bacilli.

April 19, the blood pressure was: systolic, 165; diastolic, 70. The vital capacity was 1,100 c.c.

April 21, the blood pressure was: systolic, 165; diastolic, 95. The vital capacity was 1,200 c.c.

April 25, the patient's condition remained about the same. Her temperature still ranged between 101 and 99, and the pulse, in spite of continued doses of digitalis, ranged between 90 and 128. This day her pulse, for the first time, had been entirely regular, reaching 120 on two occasions, and the patient said she felt better today than she had since her entrance.

April 26, the patient in the morning was very weak and cyanotic, and through the night she had been quite irrational. The temperature was 103.6, but no basis for this could be found. Examination of the lungs was entirely negative.

April 27, it was noted that the patient had entered the hospital thirteen days before with a temperature of 101.6, the pulse ranging between 130 and 138. There was auricular fibrillation with a good deal of cyanosis and dyspnea, the latter relieved by bleeding 400 c.c. Digitalis was administered at different times, in doses continued until vomiting was produced, without any appreciable effect on the heart, pulse or general condition of the patient. The temperature ranged continually between 99 and 101, and it was really thought that little improvement could be hoped for. With the absence of response to digitalis, it was thought that either the myocardium had reached the end of its reserve power, or that there was an underlying tuberculosis, or an element of hyperthyroidism. For the last three or four days she was rather irrational most of the time, especially at night, when she attempted frequently to climb out of bed. This day the temperature rose to 103.5. She became increasingly weaker and more dyspneic, and finally comatose about four hours before death, and died without other change.

The blood, April 11, was: hemoglobin, 90 per cent.; red blood cells, 5,740,000; white blood cells, 10,600. Smear revealed: polymorphonuclears 74 per cent.; lymphocytes, 10 per cent.; large mononuclears, 12 per cent.; eosinophils, 4 per cent. There

was no irregularity in the size, shape or staining of the red blood cells. April 18, white blood cells, 9,300. April 24, white blood cells, 10,900.

Necropsy.—Nineteen hours after death, the body showed slight edema of the legs. The eyes were negative. There was no lymph glandular enlargement. The left pleural cavity was obliterated by fibrous adhesions; old adhesions also were at the right apex. There was a small amount (2 gm.) of pinkish tissue within mediastinal fat, suggesting thymus. The heart weighed 250 gm. The right side was dilated. The myocardium was a deep brownish red. There was no evidence of fatty or fibrous change. The lungs were congested posteriorly, and were edematous. The small intestine and colon showed distinct enlargement of solitary follicles. The spleen was enlarged, weighing 200 gm., and showed passive congestion and prominent lymphoid follicles. There was passive congestion of the liver. The kidneys were congested. The thyroid was moderately increased in size. It had a pinkish color and was somewhat translucent. Its cut surface was more nodular than normal, having a finely lobulated appearance, the lobules varying in size. It apparently contained very little colloid.

On microscopic examination the heart showed marked interstitial edema of the myocardium with a few focal necroses in the ventricle and more extensive focal necroses in the right auricle. There was intense capillary congestion in the lungs, and chronic passive congestion, but no evidence of infection. The liver showed central congestion, moderate fatty change and numerous vauolated nuclei, suggesting intranuclear glycogen. The spleen showed passive congestion and lymphoid hyperplasia. The intestine showed hyperplasia of the lymphoid tissue. The kidneys were congested and edematous. The ovary contained a few follicles. Sections through the mass in the region of the thymus showed a small amount of residual thymic tissue. The thyroid gland was diffusely hyperplastic, only a little colloid remaining in a follicle here and there. The acinar cells were high cuboidal. Eosinophilic epithelial cells were abundant, and there were a few foci of lymphocytes.

The ventricular myocardium showed an extensive general edema and an increase in perinuclear pigment. Sections stained for fat revealed a negligible amount of this substance. No fibrous scars or foci of round cell infiltration were seen. The blood vessels appeared normal. There was no diffuse necrosis of the myocardium, such as was found in Case 1, although occasional isolated necrotic cells invaded by mononuclear phagocytes were to be found in the ventricular muscle. Sections through the right auricle contained numerous small foci of necrosis involving several muscle fibers. In these areas there was considerable cellular reaction within and about the dead cells. Most necrotic fibers had been invaded by numbers of mononuclear phagocytes, and the cellular contents had disappeared, leaving only a thin sheath filled with a row of the invading cells. Many of these large mononuclear cells were present in the neighborhood, though there was an absence of polymorphonuclear leukocytes. The focal lesions present in this heart were obviously of longer duration than those observed in Case 1, and they were of such a distribution that they might easily have been overlooked in a routine examination.

COMMENT

Both the cases described are undoubted examples of hyperthyroidism, the one with, the other without exophthalmos. The thyroid gland in each was hyperplastic, conforming in pathologic changes to the glands associated with symptoms and signs of hyperthyroidism. The most prominent clinical manifestation of the disease in each was cardiac weakness and auricular fibrillation; and in both hearts myocardial necrosis was found. The extent of myocardial necrosis, however, was quite different in the two, being very extensive and diffuse in one, limited and focal in the other.

The cardiac lesions are acute and of short duration, in the first case possibly only a few hours; consequently they cannot be thought of as contributing to the general disturbance of cardiac activity, which had lasted a considerable period of time, though in the second case the lesions of the auricle may conceivably be related to auricular fibrillation, the duration of which is not known, but which was present seventeen days under observation in the hospital.

MacKenzie [4] records two cases of auricular fibrillation in which lesions within the auricle were found postmortem. He states concerning the cause of auricular fibrillation that "at present we can only say that one predisposing condition is certain organic changes in the muscle wall of the auricle."

One is confronted with the question whether the myocardial necrosis is a direct outcome of an underlying progressive change in the cardiac muscle due to the action of products of the diseased thyroid gland or whether they are the accidental effect of an additional and different injury superimposed on an abnormally functioning myocardium. Myocardial necroses, of the kind present in the first case at least, is usually associated with severe infections, such as with the diphtheria bacillus or the streptococcus, and is regarded as indicative of extreme intoxication. No evidence of such an infection was present in the cases under consideration, though the slight terminal rise in temperature may possibly indicate the presence of infection which was not established by postmortem examination. Certainly such a terminal invasion as may have occurred was not of a character or virulence which presumably under ordinary circumstances would have given rise to acute myocardial necrosis. On the other hand, the evidence available is against the assumption that necrosis is the event of a progressive degenerative myocardial change; for there are few instances on record in which actual destructive lesions of heart muscle have been observed in exophthalmic goiter, even in those dying of cardiac failure. In Case 1 it seems possible that the removal by thoracentesis of 1,200 c.c. of pleural fluid three days before death may have directly contributed to the sudden widespread destruction of heart muscle. Following this operation there was edema of the lungs and a rise in pulse from around 70 to 112 per minute. While this increase in pulse rate is not remarkable in itself, as the heart beat had been as high as 140 while under observation in the hospital, it may have been associated with a relatively greater cardiac strain sufficing to exhaust the myocardial reserve. Such a possibility is not present in Case 2, the only obvious change in the patient's condition being a rapidly rising temperature, beginning twenty-four hours before death.

In the absence of demonstrable severe infection, it seems rational to assume that the myocardiums in these cases were laboring in a state bordering on complete exhaustion, and were abnormally susceptible to injury, such as may have been caused by an undiscovered terminal infection (perhaps indicated by the terminal rise in temperature), or by sudden functional strain. In the case of exophthalmic goiter reported by Fahr in which myocardial necrosis was present, the patient died of a paratyphoid infection, which ordinarily does not produce destructive lesions of the heart.

Whatever the nature of the terminal injury, it appears to attack directly the muscle cells, for there are no demonstrable vascular lesions; and while an impaired circulation in the myocardium is indicated by a general edema, this is equally present in each heart, though necrosis is diffusely present in only the one.

It is evident that the underlying disturbance of cardiac activity in these two cases was not associated

4. MacKenzie, James: Diseases of the Heart, 1918, p. 217.

with any apparent lesion of the myocardium, since the lesions present were obviously of short duration. It is suggested, however, that a myocardium laboring under such conditions is hypersusceptible to the action of injurious agents, which may cause widespread necrosis sufficient to bring about a rapidly fatal termination.

The view is now generally accepted that the cardiac disturbances of hyperthyroidism are due to the action of toxic products of the diseased thyroid gland,[5] but the manner in which the result is effected is not thoroughly understood. It is thought that primarily the nervous mechanism is the point of injury, though there are those who agree with Fahr that the myocardium may be injured directly by the same agency. The evidence for the latter view is based on the presence of scars and round cell infiltration of the myocardium in a few cases, and the fatty degeneration frequently demonstrated. The presence of acute necrosis in the present cases would seem to support this assumption; but because of the rarity of such a lesion in persons dying of exophthalmic goiter, it is better perhaps to regard the necrosis as a result of an injurious agency other than that responsible for the underlying cardiac disease, assuming that the myocardium has a greater susceptibility to injury than the normal.

The opinion has been expressed that at least a part of the intoxication in exophthalmic goiter, especially that affecting the heart, may have its source in a persisting thymus so frequently found in such cases. According to the statistics of Capelle,[6] a "thymus persistens hyperplastica" has been found in about 95 per cent. of fatal cases of this disease, whether death was due simply to the severity of the disease or occurred during the operation or twenty-four hours after strumectomy. This view has found support in the reported beneficial effects of surgical removal of portions of the thymus,[7] and it is the opinion of some that this gland is qualitatively, not merely quantitatively, altered and may cause toxic as well as mechanical injury to the heart. The presence of a relatively small residuum of thymic tissue in each of these cases seems contrary to such an hypothesis, for in both these individuals cardiac symptoms were the most distressing and serious evidence of the disease; and while, of course, we do not know that a mere fragment of thymus may not suffice to act injuriously, the finding of a large thymus would perhaps have been more in harmony with the view that this gland may be a contributing source of substances injurious to the heart.

5. Thorel, C.: Ergebn. v. Lubarsch and Ostertag. **17**: 90, 1915.
6. Cited by Halsted (Footnote 7).
7. Halsted, W. S.: Harvey Lecturers, 1913-1914, p. 224.

American Society for the Control of Cancer.—In a summary of the past year's work, the society reports there are now nine regional districts made up of from two to five states each under the direction of an eminent physician or surgeon. Thirty-three states, exclusive of Hawaii, are also organized, with chairmen. During the past year educational campaigns were carried on by means of "cancer weeks" in New York City, Ohio and Colorado, and "cancer days" in Scranton and Sayre, Pa. The Maine committee is planning a cancer day, Arkansas, a cancer week, and Texas will designate April as cancer month. At the invitation of the American Medical Association, an exhibit was made at their annual meeting in New Orleans. Lectures have been given before medical organizations, literature has been widely distributed in the form of pamphlets and circular letters, and articles have been furnished for various society publications. The organization now has 1,200 members and contributors, and an attempt is being made to secure a national charter.

THE PROBLEM OF THE NARCOTIC DRUG ADDICT

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The report of the Committee on the Narcotic Drug Situation in the United States, adopted by the American Medical Association at the Annual Session in New Orleans, 1920, and published by the Council on Health and Public Instruction as one of its education pamphlets, has shown that existing conditions relating to narcotic addiction constitute a grave menace to society.

Since reputable physicians generally lack familiarity with the facts regarding the addiction evil, because these cases are rarely encountered in ordinary medical practice, it seems proper at this time to call attention to some of the more important features of that report for the sake of needed emphasis.

PREVALENCE OF ADDICTION

That narcotic drug addiction does exist, though its prevalence is enormously exaggerated by those who would have it persist while deploring its extent, and that it is common among degenerate denizens of the underworld, criminals, prostitutes, mental defectives, their condition rendered more hopeless and pitiable as social outcasts because of the slavery to the drug, cannot be denied. That in large centers of population, clerks, salesmen and women, bookkeepers, mechanics, artisans, conductors and motormen of street cars, and chauffeurs of public and private vehicles are found addicted to the use of habit-forming narcotic drugs, constitutes a source of danger to every one, both physical and moral. It must also be admitted that, in isolated cases, victims of drug addiction may be found even among the educated and leisure classes; yet, though clandestinely maintained by these people, it may be in an atmosphere of supposed refinement, nevertheless the insidious danger of thus spreading the moral contagion may even be enhanced by its apparent respectability, and it must not therefore be compromised with or condoned in any class or social station. The vice that causes degeneration of the moral sense, and spreads through social contact, readily infects the entire community, saps its moral fiber, and contaminates the individual members one after another, like the rotten apple in a barrel of sound ones.

HAGUE CONVENTION BASIS OF LAWS

In 1912-1914, an international convention between the United States and other powers was signed at The Hague, ratified by the Senate and proclaimed by the President, March 3, 1915, entitled, "Suppression of the Abuse of Opium and Other Drugs."

This international treaty convention thus having become the supreme law of the land, and paramount to the mere act of a national legislature, the United States Congress, in conformity therewith, enacted three laws: one, regulating the importation and exportation of opium; another, imposing a prohibitive tax on smoking opium; and the third, known as the Harrison Narcotic Law, designed to regulate and control the domestic distribution of opium and cocain.

HARRISON LAW

While nominally a tax law, entrusted for administrative purposes to the U. S. Treasury Department, the

main purpose of the Harrison law was not to produce revenue for the general purposes of government, but rather, specifically to carry out our national treaty obligations, by establishing control of the distribution of the narcotic drugs in the United States, so as to prohibit their abuse, and to restrict their use to the proper channels of legitimate medical, scientific, dental and veterinary practice.

Through failure to recognize the serious international character of this obligation of the United States government, and because of the license tax imposed, which with its other regulations may appear to some as unnecessarily burdensome, some loose thinking has been indulged in, and criticism of the Harrison law has been broached, even to urge that it be repealed. On this basis has arisen a sinister propaganda having for its object the creation of popular sentiment hostile to the requirements of this law, so as to render futile or difficult the most earnest efforts of the government authorities to enforce it.

Thus it may be seen how vital a matter it is to our national honor, in respect to its solemn treaty obligations, that the federal government shall, in good faith, actually enforce the provisions of this act of Congress.

STATE LAWS

It is equally important that the several states, recognizing this fundamental motive in human progress, should enact legislation supplemental to and in harmony with the federal laws, which shall enable the exercise of the special police powers of the states, in cooperation with the federal authorities, in giving full effect to the clear purpose and intent of this federal statute. Such laws have been written on the statute books in Massachusetts, Rhode Island and Pennsylvania.

LAW ENFORCEMENT INEFFECTIVE

That the Harrison law has failed to prevent improper use and distribution of narcotics is a proper and just criticism. Failure to secure intended results of a law should not be charged to inherent weakness in the law itself, necessarily. In this case, it is clearly the natural result of inefficient efforts in its enforcement.

Failure, also, on the part of the state governments to provide adequate cooperation through state legislation and application of their police powers has contributed to make difficult, slow and expensive the prosecution in the federal courts of a small number of cases against physicians and druggists, violators of the law, which cases ought never to have been necessary to proclaim the binding authority of the law, if state laws had been in existence prohibiting the acts complained of in these indictments.

Then the World War engrossed the activities of governments, and it was not until March, 1919, that this law was declared by the U. S. Supreme Court to be constitutional, or that a determined attempt had been made to enforce it. Since that time, however, various other court decisions of an interpretative character have been rendered, which have materially contributed toward making the Harrison law a most valuable and efficient legal instrument in preventing the abuse of narcotic drugs. Convictions are being obtained regularly in the courts against dealers, druggists and physicians engaged in its violation.

IMPOSITION

The report of the Commissioner of Internal Revenue for the year 1920 shows that during that period the sum of $1,513,919.50 was collected under the Harrison law. It is also a matter of record that Congress had appropriated for its enforcement for that period the sum of $750,000. The department employed a field force of less than 175 men for the entire United States, and actually expended in the cost of administration of the service, and in the operations for enforcement of the law together, less than the sum appropriated. Since this act was not intended to operate as a revenue producing measure, it does seem but fair to demand of the government that no less than the total amount of moneys collected under the law in fees, fines, taxes, etc., shall be expended effectively in its proper and adequate enforcement. Otherwise, complaint of oppression in being compelled to pay a tax of $3 for the nominal license when the moneys collected are not used for the purposes of enforcement of this law, cannot be regarded as wholly groundless.

CONSPIRACY

From the beginning of serious attempts made to enforce the Harrison law, evidence has accumulated of a widespread and well organized conspiracy that has arisen and is in active operation throughout the country, aiming to defeat the purpose of the law, or to circumvent its requirements. Those who find it profitable to exploit the victims of drug addiction by supplying them with narcotic drugs, while at the same time maintaining their addiction, through prescribing or dispensing to them over prolonged periods or quite indefinitely, would most naturally seek to retain their privilege as purveyors, and desire to be permitted to continue their exceedingly profitable traffic, if not legally, at least unmolested, because it is carried on under the pretense of medical treatment for an assumed "disease."

PROPAGANDA

Public opinion regarding the vice of drug addiction has been deliberately and consistently corrupted through propaganda in both the medical and the lay press. Cleverly devised appeals to that universal human instinct whereby the emotions are stirred by abhorrence of human suffering in any form, or by whatever may appear like persecution of helpless human beings; lurid portrayals of alleged "horrible suffering inflicted" on addicts through being deprived of their drug; adroit misrepresentation of fact; plausible reiteration of certain pseudoscientific fallacies designed to confuse the unscientific mind; downright false statement, and insidious innuendos assiduously propagated are brought to bear on an unsuspecting public to encourage it to feel pity for the miserable wretches, "whose name is legion" we are told, and whose "sufferings," hysterically exaggerated, are graphically served up to be looked on as if they were actually being made "victims of persecution" by the authorities, who would deprive the wretches of even the drug they crave!

The "righteous" narcotic practitioner, claiming that he alone understands their plight and can relieve them, standing ready as a ministering angel of mercy to prescribe for their infirmity, begs the right and privilege of placing in their hands for self-administration the drug that has debased them and brought them in his power—for as much money as he can squeeze out of them!

The shallow pretense that drug addiction is "a disease" which the specialist must be allowed to "treat," which pretended treatment consists in supplying its victims with the drug that has caused their physical and moral debauchery, and that the regular physician

because lacking in their familiarity with the addict, his habits, desires and emotions, is therefore incompetent to assume his proper treatment, has been asserted and urged in volumes of "literature" by the self-styled 'specialists."

Significant articles of sensational character dealing with narcotic addiction have appeared in the public press during recent months, denouncing the alleged "persecution" of the addict and of his ministering angels, the narcotic practitioners, by local, state and federal authorities, all of them characterized by a certain style indicating their probable emanation from a common source, and well calculated to create in their favor popular prejudice, in case their business or practice were called in question before some trial jury. Reputable members of the medical profession have been constantly libeled with the assertion that "the doctors have produced the addicts in the beginning," through careless administration of the drugs, and their "innocent victims" ought all the more to enjoy the sympathy and solicitude of the public; that the average doctor is an ignoramus, and is not competent to be trusted with dangerous drugs from which such evils may be evoked. Such fallacies may be found in *American Medicine, Illinois Medical Journal, American Journal of Clinical Medicine, Medical Record, American Journal of Public Health,* Washington *Post,* Chicago *Tribune,* New York *Tribune,* New York *Times,* New York *World,* New York *American, Harvey's Weekly, New Republic, Metropolis* and others.

Emboldened by such successful publicity for their cause, which is the business interest, their emissaries have appeared wherever a hearing could be made useful—before legislative committees, boards of health, governors of states, in the halls of Congress, before administrative officials of the U. S. Departments of Justice and Internal Revenue, and even before reference committees of the House of Delegates of the American Medical Association.

SCRIPT DOCTORS

In the parlance of that underworld where the narcotic addict finds congenial atmosphere there exists a swift and secret means of communication—a sort of "free-masonry" of their kind—by means of which the "script doctors" in a community are well known and accessible to all the addict fraternity. These doctors, having a monopoly of first-hand knowledge of the drug addict, his habits, sufferings, emotions and desires, whose heart bleeds in sympathy for the addict with his intolerable craving (for often it appears that the "doc" himself is addicted to the "dope"), whose defense of the business of supplying them with drugs is ever ready, suave and plausible and, whose business sense, greed for money, is the creed of their professional practice—these are the "script doctors" invariably patronized by the addict, not because he has need for the advice or skill of the physician, but solely because he knows that the "doc" will give him his "script" or the "dope" itself, in whatever amount he says he needs. The drug thus "lawfully" obtained from a familiar druggist, of full weight, and of pure quality, at about 7 cents a grain, can then be self-administered at his convenience, or shared with a needy friend, or sold in the street peddling trade at sufficient profit to finance his next visit to the "script doctor's" office.

NATURE OF ADDICTION

Tolerance to considerable doses of morphin or heroin may be all too readily acquired, after the first few doses. The amount necessary to produce desired effects then requires to be gradually increased. When the effects wear off, there supervenes a lassitude, mental depression, nausea or epigastric distress, dilated pupils, tremor and hysterical apprehension, even actual fear of imaginary objects. All these symptoms are promptly relieved by another dose of the drug.

The continued habit is evidenced in most of its victims by a peculiar pallor, a sallowness of complexion, anemia, emaciation, untidiness of the person, and generally, the appearance of one prematurely aged; restless irritability of the nervous system, itching of the skin, tremors, insomnia, dilation of the pupils (contracted under the influence of the drug), deranged digestion, loss of appetite, marked constipation, mental depression, impairment of mental function, and finally, by complete perversion of the moral nature—loss of the ethical sense. Osler says: "Persons addicted to morphia are inveterate liars, and no reliance whatever can be placed upon their statements. . . . This is not confined to matters relating to the vice."

An increase of their dose is, apparently, not always necessary. Many have carried on their ordinary business affairs successfully for many years on a satisfactory daily dose of from 2 to 5 grains of morphin. On the other hand, some have consumed 10, 20, 30, and even 70 grains daily for long periods. Eventually, in the terminal cases, an asthenic condition supervenes wherein the subject takes little or no food, dying from the starvation and toxemia, or from effects of some slight injury or intercurrent disease.

TREATMENT

Unless the addict is kept under constant supervision, carefully isolated from contact with every possible source of obtaining the drug of addiction, during the withdrawal period essentially (so that any administration of the drug must be given by the physician, and the addict may not procure any of the drug except from the physician directly responsible for his treatment), the proper treatment of addiction with the purpose of curing the condition is extremely difficult, and can rarely be carried out successfully by the general practitioner. Addicts must be maintained under rigid control, generally in a suitable institution, and should be in bed for from three days to a week during the withdrawal treatment.

Withdrawal symptoms are typical, though not constantly present to the same degree. Some addicts enormously exaggerate their sufferings and complain bitterly, striving to excite sympathy by displaying an hysterical emotionalism, anticipating some concession to humane feeling and another dole of the drug. Others appear to be possessed of a fair degree of poise, evidencing a desire to exhibit their moral stamina, enduring their discomfort with stoicism for the sake of being through with it more quickly. They complain of abdominal cramps, nausea, vomiting, pains in the bones, great restlessness, insomnia and fear. All these symptoms can be masked to a great extent by the administration of $\frac{1}{200}$ grain of scopolamin hydrobromate every six hours for the first thirty-six hours. During this period and, in fact, up to the end of seventy-two hours, the patients are disposed to remain in a semi-hypnotic condition, thirst being their chief complaint; and plenty of water to drink relieves that.

To quiet their restless excitement, sulphonal, choral, paraldehyd, etc., may be used if indicated; but the hot pack, tub bath, drip sheet, and drip enema of physi-

ologic sodium chlorid or of sodium bicarbonate solution aid materially. It appears to make little or no difference in the result whether the treatment is masked by some sedative medication, or whether they are given "the cold turkey" (the addicts' term for immediate withdrawal without any treatment to allay their sufferings). In either case, they are taken off the drug immediately; in from three to five days their vomiting of bile has ceased, their appetite returns, they eat and digest substantial food, they gain in strength and weight, regularly increasing their weight by from 25 to 50 or 100 pounds in two or three months, and they are off the drug, having had none from the beginning of treatment.

In the vast majority of cases, it must be stated by way of caution, the habit has been broken off, and the craving no longer requires that it be satisfied. But it may be reawakened and allowed to dominate the individual again, if he permits any relaxation of his self-control. His cure, in that sense, then, cannot be said to be permanent until he has regained mastery of himself. There is great physical danger, however, if he should relapse, in beginning again to use his previously accustomed dose of the drug; for the tolerance to considerable doses is soon lost, so that beginning anew with the old dose produces acute opium poisoning, and is known to have caused fatal results in a number of such cases.

The explanation of withdrawal symptoms seems to be found in the starvation asthenia of the entire nervous system, including the depressed state of the endocrine gland activities, the obstipation and consequent diarrhea from depression of the splanchnic innervation of intestinal muscle and secretion, and the toxemia resulting from diminished oxidation as well as diminished elimination of excretory substances. The clinical picture is that of severe acidosis toxemia accompanied by profound depression of the automatic nervous system, and is essentially similar to the familiar toxemia of chronic alcoholism and starvation, commonly called "delirium tremens" on account of the delirium present as the prominent symptom in that condition. In both these toxemias, renewed doses of the poison that has produced the condition indirectly immediately covers up the symptoms by renewed depression of the sensory paths of the automatic reflexes.

Immediate and absolute withdrawal of the drug has been routine practice at Bellevue Hospital, Metropolitan Hospital and Riverside Hospital of the Health Department of the City of New York; at Kings County Hospital, Brooklyn, and at the United States Penitentiary, Atlanta, Ga., in all their cases during the past several years. In all these 25,000 cases of immediate withdrawal of the drug, there have been no deaths resulting, nor any suffering permitted that cannot be easily controlled. Of course, those patients suffering from complicating disease of heart, lungs or kidneys received a more gradual method of withdrawal, but were nevertheless subjected to withdrawal from their addiction.

Gradual withdrawal methods have been used at the New York City Prison in some 12,000 cases, partly to avoid criticism on the part of the friends of the prisoners having access to them during treatment. Here it has been found necessary to extend the withdrawal period to not more than two or three weeks.

Personal observation of their condition under treatment, and interviews with the addicts during and after their having been taken off the drug, both at Riverside Hospital and at the penitentiary, gave convincing evidence that the method of immediate and complete withdrawal of the drug is the method that is preferable, by far, in all cases not complicated with organic disease. Both from the medical point of view and that of the more intelligent addicts, the best results are attained in the shortest possible time by this method. Many of them preferred it because thus their durance was not long protracted. The immediate improvement in mind and body, when thoroughly detoxinated, is quite remarkable. Many who had experienced various methods of withdrawal, previously, some as many as seven times in different institutions, including every well-known method that is practiced, volunteered this testimonial of the "cold turkey." Those who were less ingenuous, and said they preferred the gradual withdrawal method, when pressed for reasons, replied, "If we can't get any more of the dope, we want to get what we can while it is going!" Many of the prisoners of lower grade mentality, belonging in the group of correctional class mental defectives, were frank to say "they would go back on the drug, when released from confinement, if they could get it." The higher grade types, however, were glad of their release from the slavery to the drug, expressing their firm determination of staying off for good, but were yet conscious of their own weakness of will, fearing they might relapse in spite of their resolution, if projected among their former associations.

One of the prisoners in the penitentiary, doing time for an offense against the government in time of war—a person who has never been a drug addict and is possessed of a mentality superior to that of the ordinary prisoner—having been closely associated in the prison hospital with those other prisoners then undergoing treatment for withdrawal from narcotic drugs, had been a close and sympathetic observer of, and was intimately conversant with all their sufferings and complaints. This prisoner proved on careful inquiry to be a valuable witness, bringing to the subject evidence that cannot be impugned, gained at first hand and without previous bias or prejudice of any sort. He said:

> I have been in the hospital about eight months, and in the prison for a year. During that time, I have observed under treatment between fifty and seventy-five cases of narcotic drug addiction. I had no idea what a terrible affliction drug addiction is, until I saw its victims here. They represent the very lowest level of humanity; often very young men—mere boys, from 20 to 22 years old—already wrecked! Such men as Victor Hugo speaks of in "Les Miserables": "men who are old, without ever having been young; possessing all the ignorance of youth, without any of its innocence"!
>
> All these cases have been treated by immediate withdrawal of the drug, except those whose physical condition (diseased) required more gradual methods. Generally speaking, from my own observation and from what the men tell me, they do not suffer. They say they have felt altogether better, when they had been gotten off the drug. It seems to revive and stimulate their will power, which had been put in abeyance by the drug. I am gratified with the results of the treatment. Never has it failed in a single case to break off the habit, and in no single instance have I seen a bad result from the treatment. The men also express their gratification over the relief it affords them. The craving seems to be due, in part, to uncertainty; as soon as the habitué realizes here that there is no chance of his getting any "dope," he feels better in his mind, and his will is strengthened to stay off.
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> Never in a single instance have I heard a man complain of his having been cut off the drug completely, that is, after two or three days to a week. I have sympathized with these poor fellows, and they have given me their confidence. If there had been any complaints, I would have heard them; but not one complaint about the treatment have I heard in the hospital. Dr. Weaver is as kind and sympathetic, as humane as any doc-

tor could be, and I thoroughly approve the methods used and the results obtained by him, which I regard as the best that could be done for these men. Once they are off the drug, they are in a different state of mind. If sound and well physically, I believe that is the way to do it. I know the method is a most humane way to deal with them.

In my own town I have known narcotic practitioners to try to taper them off, but I have never known a case to be cured by tapering off. It is a false confidence inspired by the doctor, who yields to the infirmity of an addict, listens to his importunity, and gives him the drug he craves. For he thus shares his infirmity with him, and the responsibility for his unfortunate condition.

I do not see that any good results can be attained by catering to the thing that has caused the evil. You remember how, when Paul was at Ephesus, the silversmiths caused a riot among the people because they wished to perpetuate worship of the silver shrines of Diana, because, they said, "Ye know that by this business we have our wealth." So these doctors who cater to the addicts defend the business because their professional income is dependent on and wrapped up in it. That is the only excuse for them. It is—there is no reason in it.

To break them off the drug habit is practically useless, unless it can be made permanent. If some of these men go back to it, after leaving here cured, that is because their treatment has not been completed. The hospital has done its part, having put the men on their feet physically. To save them from their vicious circle, however, something ought to be done on the outside to guard them from their old surroundings, when they leave here cured.

The first comprehensive series of facts, having real scientific value, that has yet been compiled anywhere in the world, is embraced in the published statistics gathered from analytic study of the nearly 8,000 cases of addiction registered and cared for during about ten months by the Department of Health of the City of New York. These cases were subjected to most careful observation and study by specialists qualified to make scientific analyses and arrive at sound conclusions from them. Except from equally careful and extensive clinical study by the scientific method, which has not been duplicated and which is not likely to be, the conclusions deduced from this source cannot be safely challenged. From these statistics it was shown that:

While some 5 per cent. claimed that an illness was their excuse for addiction, 69 per cent. frankly blamed their "bad associations" for their plight. (Making due allowance for the addict's unreliability of statement, especially when opportunity offers to blame another than himself, we may revise downward the 5 per cent., while there can be no reason to assume that the 69 per cent. were lying, particularly since their testimony was voluntary and likewise self-derogatory.)

Seventy per cent. were under 30 years of age.

Twenty-six per cent. were employed in the business of transportation.

Less than 4 per cent. were suffering from a disease or painful malady which would justify their addiction. (Corroboration of this figure is found in the statement by Dr. Weaver of the U. S. Penitentiary, who found "not more than 3 per cent. of addicts received having some organic disease, such as chronic Bright's disease, heart lesions with broken compensation, or advanced tuberculosis necessitating a more gradual withdrawal of the drug.")

Only 1,580 out of 2,800 received at the clinic were willing to accept treatment for withdrawal of the drug of addiction, so long as they could secure a supply of the drug from street pedlers or from a "script doctor." These were given hospital care, withdrawn from the drug by the scopolamin method, and kept for six weeks under careful reconstruction training afterward, until able to be discharged in good physical condition, and able to do an honest day's work. Within three months it was found that a large proportion of them had already relapsed to their old habits and associates, notwithstanding every effort made to assist them with moral support and friendly solicitude by every agency possible. Pedlers from their own underworld, well known to them, were ready at the dock to meet every boat returning from the Island Hospital, eager to supply them with the drug once more, even gratuitously, so anxious were they to rebuild their clientele.

SOLUTION OF PROBLEM

Any solution of this vexing problem must necessarily resolve itself into some plan for abolishing the total supply of drug that may be available to the addict from any and all sources. There are two main sources of supply, viz., the pedlers, most of whom are themselves addicts; and the trafficking doctor, the narcotic practitioner, the "script doctor" who prescribes or dispenses the drug to them for self-administration. The pedler, who deals largely in smuggled drugs, constitutes a comparatively simple police problem, easily solved by thoroughgoing enforcement of existing laws. The doctor is more difficult of apprehension, for he hides behind the cloth of a reputable profession, and pretends that he is treating a "disease" when he is really selling his professional privilege in a sordid market for a very large return in money. One man, now serving his term in the penitentiary, wrote from 100 to 2,600 prescriptions each week for about ten months, and a total of more than 23,500 in that time, at about $3 each! Many of these "scripts" call for as much as 500 grains of morphin or heroin at one time, and these doctors do not hesitate to give addicts several "scripts" at one time, or even send them in the mails to a distant city. One "respectable addict," meaning a person who was willing to pay a large fee, has testified that she paid one doctor $1,000 monthly for a period of thirteen months, "to keep her in good health."

It has been estimated that 90 per cent. of opium imported into the United States is used for other than proper medicinal purposes. Much of this is ostensibly exported, but is in reality merely transferred by connivance to the underworld traffic, appearing in the hands of the pedlers as "smuggled goods," and sold at fancy prices according to the necessities of the fraternity at the time.

The remedy consists in abolishing the addicts' drug supply, first by prohibiting the prescribing or dispensing of these drugs to them by physicians, under severe penalty for such violation, and secondly through vigorous enforcement of both federal and state laws dealing with narcotic abuse.

AMBULATORY TREATMENT

The so-called reductive dosage ambulatory treatment of addicts, defined by the U. S. Bureau of Internal Revenue as the "prescribing or dispensing of a narcotic drug to an addict, for self-administration at his convenience," has been uniformly condemned as a method of treatment by every competent medical authority, and is definitely prohibited by law in Massachusetts, Rhode Island and Pennsylvania, as well as by implication, certainly, in the Harrison law and the court decisions that have been rendered to date relating to it. A recent ruling by the U. S. Commissioner of Internal Revenue stated that:

This office has never approved the so-called reductive ambulatory treatment of addicts, for the reason that where narcotics are furnished to an addict who controls the dosage himself, he will not be benefited or cured.

It is well recognized by medical authorities that the treatment of addicts, with a view to curing their addiction, which makes no provision for confining them while the drug is being withdrawn, is a failure, except in a relatively small number of cases where the addict is possessed of a much greater degree of will power than is possessed by the ordinary addict. If a physician, pursuant to the so-called reductive dosage ambulatory treatment, furnishes drugs to an addict who is financially unable to enter an institution for the cure, and whom the local, state or other officials are unable to put in a place of confinement where he may be cured without expense to himself, such physician will be held strictly accountable, and his furnishing of narcotics to an addict for an extended period will be regarded *ipso facto* as showing lack of good faith in the treatment of an addict and that he had been merely satisfying the cravings of an addict.

The conclusion, therefore, seems ineluctable that a physician who supplies narcotic drugs to an addict, knowing him to be an addict, or who connives with or condones such an act, is either grossly ignorant, or deliberately convicts himself as one of those who would exploit the miserable creatures of the addict world for sordid gain. It may be that he is himself addicted to the drug and has thus become a victim of its power to produce such profound moral perversion. For such there can be but one verdict. Suspend or revoke his license to practice medicine, by all means. Let him suffer the penalty of the law, and may God have mercy on his soul!

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ENLARGEMENT OF THE SPLEEN IN EXPERIMENTAL ACIDOSIS *

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It has been previously noted in a study from this laboratory [1] that the spleen in heat stroke and insolation is enlarged; and in the bodies of persons dying from uremia, a similar condition is usually encountered. In forty-six deaths from uremia,[2] the average weight of the spleen was 195 gm., the ratio to the body weight 1:297. If 140 gm. is taken as an average weight for the human adult spleen,[3] the ratio of the spleen weight to the body weight with these forty-six cases of uremia would average 1:414. It was also found that with death from uremia at about the age of 50 or beyond, the spleen does not enlarge (compare accompanying chart). Another way of stating the enlargement of the spleen in these forty-six cases of uremia is that as compared with the 140 gm. assumed as a fair average for the normal weight, the increase in the average weight of the spleen with uremia was 39.2 per cent., an enlargement of about two fifths.

In studying the probable cause of the enlarged spleen in these conditions it is well to call attention to the leukocytosis in heat stroke mentioned by Gordon,[4] who also speaks of the spleen as being "congested." These changes have been demonstrated experimentally by Nakahara,[5] who exposed mice to a dry heat of from 55 to 60 C. for five minutes. There was an immediate fall in circulating white cells, and then a sharp rise to 200 per cent. of the original number. This increase persisted for two or three weeks, when it gradually subsided to the original number. The spleen in these mice became enlarged, and this was most marked from six to eight days after exposure to heat, the maximum four times the normal size. The size returned to normal in about fourteen days. On the other hand, a leukocytosis is not constant in uremia and the statement is made that it may or may not be present.

Other interesting similarities between heat stroke and uremia are noted in the symptoms and the alteration in metabolism. Without going into details, attention may be called to the occurrence of marked dyspnea, nausea, vomiting, diarrhea, convulsions and coma in both.

Study of their metabolism has revealed that in uremia and in the abnormal accumulation of heat in the body with heat stroke, such end-products as urea, uric acid and creatinin are retained in the blood. This is illustrated in Table 1, from the work by Gradwohl and Schuster.[6]

TABLE 1.—END-PRODUCTS OF METABOLISM IN BLOOD IN UREMIA AND IN HEAT STROKE

	Urea Nitrogen, Mg. per Hundred C.c. of Blood	Uric Acid, Mg. per Hundred C.c. of Blood	Creatinin, Mg. per Hundred C.c. of Blood
Normal	12– 15	1– 3	1– 2.5
Chronic nephritis	15– 50	1– 4	1– 3
Uremic nephritis	80–300	4–15	4–34
Thermic fever	26– 89	6–14	3– 6.1

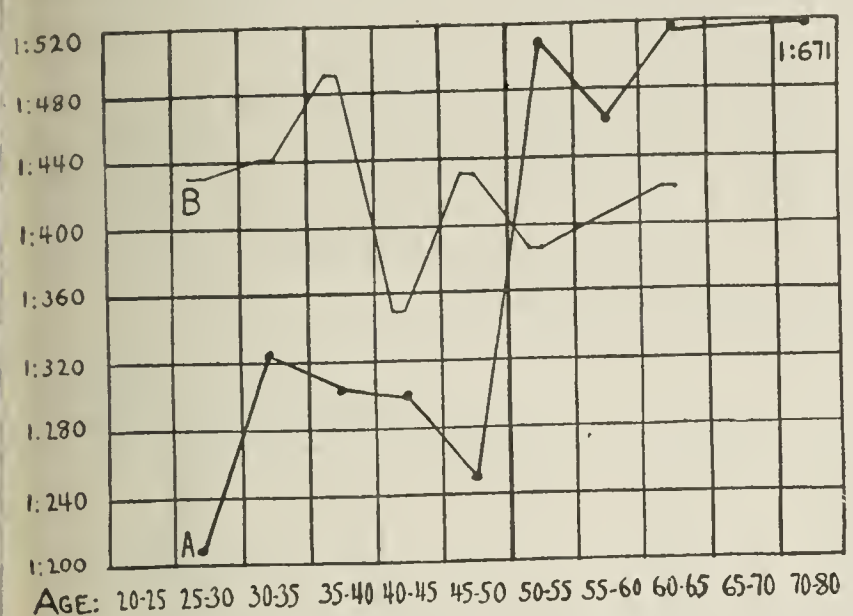
Both conditions also are accompanied by an anemia. The decrease in red corpuscles and hemoglobin in nephritis is well known.[7] Insolation gives first a high erythrocyte count and hemoglobin content due to dehydration, but an anemia develops during or after the acute stage because of more or less destruction of erythrocytes, with a consequent hemoglobinemia.[8] Wells suggests that the anemia of nephritis may be due to the retained metabolites, and the same may be true in insolation.

Another and perhaps important item in the pathologic physiology of the two conditions under discussion is the presence of an acidosis. Gordon, in making the statements regarding the leukocytosis and anemia, also mentions the reduced alkalinity of the blood in heat stroke. However, in reviewing literature on acidosis and heat stroke I have found no data concerning the degree of acidosis in heat stroke, although different authors have referred to the reduced alkalinity in this condition. A general acidosis is usual in nephritis and marked in uremia, demonstrable by measurement of the partial pressure of carbon dioxid in the alveolar air and the alkali tolerance test. This has also been confirmed by experiments during which animals received such renal poisons as cantharidin, arsenic, diphtheria toxin, potassium chromate and uranium nitrate; [9] the

* From the Pathological Laboratory of Rush Medical College.
* The work reported here was made possible by a grant from the Fenger Memorial Association.

1. McKenzie Pierce and LeCount E. R.: Heat Stroke with a Second Study of Cerebral Edema J. A. M. A. **71**: 260-263 (July 27) 1918.
2. Postmortem records of the Pathological Laboratory of Rush Medical College.
3. Vierordt, H. (Daten und Tabellen für Mediziner, Jena, 1906, Ed. 3, pp. 36, 40 and 44) gives the average weight of the spleen at 25 years as 165 gm., a ratio of 1: 400 for the normal weight of 146 pounds (66.2 kg.) at this age.
4. Osler, William: Modern Medicine, Philadelphia, Lea & Febiger **1**: 437, 1907.
5. Nakahara, W.: The Source of the Lymphocytosis Induced by Heat, J. Exper. Med. **29**: 17-23 (Jan.) 1919.
6. Gradwohl & Schuster: A Study of Thermic Fever, with Special Reference to the Blood and Urine Chemical Findings, Am. J. M. Sc. **154**: 407-414, 1917.
7. Wells, H. G.: Chemical Pathology, Ed. 3, Philadelphia, W. B. Saunders Company, 1918, p. 528.
8. Da Costa, J. C.: Clinical Haematology, Philadelphia, P. Blakiston's Son & Co., 1905, p. 437.
9. Goto, K.: Experimental Acute Nephritis, J. Exper. Med. **27**: 413 (March) 1918.

kidney lesions are accompanied by a diminution of the carbon dioxid combining power of the plasma and an increase in the blood urea and plasma chlorids. The acidosis thus produced may be relieved by the administration of sodium bicarbonate.[10] In other studies of experimental nephritis caused by diphtheria toxin, mention is made of the spleen as "large, soft and congested, especially in the acute stages," using mercuric chlorid, a "congestion of the splenic pulp;" and with cantharidin, a "congested spleen." [11]



Variation of ratio of spleen weight to body weight: *A*, spleen in uremia; *B*, normal spleen. From the postmortem records of the Pathological Laboratory of Rush Medical College.

By the term acidosis, as used here, is meant a condition in which the essential feature is the impoverishment of the body in available bases, whereby there results a decreased capacity of the tissues to get rid of the carbon dioxid and other acids formed in their metabolism. This reduction of bases may be and usually is the result of an excessive production of acids, and for the excretion of these the bases are eliminated in excess. But acidosis may also result from a deficient capacity of the kidneys to excrete acids, since the kidneys play an important rôle in regulating acidity. Clinically, an acidosis is manifested by hyperpnea, air hunger, coma, respiratory paralysis and death. However, it must be remembered that an acidosis does not exist as a clinical entity but, as already stated, accompanies many varied forms of disease.

Perhaps an important item in the pathologic physiology of an acidosis with reference to this discussion is that increased acidity of the blood lessens the ability of the blood to retain oxygen.[12] This is due to dissociation of oxyhemoglobin and may account in part for the extreme air hunger with acidosis. An increased H-ion concentration of the plasma increases the hemolytic action of hemolytic agents.[13] Fischer [14] also states that an acidosis produces a condition favorable for hemolysis. Berghausen [15] suggests that in cases of paroxysmal hemoglobinemia ascribed to cold, congestion and trauma, the excessive tissue acidity due to organic acids thus formed may play some part in the production of the attack.

Correlating now the splenic enlargement, the anemia and the acidosis in heat stroke and uremia, and a definite relation between acidosis and hemolysis, the question arises whether the acidosis is in a measure responsible for the anemia in these cases. If so, would an experimental acidosis produce an anemia and an enlarged spleen?

An experimental acidosis may readily be produced by the oral administration of acids,[16] or foods poor in alkalis, or the intravenous or the subcutaneous injection of acids.[17]

RESULTS OF EXPERIMENTS

Guinea-pigs were chosen for the experimental work because herbivorous animals are more susceptible to acid poisoning than the carnivorous. In the first experiment the animals were weighed, and then 0.1 normal hydrochloric acid injected into the subcutaneous tissues of the abdomen under strict aseptic conditions. The acid was given once daily in gradually increasing amounts from 1 to 5 c.c., and this dose varied according to the condition of the animal and the rate of the onset of the symptoms. All the animals sooner or later developed the same symptoms, namely, lessened activity, unsteadiness of motion, dulness, stupor, first excessively rapid, short and shallow respiration, then with increasing stupor and coma, very slow and deep forced gasps for breath, and finally death. Some of the animals died spontaneously, others were killed by a blow on the back of the head after the symptoms mentioned were pronounced. Some localized necrosis appeared at the sites of injection, but this never was marked or extensive. Examinations were made soon after death, the time varying from immediately to within two hours after death. No infections or intestinal parasites were noted. The postmortem appearance was quite constant in all cases. The skeletal muscles were somewhat pale and edematous; the lungs usually moist and hyper-

TABLE 2.—RESULTS OF FIRST EXPERIMENT

No.	Weight at Beginning, Gm.	Total 0.1 N. HCl, C.c.	Days of Experiment	Body Weight at Death, Gm.	Loss in Weight, Gm.	Weight of Spleen in Gm.	Weight of Spleen per Kg. Body Weight*
1	278	15	7	274	4	0.35	1.28
2	370	48	23	278	92	0.5	1.8
3	234	16	6	221	13	0.35	1.58
4	284	6	2	280	4	0.4	1.4
5	240	31	19	225	15	0.3	1.3
6	292	33	19	240	52	0.3	1.2
7	228	6	6	200	28	0.2	1.0
8	230	8.5	10	197	33	0.2	1.01
9	242	7	8	230	12	0.25	1.08
10	232	7	8	232	0	0.2	0.85
11	218	8.5	10	167	51	0.17	0.01
12	200	8.5	10	180	20	0.2	1.1
13	235	8.5	10	175	60	0.2	1.1
14	212	8.5	10	187	25	0.14	0.75
15	203	7	8	190	13	0.15	0.78
16	220	6	4	150	70	0.18	1.2
17	235	7	8	225	10	0.2	0.88
18	245	7	8	205	40	0.25	1.2
19	235	8.5	12	180	55	0.2	1.1
20	245	8.5	12	205	40	0.2	0.97
21	225	8.5	12	178	47	0.2	1.1
Aver.	243.4	..	..	210.4	33	0.244	1.13

Average of 16 normal guinea-pigs:	Gm.
Body weight	262.2
Spleen weight	0.178
Spleen weight per kilogram of body weight	0.678

* The figures in this column represent what the spleen would weigh if the body weight were 1,000 gm. provided the ratio is the same as with the actual weights; e. g. for Animal 1 the figure in the last column is obtained thus: 0.35 : 274 :: x : 1,000. Therefore x = 1.28.

10. Goto, K.: A Study of the Acidosis, Blood Urea, and Plasma Chlorides in Uranium Nephritis in the Dog and of Protective Action of Sodium Bicarbonate, J. Exper. Med. **25**: 693-719 (May) 1917.

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13. Walbum, L. E.: Bedeutung der H-ion Konzentration for die Hämolyse, Biochem. Ztschr. **63**: 221-268, 1914.

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15. Berghausen, Oscar: The Rôle of Acidosis of the Tissues as a Factor in the Production of an Attack in Paroxysmal Hemoglobinuria, Arch. Int. Med. **9**: 137-142 (Feb.) 1912.

16. Sellards, A. W.: A Clinical Method for Studying Titratable Alkalinity of the Blood, and Its Application to Acidosis, Bull. Johns Hopkins Hosp. **25**: 101, 1914.

17. Ewing, James: Acidosis and Associated Conditions, Arch. Int. Med. *2*: 330 (Nov.) 1908.

emic; the abdominal viscera grossly unchanged excepting occasional bright red hemorrhages beneath the capsule of the kidneys. The spleen was generally darker purple than normal, more pulpy and friable, and the malpighian corpuscles a little more easily seen. Occasionally numerous subcapsular hemorrhages, 1 mm. in diameter, were present. There was a slight increase in the weight of the spleen, although the increase in size was not apparent to the naked eye. As controls for the animals receiving acid in the first experiment, healthy guinea-pigs were kept under the same conditions except that they received no acid. Table 2 shows the results of the first experiment.

In a second experiment, guinea-pigs were again used; and although they were of slightly varying weights, they were of approximately the same age in order to obviate the factor of varying spleen weights with respect to age. Prior to the injection of hydrochloric acid, from 3 to 5 c.c. of blood was aspirated from the left ventricle of each of the animals under aseptic conditions, centrifuged, and the ability of the plasma to absorb carbon dioxid determined by the method of Van Slyke. The hemoglobin content of the blood was estimated by the formation of acid hematin and comparison with a standard using a Duboscq colorimeter. The standard for use with the colorimeter was prepared by estimating the oxygen capacity of the blood with the Van Slyke apparatus, and from this blood of known oxygen capacity an acid hematin stock solution was prepared from which a fresh standard was prepared every three days. Red blood cell counts were also made. Then the animals were given 0.1 normal hydrochloric acid as in the first experiment, and at the time of appearance of the acidosis symptoms, the ability of the plasma to combine with carbon dioxid, the hemoglobin estimation, and the red cell counts again made. The control animals were kept under the same conditions as regards feeding, handling, etc., except that they were given physiologic sodium chlorid solution in similar quantities and at the same time as those receiving acid. Soon after the second determination of the ability of the plasma to combine with carbon dioxid, hemoglobin, and red cell counts the animals were killed, postmorten examinations made, and the spleen weights noted as in the first experiment. Tables 3 and 4 contain the results from the guinea-pigs receiving the acid and those used as controls. There is an increase in the size of the spleen of 66.6 per cent. in the first experiment, and 42.7 per cent. in the second.

Since, during the first experiment, the body weight decreased, some question arises as to whether the increase in the weight of the spleen may not be simply relative. This would be true if the spleen weight had remained constant during the experiment. The average spleen weight at death compared to the average body weight before the acid was injected bears the ratio 1.0 gm. per kilogram. The average spleen weight per kilogram body weight of the control animals for this experiment, 0.678 gm., has been taken in these calculations as the average ratio between spleen and body weights of the pigs receiving acid at the beginning of the experiment. If the spleen weight had remained constant during the experiment, and there had been no decrease in body weight, the ratio would still be 0.678 gm. per kilogram. The increase of this ratio from 0.678 to 1.13 gm. per kilogram, it is believed, represents an increase of the weight of the spleen during the experiment, both relative and absolute. By similar assumptions in the second experiment, the average spleen weight at death as compared to the average body weight before the injections is 1.05 gm. per kilogram; in the control animals the ratio is 0.858 gm. per kilogram, again indicating a considerable increase in the spleen weight. In the second, also there is a decrease of 33.7 per cent. of the carbon dioxid combining power of the plasma, 19.9 per cent. decrease of hemoglobin, and 9.9 per cent. decrease of the color index of the blood. The animals exhibited a varying susceptibility to acid poisoning; and by the giving of

TABLE 3.—RESULTS WITH GUINEA-PIGS RECEIVING ACID

No.	Weight at Beginning	Plasma CO_2, per Cent.	Erythrocyte Count	Hemoglobin	Color Index	Days	C.c. of 0.1 N. HCl	Plasma CO_2, per Cent.	Erythrocyte Count	Hemoglobin	Color Index	Total Days	Total Acid, C.c.	Weight at Death, Gm.	Loss of Weight, Gm.	Spleen Weight, Gm.	Spleen Wt. per Kg. Body Weight, Gm.
1	282	73.0	6,250,000	72.8	0.59	9	18	44.6	5,720,000	59.3	0.51	9	18	260	22	0.23	0.88
2	295	49.1	6,150,000	60.53	0.49	13	33	33.8	5,460,000	51.7	0.47	17	48	287	8	0.36	1.25
3	256	49.1	6,070,000	70.7	0.498	13	33	31.9	5,470,000	54.1	0.493	17	48	230	26	0.26	1.13
4	273	67.3	6,190,000	67.3	0.57	13	33	33.8	5,020,000	56.3	0.55	17	48	255	18	0:65	2.54
5	307	49.1	6.150.000	65.7	0.53	13	33	30.9	5,410,000	53.2	0.48	12	33	300	7	0.32	1.06
6	268	82.4	5,890,000	60.1	0.558	13	33	50.0	5,130,000	34.0	0.331	17	48	257	11	0.26	1.01
7	262	50.4	6,710,000	74.06	0.551	13	33	28.1	5,960,000	60.4	0.506	17	48	247	15	0.25	1.01
8	298	57.0	5,780,000	61.7	0.533	13	33	45.3	5,840,000	59.7	0.511	13	38	290	8	0.21	0.72
9	280	63.6	6,710,000	74.06	0.551	13	33	50.0	5,370,000	60.4	0.514	13	38	258	22	0.15	0.58
10	273	65.4	6,120,000	64.3	0.525	13	33	41.8	5,630,000	56.5	0.501	13	38	257	16	0.26	1.01
Aver.	279.4	60.64	6,202,000	67.12	0.539	..	..	39.02	5,501,000	54.56	0.486	..	..	264.1	..	0.295	1.119

TABLE 4.—CONTROL ANIMALS

No.	Weight at Beginning	Plasma CO_2, per Cent.	Erythrocyte Count	Hemoglobin	Color Index	Days	C.c. of Normal NaCl	Plasma CO_2, per Cent.	Erythrocyte Count	Hemoglobin	Color Index	Total Days	Total NaCl, C.c.	Weight at Death, Gm.	Gain in Weight, Gm.	Spleen Weight, Gm.	Spleen Wt. per Kg. Body Weight, Gm.
1	178	54.1	6,170,000	68.2	0.552	13	33	51.6	6,190,000	70.3	0.567	17	48	185	7	0.10	0.54
2	320	59.1	6,190,000	69.7	0.563	13	33	57.4	6,130,000	66.3	0.500	17	48	350	30	0.26	0.74
3	300	51.0	6,450,000	60.5	0.469	13	33	45.8	6,190,000	59.5	0.480	17	48	325	25	0.10	0.307
4	305	47.1	6,070,000	60.9	0.501	13	33	45.8	5,900,000	62.3	0.528	17	48	320	15	0.24	0.75
5	315	57.0	5,500,000	69.7	0.633	13	33	54.5	5,760 000	72.8	0.632	17	48	345	30	0.32	0.92
6	212	50.4	6,000,000	68.5	0.570	13	33	57.4	6,140,000	64.3	0.523	17	48	235	23	0.27	1.15
7	248	56.0	6,130,000	68.2	0.556	13	33	57.1	6,200,000	69.1	0.557	17	48	268	20	0.23	0.866
8	252	54.8	6,210,000	67.3	0.542	13	33	53.1	6,250 000	68.1	0.544	17	48	280	28	0.18	0.642
9	295	49.4	6,180,000	64.1	0.518	13	33	49.1	6,150,000	63.0	0.512	17	48	318	23	0 28	0.88
10	287	48.5	6,170,000	67.8	0.549	13	33	50.3	6,000,000	65.2	0.543	17	48	305	18	0.34	1.11
Aver.	271.2	52.74	6,107,000	66.49	0.545	..	..	52.21	6,091,000	66.09	0.538	..	..	293.1	..	0.232	0.858

smaller amounts at first, and then by gradual increase in the dose, they apparently were able to withstand larger total quantities than with large initial doses.

CONCLUSIONS

1. These results indicate that:

(*a*) The subcutaneous injection into guinea-pigs of hydrochloric acid produces an acidosis demonstrable by a decreased ability of the plasma to combine with carbon dioxid as estimated by the Van Slyke method.

(*b*) The animals have a varying susceptibility to such poisoning with acid, and the organism can be made to adapt itself slightly to gradually increased doses of acid.

(*c*) An experimental acidosis can produce an anemia associated with an enlargement of the spleen.

2. They suggest that the enlarged spleen may be due either to an increase in its function as a hemoglobin-destroying organ as a result of the hemolysis, or as a result of its hyperfunction as a hematopoietic organ in combating the anemia accompanying an acidosis.

BRONCHIAL SPIROCHETOSIS *

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The presence of bronchial spirochetosis in the United States has been reported in only a few instances. It is our belief that the disease is more common and more widespread in this country than is generally recognized, and that if the nature of the infection and the possibility of encountering it were kept more constantly in mind, it would be more frequently observed.

Since 1906, when Castellani [1] first described it, the disease has been regarded as a disease of tropical countries; not until comparatively recently was its presence in the temperate zones recognized and reported.

The importance of recognizing the fact that bronchial spirochetosis exists in this country cannot be overestimated. Its marked resemblance in many cases to pulmonary tuberculosis, its mild course as compared to that disease, the ease with which it can usually be recognized, and its rapid response to proper treatment, make it necessary that we should be on the alert to detect it. The routine examination of sputum should include a search for spirochetes. Failing to find other possible factors, such as tubercle bacilli, ova or fungi, the spirochete should not be passed lightly over and regarded as a buccal or pharyngeal contamination, unless such sources can be definitely demonstrated.

The history of bronchial spirochetosis is worth a brief review. In 1906, Castellini reported the occurrence, in the island of Ceylon, of a form of bronchial infection caused by spirochetes. He examined two natives who had had recurring hemoptysis for some months and in whom the physical signs did not suggest pulmonary tuberculosis. The sputum was negative for tubercle bacilli, but contained large numbers of actively motile spirochetes. He termed the organism found in these patients *Spiroschaudinnia bronchialis,* and described it as an organism with marked polymorphism, varying in length from 5 to 25 microns and in breadth from 0.2 to 0.3 micron. As a rule, the ends are acuminate. Its movements are active, but cease shortly after leaving the body, and according to Fantham are succeeded by a granular stage from which new spirochetes are believed to be formed, and by means of which the infection is spread.

Branch,[2] in 1906, confirmed Castellani's findings in the West Indies, and shortly afterward Waters [3] reported several cases from India. Jackson, in 1908, reported the disease in the Philippines, and in 1909 Phalen and Kilbourne [4] also reported a case in the Philippine Islands, where in 1911 Chamberlain [5] described two further cases.

In 1910, Rothwell [6] described four cases in the United States of what he termed bronchial Vincent's angina, in which spirochetes were associated with fusiform bacilli in the sputum.

The disease has been reported in various parts of Africa by Chalmers and O'Farrell,[7] Taylor,[8] Harper [9] and others. Fantham,[10] in 1915, published a very complete work on *Spirochaeta bronchialis.* Lurie,[11] in 1915, reported a case of this disease in Serbia. Thompson,[12] in 1918, described several cases of pulmonary spirochetosis among patients who had been invalided from Saloniki on account of chronic malaria. In 1915, Galli-Valerio [13] observed several cases of the disease in Switzerland. It appears that very little attention was paid in Europe to the disease until it was found in France in 1916 by Violle,[14] who observed many cases of the disease at Toulon among native troops coming from the East, as well as among the European forces who had never been to the colonies. He states that the patients were usually sent to the hospital with a diagnosis of tuberculosis or suspected tuberculosis.

Chalmers and O'Farrell have succeeded in reproducing the disease in a monkey by intratracheal injection. In 1919, Farah [15] described the disease in Egypt occurring among the natives as well as among the foreigners in Alexandria. Nolf,[16] in 1920, reported eleven cases of spirillar bronchopneumonia in Belgium. Lewis,[17] in 1920, reported a case of broncho-spirochetosis in a marine on duty in Cuba, who gave a history of hemoptysis about a year previously, at

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2. Branch: A Case of Hemoptysis with Presence of Numerous Spirochetes in the Sputum, Brit. M. J. **2**: 1537, 1906.

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4. Phalen, J. M., and Kilbourne, E. D.: Report of the United States Army Board for the Study of Tropical Diseases, made to the Surgeon-General, U. S. Army, Washington, D. C., June 30, 1909.

5. Chamberlain, W. P.: The Occurrence in the Philippines of Associated Spirochaete and Fusiform Bacilli in Ulcers of the Throat (Vincent's angina), of the Mouth, and of the Skin, and in Lesions of the Lungs (Bronchial Spirochactosis), Philippine J. Sc. **6**: 489, 1911.

6. Rothwell, J. H.: Bronchial Vincent's Angina, J. A. M. A. **54**: 1876 (June 4) 1910.

7. Chalmers, A. J., and O'Farrell, W. R.: Bronchial Spirochaetosis, J. Trop. Med. **16**: 329 (Nov.) 1913.

8. Taylor: Bronchial Spirochaetosis in Uganda with Pneumonic Symptoms, Ann. Trop. Med. & Parasitol. **8**: 13, 1914.

9. Harper: Bronchial Spirochactosis, J. Trop. Med. **17**: 194, 1914.

10. Fantham: Spirochaeta Bronchialis (Castellani, 1907), Together with Remarks on the Spirochaetes of the Human Mouth, Ann. Trop. Med. & Parasitol. **9**: 391, 1915.

11. Lurie: Notes on "Castellani's Bronchospirochaetosis," with Report of a Case, J. Trop. Med. **18**: 269, 1915.

12. Thompson: Pulmonary Spirochaetosis: A Preliminary Note on Spirochaetes in the Sputum of Soldiers Admitted to Special Malaria Wards, Brit. M. J. **2**: 709, 1918.

13. Galli-Valerio: Ueber Spirochaetiasis bronchialis, Centralbl. f. Bakteriol., I, Orig. **76**: 516, 1915.

14. Violle: Hemorrhagic Bronchitis: Castellani's Bronchopulmonary Spirochaetosis, Lancet **2**: 775, 1918.

15. Farah, N.: Broncho-Spirochaetosis in Egypt, Lancet **2**: 608 (Oct. 4) 1919.

16. Nolf, P.: Fetid Spirillar Bronchitis and Pulmonary Gangrene, Arch. Int. Med. **25**: 429 (April) 1920.

17. Lewis, G. W.: Bronchopulmonary Spirochaetosis in an American, U. S. Nav. M. Bull. **14**: 149 (Jan.) 1920.

which time he was on duty in the United States. Mason,[18] in 1920, reported the case of a boy, aged 16, who had been in America since 1 year of age, and who developed a pleural effusion which showed many actively motile spirochetes. Trocello,[19] in 1920, reported a case in Italy in which the patient gave a history of hemoptysis at long intervals for many years, and which had been diagnosed as pulmonary tuberculosis. Levy,[20] in 1921, reported two cases of bronchopulmonary spirochetosis in Texas. One of these patients had had hemoptysis at intervals for fourteen years. The second patient had symptoms of only a few days' standing.

Castellani[21] distinguished three types of the disease, the acute type, the subacute type and the chronic type. In the acute type the patient develops fever rarely exceeding 103 and coughs a great deal; the expectoration is usually scanty, and may contain traces of blood. In most cases the general condition of the patient is not much affected.

In the subacute type the attack may last from two to several weeks, with slight fever. The cough is frequent, and there may be expectoration of pink jelly-like mucus or true hemoptysis. The physical signs in the chest may be negative or indicate only a simple bronchitis. Occasionally there may be patches of slight dulness and evidence of consolidation. There may be a slight degree of anemia, but the white and differential counts are usually normal.

In the chronic type, which may follow an acute or subacute attack or several such attacks, the patient has a chronic cough and expectoration which may contain blood. Frequently there is no fever, or there may be irregular temperature. The physical examination usually shows only a few moist râles. Occasionally there may be signs of consolidation. The course of the disease may be prolonged with periods of improvement and even apparent cure.

Pneumonia may be a complication, as well as tuberculosis and bronchomycosis.

According to Castellani, a diagnosis of bronchial spirochetosis is based on the microscopic examination of the expectoration collected after cleansing the mouth and throat. Sputum may be examined fresh or may be stained by the Fontana method or the various Romanowsky methylene-azure blue stains.

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19. Trocello: Ann. Med. Nav. e Colon **15**: No. 2 (Sept.-Oct.) 1920.
20. Levy, M. D.: Pulmonary Spirochaetosis (Castellani) New York M. J. **113**: 186 (Jan. 29) 1921.
21. Castellani and Chalmers: Manual of Tropical Medicine, New York, William Wood & Co., 1920, p. 1882.

During the last year we have had three cases of bronchial spirochetosis and a fourth case in which the patient harbored the spirochetes, which were found following the course of a lobar pneumonia caused by the pneumococcus, and which persisted after recovery from the pneumonia. All of these patients were born in the United States, and while some of them had been outside the continental limits, it is safe to assume that their infection was contracted in this country.

REPORT OF CASES

CASE 1.—*History.*—A white man, aged 18, unmarried, complained of headache, pains in the back and shoulders, weakness, cough and expectoration of blood-streaked mucopurulent sputum. The family history was negative. The patient had had measles and whooping cough in childhood; pleurisy in 1914, of two weeks' duration, with good recovery, and mumps in 1918, with good recovery. The patient was a native of Illinois, and had never been outside the United States except for a period of a few days three years before, when he was in Canada. For three days prior to admission to the hospital, the patient had been having headaches, muscular pains, poor appetite, slight cough and expectoration of blood-streaked sputum, which increased in amount as the disease progressed. There was no nausea or vomiting, and there were no symptoms referable to the abdomen; there was slight sore throat, and the patient had a feeling of general malaise and weakness.

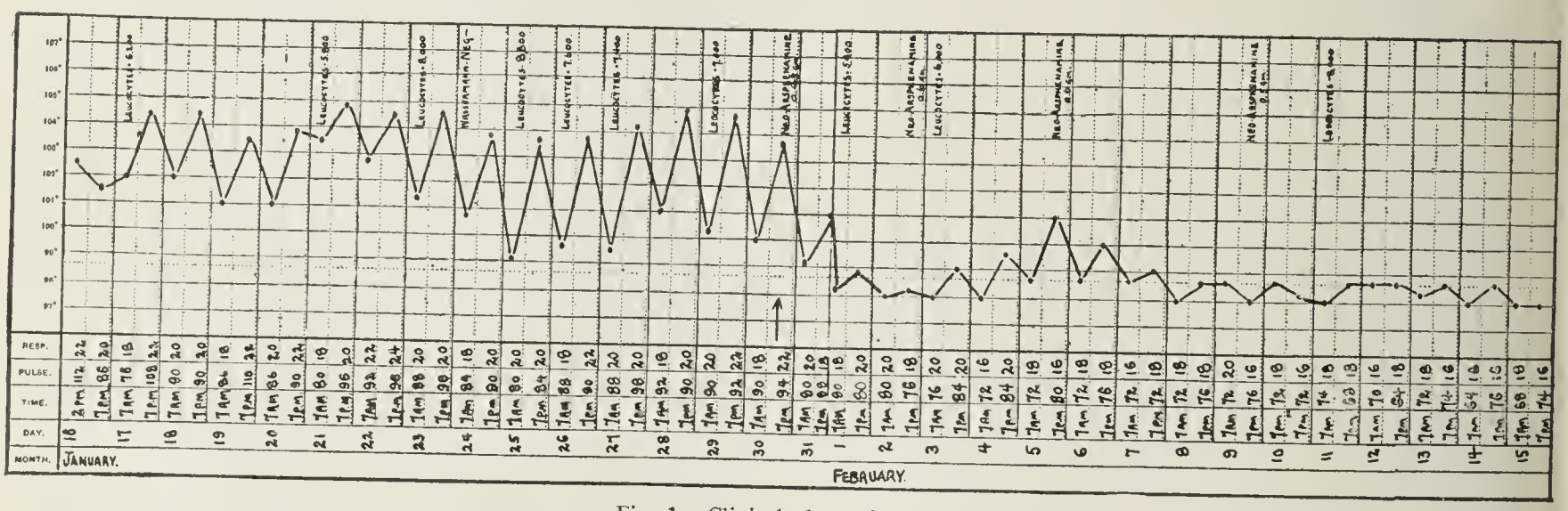


Fig. 1.—Clinical chart, Case 1.

Physical Examination.—On admission to the hospital, the temperature was 103, pulse 96, and respiration 20. The patient was fairly well nourished and muscular. The skin and the mucous membranes were somewhat pale; there were no petechiae. The lymphatic glands were not enlarged, and the spleen was not palpable. The abdomen was soft, and there were no tender areas or tumors. The liver extended one finger breadth below the costal margin. The pupils were equal and reacted to light and accommodation; the tongue was slightly coated. The tonsils were not hypertrophied, and there was slight congestion of the posterior pharynx and pillars, but no exudate and no evidence of membrane or ulcer. The teeth were in good condition; the heart was negative. Examination of the lungs disclosed only a few scattered râles at both bases; there was no impairment of resonance. The bones and extremities were negative; the reflexes, both superficial and deep, were normal. The eyegrounds were negative.

Laboratory Data.—A roentgenogram of the chest revealed a slight thickening of the bronchial tree on each side, the plate being otherwise negative. The sputum was negative for tubercle bacilli after repeated examinations during the course of the disease; throat cultures were negative for Klebs-Loeffler bacilli; blood smears were negative for malarial parasites, and blood cultures during the entire course of the disease were negative. The Noguchi reaction was negative. The stools were normal and negative for ova or parasites, and cultures were negative for typhoid and paratyphoid bacilli. Blood examination revealed a white count which varied from 5,000 to 8,800 during the course of the disease, with a slight relative

increase in the lymphocytic cells. The red cells, hemoglobin and color index were normal.

Clinical Course.—The patient continued to have fever with the temperature varying from 100 to 102 in the morning and from 103 to 104.8 in the evening. Chart 1 gives the temperature curve in this case and the effect on it of the treatment. Profuse night sweats occurred with great regularity, and the patient during the first three weeks of his illness lost 20 pounds. There was a slight cough and rather free expectoration of a thin, mucopurulent, blood-streaked sputum. The prostration during the course of the disease was not marked, and the patient stated that he felt fairly well, but weak. The case resembled so strongly in its clinical course a pulmonary tuberculosis that every effort was made to confirm such a diagnosis. The laboratory findings, roentgen-ray findings and physical examination, however, failed to demonstrate the existence of such an infection. During the course of the repeated sputum examinations it was noticed that while the sputum was negative for tubercle bacilli, there were constantly present a large number of spirochetes. The presence of these organisms was at first not regarded as significant, and it was only after repeated attempts to establish a definite diagnosis in this case that their presence was regarded seriously. Their constant presence in the sputum, after the teeth had been cleansed and the throat cleared with a mild antiseptic gargle, together with the absence of a lesion of the tonsils or pharynx which might account for their presence, appeared significant and strongly suggested the diagnosis of bronchial spirochetosis. It was decided to try the effect of an arsenical spirocheticide, and on the twentieth day 0.6 gm. of neo-arsphenamin was given intravenously, and on the twenty-first and twenty-second days the temperature again rose to 101 in the evening. On the twenty-fourth day, 0.5 gm. of neo-arsphenamin was given intravenously, following which injections of 0.9 gm. of neo-arsphenamin were given at intervals of one week, although the patient had shown no rise of temperature in the meantime, and was improving steadily. Following the injections of neo-arsphenamin the improvement in the patient was striking. The prompt termination of the fever, the rapid decrease in the number of spirochetes and their ultimate complete disappearance from the sputum, the prompt termination of the cough and the disappearance of the blood from the expectoration, which itself became almost negligible in quantity, leave little room for doubt regarding the efficacy of these injections. Two months following the onset of the disease, the patient had regained his loss of 20 pounds, had been up and about for several weeks and was able to resume his original duties. Before discharge from the hospital he was given an injection of 10 mg. of tuberculin, following which he showed no reaction.

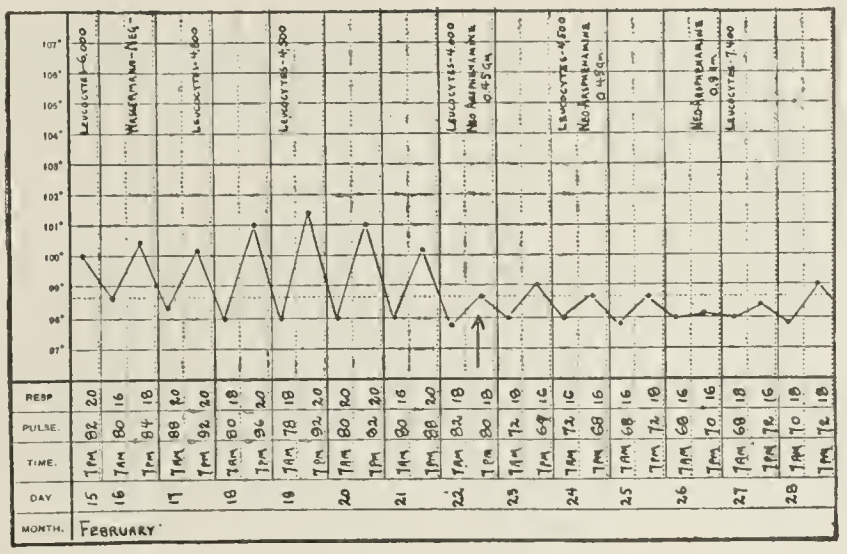


Fig. 2.—Clinical chart, Case 2.

The characteristics of the spirochetes found in this case and in the two following cases were so similar that they will be described later as being common to all of these cases.

CASE 2.—*History.*—A white man, aged 20, unmarried, complained of loss of appetite, weakness, general malaise, night sweats, slight cough, and expectoration of blood-streaked sputum. The family history was negative. The patient had had measles and whooping cough in childhood; influenza in December, 1918, followed by pneumonia, when he was in bed three weeks, and made a good recovery; and influenza of one week's duration in January, 1921, with good recovery. The patient was a native of Arizona and had never been outside of the United States except for a few days in Mexico four years before. For about four days preceding admission to the hospital, the patient had a feeling of weakness and lassitude, with poor appetite and cough. During this period he had night sweats and expectorated a rather thin, watery sputum which was streaked with blood. He had no sore throat and no symptoms referable to the abdomen.

Physical Examination.—On admission to the hospital, the temperature was 100, pulse 80, and respiration 18. The patient was well nourished and muscular, and the color of the skin and the mucous membranes was normal. There was no enlargement of the lymphatic glands, and the spleen was not palpable. The abdomen was soft, and there were no tender areas or tumors. Liver dulness extended to the costal margin. The pupils were equal, and reacted to light and accommodation. The tonsils and pharynx were negative; the teeth were in good condition; examination of the heart was negative. examination of the lungs disclosed a few moist râles, more marked at both bases. There was no impairment of resonance; the bones and extremities were negative; the reflexes, both superficial and deep, were normal; the eye grounds were negative.

Laboratory Data.—A roentgenogram of the chest revealed a thickening and increase in the density of the primary bronchi, more marked on the right side. The plate was negative for tuberculosis. The sputum was negative for tubercle bacilli after repeated examinations during the course of the disease. Throat cultures were negative for Klebs-Loeffler bacilli. Blood smears were negative for malarial parasites, and blood cultures taken during the course of the disease were all negative. The Noguchi reaction was negative. The stools were normal and negative for ova and parasites, and cultures were negative for typhoid and paratyphoid bacilli. Blood examinations revealed the white cells varying from 4,000 to 5,600 during the course of the disease, with a relative increase in the lymphocytic cells. The red cells, hemoglobin and color index were normal.

Clinical Course.—The patient continued to have a febrile course with temperature usually normal in the morning and rising to 100 or 101 each evening. Chart 2 gives the temperature curve in this case and also the effect of treatment. Night sweats were almost a daily occurrence and were profuse in character, leaving the patient feeling quite weak in the morning. During the febrile course of the disease, he lost 12 pounds. There was no marked prostration during the course of the disease, and he merely complained of muscular weakness and lassitude. There was a moderate cough and a rather free expectoration of thin, mucopurulent sputum which contained streaks of blood. The close resemblance of this case in its clinical aspects to acute pulmonary tuberculosis led to repeated examinations, roentgenograms and careful search of the sputum for evidence of this disease. The physical findings were practically negative, except for the moist râles which were found, particularly at both bases. The roentgen-ray findings were constantly negative for tuberculosis. The sputum, which was examined daily by both the ordinary methods and by the concentration methods, failed to show the presence of the tubercle bacillus. However, it was noted in the course of these examinations that while tubercle bacilli could not be found, there were almost constantly present a number of spirochetes which, while not being so profuse as in Case 1, still could be found without any difficulty in every slide examined. After the teeth and the pharynx had been cleansed to eliminate these sources, together with the absence of a lesion of the tonsils or pharynx which might account for their presence, it was considered that the constant presence of spirochetes in the sputum was significant, and it was determined to try the effects of a spirocheticide. On the eighth day 0.45 gm. of neo-arsphenamin was given intravenously, following which injection the temperature did not rise that evening. On the tenth day this injection was repeated, and the temperature remained normal. Following these injections

there was also a marked improvement in the patient's condition, the appetite improved, the night sweats stopped, and there was a general feeling of well being. On the twelfth day, 0.9 gm. of neo-arsphenamin was given intravenously, and following this two further injections of 0.9 gm. each were given at intervals of one week. The cough and expectoration became immediately lessened, and soon ceased entirely. The spirochetes rapidly decreased in number, and within a few days could not be demonstrated. Within a month after the onset of the disease the patient was back to his original weight, and the night sweats had entirely stopped, the appetite was good, and he felt entirely well. Before the patient was discharged from the hospital, he was given an injection of 10 mg. of tuberculin, following which he showed no reaction. The prompt termination of the febrile course, and the rapid and marked improvement in the clinical course following the administration of the arsphenamin, leave little room for doubt regarding the efficacy of this form of treatment.

CASE 3.—*History.*—A negro, aged 18, unmarried, whose family history was negative, complained of loss of appetite, weakness, cough, and expectoration of blood-streaked sputum. The patient had had chickenpox in childhood, and a severe case of influenza in 1918, of four weeks' duration, with good recovery. The patient was a native of Virginia, and had never been outside the United States. For one week prior to admission to the hospital the patient had a cough and had been expectorating freely, a rather thin, watery, blood-streaked sputum. Appetite was poor, and there was weakness and general malaise. There were no sore throat and no symptoms referable to the abdomen.

Physical Examination.—On admission to the hospital, the temperature was 100, pulse 80, and respiration 20. The patient was fairly well nourished and of normal development. The lymphatic glands were not enlarged, and the spleen was not palpable. The abdomen was soft, and there were no tender areas or abnormalities noted. The pupils were equal, and reacted to light and accommodation. The tonsils and pharynx were negative, and there was no exudate or evidence of membrane or ulcer. The teeth were in good condition. The heart was negative. Examination of the lungs revealed a few scattered, moist râles, more noticeable posteriorly and at both bases. There was no impairment of resonance. The bones and extremities were negative; the reflexes, both superficial and deep, were normal; the eye grounds were negative.

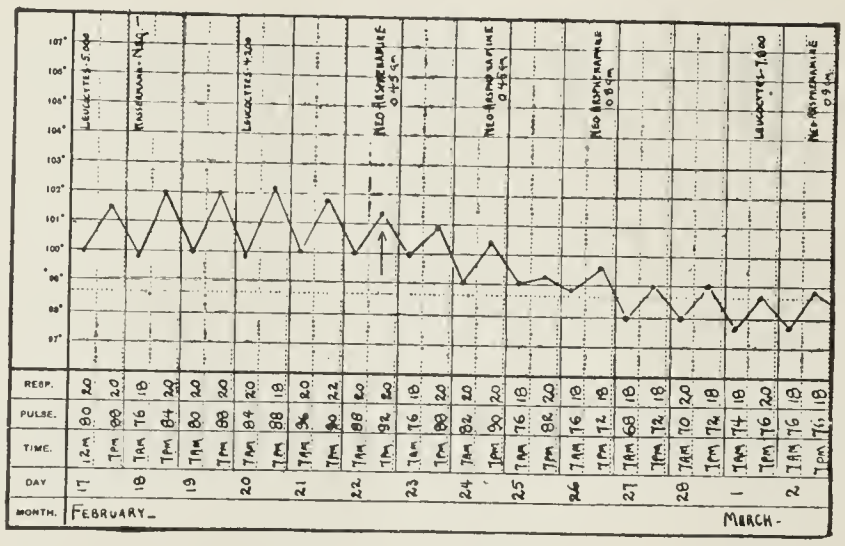


Fig. 3.—Clinical chart, Case 3.

Laboratory Data.—Roentgen-ray examination of the chest disclosed no lesion of the lung of such a degree or character as to be visible in a roentgenogram. The sputum was constantly negative for tubercle bacilli during the course of the disease. Throat cultures were negative for Klebs-Loeffler bacilli. Blood smears were negative for malarial parasites, and blood cultures during the course of the disease were all negative. The Noguchi reaction was negative. The stools were normal and negative for ova or parasites, and cultures were negative for typhoid and paratyphoid bacilli. The white cells during the course of the disease averaged 5,000 per cubic millimeter, and there was a relative increase in the lymphocytes. The red cells, hemoglobin and color index were normal.

Clinical Course.—The patient continued to have a febrile course with temperature varying from about 100 in the morning to approximately 102 each evening. Chart 3 gives the temperature curve and the effect of the treatment. Night sweats were not a feature of this case. The patient lost a total of 10 pounds during the acute course of the disease. There was a moderate cough and a profuse expectoration of a thin, watery sputum, which contained streaks of blood. There was no marked prostration during the course of the disease, and the patient complained only of a feeling of weakness and malaise. Repeated physical examinations disclosed only the findings of an acute bronchitis, and together with the negative roentgen-ray findings and the repeated negative examinations of sputum were against a diagnosis of pulmonary tuberculosis, although the disease in its clinical course strongly suggested such a diagnosis. It was noticed that the sputum in this case showed constantly the presence of large numbers of spirochetes, and after eliminating the teeth, tonsils and pharynx as the source of these organisms, it was considered that their presence bore some relation to the disease, and it was decided to give a spirocheticide. On the sixth day, 0.45 gm. of neo-arsphenamin was given intravenously without any noticeable effect on the temperature that day. On the following day, however, the temperature did not go as high as on any of the preceding days. On the eighth day this injection was repeated, and on the following day the temperature did not rise above 99.2. On the tenth day, 0.8 gm. of neo-arsphenamin was given intravenously, and on the following day the temperature remained normal. Two subsequent injections of 0.9 gm. of neo-arsphenamin were given at intervals of one week. Following these injections there was a marked improvement in the patient's condition. The appetite improved; the cough and expectoration became immediately lessened, and eventually ceased altogether. One month after the onset of the disease, the patient had returned to his original weight, the cough and expectoration had entirely ceased, and he felt entirely well. Before discharge to duty he was given an injection of 10 mg. of tuberculin, from which he showed a positive reaction. It was considered, however, that this reaction did not indicate any active tuberculous lesion, as both repeated physical examinations and roentgenograms of the chest were entirely negative.

COMMENT

The organisms of spirochetal nature encountered in the sputum of these patients more closely resembled *Spironema* than *Treponema* in that they were more refractive, more active in movement, and tended to change shape in motion. In stained preparations a delicate, threadlike spiral organism was noted, measuring from 6 to 28 microns in length and 0.3 micron in breadth. The ends were acuminate, and the undulations varied in number from three to fourteen. The length of the undulations was from 1 to 1.8 microns. No definite cellular structure or undulating membrane could be demonstrated, the cell body staining homogeneously; with some showing slight beading or granulations. No spores or flagella were demonstrable. It was gram negative, staining only faintly with safranin counterstain. The organism was nonacid fast, and stained only faintly with Loeffler's methylene blue. It stained best with Fontana, carbolfuchsin and polychrome methylene blue stains.

The spirochetes noted in these patients appeared to be of two rather distinct types. One type was quite thin, delicate and threadlike with more regular and numerous undulations; the other type appeared coarser, with fewer undulations and heavier staining.

Active motility of an undulatory character was noted in dark-field preparations of the fresh sputum, which ceased within ten minutes at room temperature (68 F.).

Cultures were unsuccessful by the ordinary aerobic, anaerobic and partial tension methods.

The absence of *Bacillus fusiformis,* usually associated with *Spirochaeta vincenti,* and the inability to obtain growth in cultures would tend to rule out a Vincent infection. Whether this is a distinct primary species of *Spironema* is questionable.

The continued presence of these organisms in the sputum during the course of the disease, and their rapid disappearance following the intravenous injection of a spirocheticide, along with the prompt clinical recovery, would indicate their significance as the etiologic factors in these cases. The accompanying bacterial flora remained unaffected by the treatment.

Guinea-pigs and white rats were inoculated with sputum from these patients, but succumbed to pyogenic infections; and all attempts to reproduce the disease in these animals were uniformly unsuccessful.

The diagnosis of bronchial spirochetosis is based on the clinical picture, which varies somewhat with the type of the disease but which in most cases is fairly distinctive, and the demonstration of the organism in the sputum, being careful that the specimen collected is really coughed up from the bronchi.

The disease must be differentiated from influenza, malaria, pulmonary tuberculosis, bronchomycosis and endemic hemoptysis.

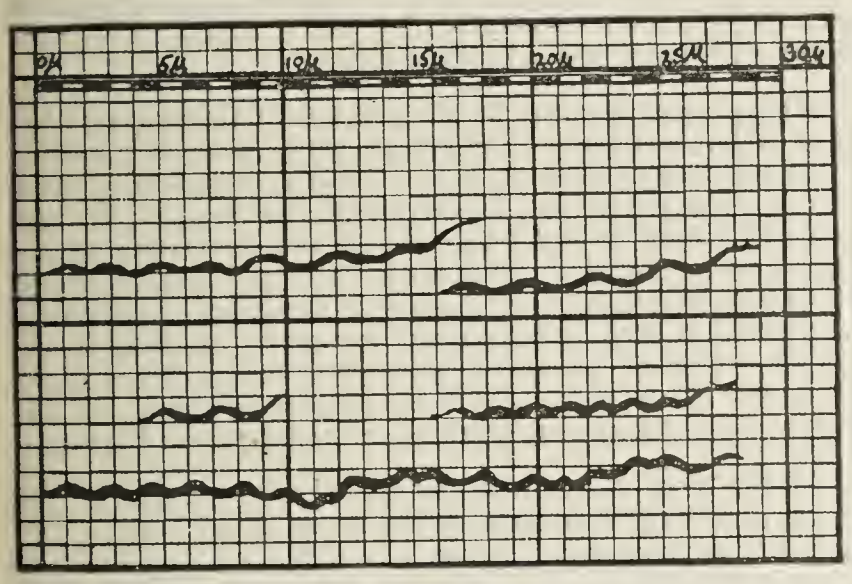


Fig. 4.—Bronchial Spironema from Sputum; average length, from 5.6 to 28 microns; average width, from 0.2 to 0.33 micron.

Various drugs have been used in the treatment of this condition, particularly the arsenical and iodin preparations. Castellani recommends liquor potassii arsenitis (Fowler's solution) and the cacodylates. Galli-Valerio recommends arsphenamin. We have found neo-arsphenamin effective; and on account of its ease of administration and low toxicity, it seems a desirable method of administering arsenicals.

Farah, in treating the disease in Egypt, used intramuscular injections of iodin with good results. He employed a 54 per cent. solution of iodin in poppy oil.

It would appear that attention should be more generally paid to the presence of bronchial spirochetosis in this country. In patients with a history of hemotysis is will relieve the patient's feelings to know that he is suffering, not from the dreaded tuberculosis of the lungs, but from a disease which is much less serious and generally terminates in recovery. A correct diagnosis is also extremely important from the standpoint of the naval and military service, as tuberculosis results in a permanent discharge from the service with a pension, while bronchial spirochetosis, as a rule, means only a few weeks' incapacity, after which the patient is able to resume his duties.

CONCLUSIONS

1. Bronchial spirochetosis exists in the United States, and is probably more widespread than is generally recognized.

2. The disease, in its clinical aspects, is very suggestive of pulmonary tuberculosis, but usually can be readily distinguished from this infection.

3. The routine examination of all sputum should include a search for spirochetes, and their presence should be regarded as significant, unless proved otherwise.

4. The disease appears to be capable of transmission from an infected to a noninfected individual, although the degree of contagiousness is probably slight.

5. An individual harboring the spirochetes in the sputum may present little or no evidence of the disease himself, and it appears that there exist carriers of *Spirochaeta bronchialis.*

6. The disease, as a rule, responds readily to treatment, and the arsenical preparations, particularly arsphenamin or neo-arsphenamin, are very efficacious.

SERUM DESENSITIZATION *

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With the more widespread employment of the serum of immunized animals for therapeutic purposes, the problem of desensitizing the patient who is hypersensitive to the serum comes up with increasing frequency. At present the most widely used serums are diphtheria antitoxin, tetanus antitoxin, antimeningococcus serum, antipneumococcus Type I serum, and antidysentery serum. In the present communication, we are not concerned with the specific immune bodies which these serums contain but with the problem of administering foreign serum in therapeutic doses to a patient who is hypersensitive to that serum. Since all of these serums are produced by the immunization of horses, the prevention of serum accidents and the administration of serum to hypersensitive patients are questions confined to that small group of patients who are hypersensitive to proteins of the horse, including both the proteins of the serum and the proteins of the hair and dandruff.

Shortly after Richet's [1] discovery of anaphylaxis, it was found by Otto and by Rosenau and Anderson in their pioneer studies that sensitized animals could be rendered refractory or antianaphylactic by the administration of a small dose of the same protein used to sensitize—a dose less than the minimal amount necessary to produce a fatal shock. This phenomenon was carefully investigated by Besredka and Steinhardt,[2] who gave to it the name of antianaphylaxis. The refractory condition thus produced is, however, only temporary. Its duration varies with the animal used

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* In this article, the desensitization has been used to designate the increased tolerance which, by proper procedures, may be produced in hypersensitive individuals. It is fully realized that the degree of desensitization falls short of what may readily be accomplished in experimental animals, and that in the present state of our knowledge, one cannot say whether the mechanism is the same or not. However, in view of the similarities between the human and experimental phenomena, and the almost universal custom of speaking of human sensitization and desensitization, this use of the terminology of experimental anaphylaxis seems justified for the present.

1. Richet, C.: Compt. rend. Soc. de biol. **4**: 837, 1902.

2. Besredka and Steinhardt: Ann. de l'Inst. Pasteur **21**: 117, 1907; **21**: 384, 1907.

and with the size of the sensitizing and desensitizing doses. Efforts have been made to determine the quantitative relations between the sensitizing dose, the length of the incubation period, the minimal anaphylactic dose and the minimal desensitizing dose. The results of different investigators are not in complete agreement, but the careful observations of Weil [3] are perhaps as trustworthy on these points as any that are available. Table 1, taken from Weil's paper, summarizes experiments carried out by quantitative methods on a large series of animals.

TABLE 1.—QUANTITATIVE RELATIONS OF SENSITIZING DOSE, INCUBATION PERIOD, MINIMAL ANAPHYLACTIC DOSE AND MINIMAL DESENSITIZATION DOSE IN GUINEA-PIGS

Sensitizing Dose	Incubation Period	Minimal Anaphylactic Dose	Minimal Desensitizing Dose
0.01 c.c.	16 days	0.02-0.5 c.c.	0.01 c.c.
2 c.c. × 3	10 days	0.4 c.c.	0.2 c.c.

From this table it is seen that with a small sensitizing dose the incubation period is longer, the minimal dose which will produce fatal shock is smaller, and the minimal desensitizing or antianaphylaxis dose is less than in animals sensitized with larger amounts. Although these results cannot be applied directly to the practical problem of desensitizing the patient who is hypersensitive to horse serum or horse dander, they nevertheless throw some light on the variability in the degree of human hypersensitiveness and on the inadequacy of any standard quantity of serum or any standard method for the desensitization of all these patients.

Our knowledge of how or when many of the hypersensitive individuals become sensitized is indeed scanty, but we do know beyond question that there are great variations in the degree of hypersensitiveness, and therefore great variations in the amounts to be used and the time required for desensitization.

TABLE 2.—CLASSIFICATION OF INDIVIDUALS HYPERSENSITIVE TO HORSE SERUM

1. Spontaneously hypersensitive.
   - A. "Horse" asthmatics.
     - (*a*) Cutaneous reactions positive to both horse dander proteins and horse serum (Case 1).
     - (*b*) Cutaneous reactions positive to horse dander proteins, but negative to horse serum (Case 2).
   - B. Individuals with no history of asthma or previous serum treatment, but with a cutaneous reaction positive to horse serum (Case 3).
2. Artificially sensitized.
   - A. Those to whom serum has been administered intraspinally (Case 4).
   - B. Those to whom serum has been administered intravenously or into the tissues.

In Table 2 I have attempted to classify the group of patients who in known or unknown ways have become hypersensitive to horse serum or horse dandruff proteins, and who therefore must be handled with caution when the question of serum treatment presents itself. In this classification, an effort has been made to arrange the group in the order of decreasing hypersensitiveness. Manifestly this arrangement will not hold for all cases, for there are certainly some patients who have never been treated with serum, and who have never had asthma or allergic rhinitis, but who have, nevertheless, a positive skin reaction to horse serum or horse dandruff or both. They, therefore, fall into the group of spontaneously hypersensitive patients, but are often hypersensitive to a less degree than some who have been artificially sensitized. There are, too, wide variations in the degree of sensitiveness in the group of artificially sensitized patients, that is, patients who have previously been treated with serum. Abundant clinical evidence indicates that many patients do not become hypersensitive after serum treatment.[4] This is especially true if only small amounts of serum have been used and after subcutaneous or intramuscular administration. In many others the hypersensitiveness is short lived, and when it does persist for years, it is often a low grade of hypersensitiveness. There is, however, unquestionably a small group who remain for one or two years, or perhaps longer, after a serum treatment, in a condition which demands great caution when serum has to be administered a second time. This applies particularly to those who have been given serum intravenously or intraspinally. Despite a few exceptions, the hypersensitiveness will be found to decrease from above downward as the several types are arranged in the foregoing classification.

It is with the patients in Group 1 that the utmost caution must be exercised. Some of the so-called "horse" asthmatics are so exquisitely hypersensitive that even minute amounts may prove fatal. One case from the literature will illustrate: [5]

> A man, aged 29, who for the last ten or twelve years had been subject to attacks of bronchial asthma when in proximity to horses, was anxious to have a desensitizing dose of horse serum, although he was familiar with the danger. He was taken to a hospital and 1 minim of horse serum was administered intravenously. Within two minutes a typical attack of asthma supervened. He was given 10 minims of epinephrin intravenously with definite relief for about ten minutes. In all, 50 minims of epinephrin were given in five doses, intravenously. Each gave relief for several minutes, but the patient died forty-five minutes after the injection of serum.

There are, of course, many similar cases in the literature,[6] and doubtless many unreported. Most, but not all, of the fatal serum accidents on record have occurred in this type of patient.

Some, however, come from Group 2. Accidents have occurred in patients who received their first serum injection intraspinally, and then, after an interval of nine days or more, were reinjected either intravenously or intraspinally.[7] There are also a few authentic cases with fatal outcome in which both first and second serum treatments were given intravenously, subcutaneously, or intramuscularly.[8] Even though the majority of these individuals who have previously had serum treatment do not remain hypersensitive, there is at any rate a potential danger in this type of patient which makes caution imperative in giving serum.

What, then, is to be done when one of these hypersensitive patients has diphtheria, tetanus, a Type I pneumococcus infection, meningococcus meningitis or bacillary dysentery? It is commonly stated that a desensitizing dose of 0.5 or 1 c.c. should be given subcutaneously before the whole quantity of serum is administered. In some cases this may suffice; but in

3. Weil, R.: J. M. Res. **29**: 233, 1914.

4. Nemmser, M.: Deutsch. med. Wchnschr. **39**: 740, 1913. Goodall, E. W.: Lancet **1**: 323 (March 2) 1918.

5. Boughton, T. H.: Anaphylactic Death in Asthmatics, J. A. M. A. **73**: 1912 (Dec. 27) 1919.

6. Gillette, H. F.: New York State M. J. **9**: 373, 1909. McKeen, S. F.: Boston M. & S. J. **164**: 503, 1911.

7. Netter, A.: Bull. et mém. Soc. méd. d. hôp. de Paris **33**: 401, 1912. Grysez and Dupuich: Ibid., p. 374.

8. Garel: Le rhume des foins, Paris, 1899. Dreyfuss, J.: München. med. Wchnschr. **59**: 198, 1912.

many cases such a procedure is entirely inadequate. Numerous reports in the literature testify to this. Besredka [9] introduced a method by which he believed desensitization could be accomplished in any patient. It consists of giving intravenously at intervals of from two to ten minutes increasing doses of serum, beginning with 1 c.c. of a 1:7 dilution. Despite the fact that Besredka's early estimate of the method was overenthusiastic, it forms the basis of the methods which, so far as is known, offer the best hope of desensitization. Undoubtedly there are some extremely hypersensitive "horse" asthmatics who cannot be desensitized by any method. Fortunately, however, such patients are rare.

REPORT OF CASES

The following case reports from the literature and our own experiences illustrate more or less successful attempts to increase the tolerance of hypersensitive individuals for horse serum. The diagnosis in each of these patients was lobar pneumonia, Type I, and the serum used was antipneumococcus Type I serum.

TABLE 3.—DESENSITIZATION IN CASE 1

Date	Time	Amount of Horse Serum C.c.	Method of Administration	Result
2/7	2:20 p. m.	0.25	Subcutaneously	Violent asthma
	3:30 p. m.	0.025	Subcutaneously	No reaction
	4:15 p. m.	0.066	Subcutaneously	No reaction
	4:45 p. m.	0.1	Subcutaneously	No reaction
	5:15 p. m.	0.25	Subcutaneously	No reaction
	5:30 p. m.	0.5	Subcutaneously	No reaction
	6:00 p. m.	1.0	Subcutaneously	Generalized urticaria
	8:00 p. m.	2.0	Subcutaneously	Urticaria fading
	8:30 p.m .	1.0	Intravenously	Nausea, vomiting, violent asthma
	10:00 p. m.	1.0	Intravenously	Nausea, vomiting, no asthma
	11:10 p. m.	2.0	Intravenously	No reaction
	12:00 m.	4.0	Intravenously	No reaction
2/8	12:45 a. m.	70.0 (diluted 1:2)	Intravenously (very slowly)	Nausea, vomiting, generalized itching
	8:00 p. m.	1.0	Intravenously	No reaction
	9:15 p. m.	65.0 (diluted 1:2)	Intravenously (very slowly)	Face suffused; itching of eyes; asthma

TABLE 4.—DESENSITIZATION IN CASE 2

Date	Amount of Horse Serum, C.c.	Method of Administration	Result
5/7	0.25	Subcutaneously	No reaction
	0.5	Subcutaneously	No reaction
15 minute intervals between injections	1.0	Subcutaneously	No reaction
	0.5	Intravenously	No reaction
	1.0	Intravenously	No reaction
	40.0 (dil. 1:2)	Intravenously (very slowly)	Restless; face flushed; asthma
8 hours later	40.0 (diluted 1:2)	Intravenously (very slowly)	Restless; face flushed; asthma
6½ hours later	60.0 (diluted 1:2)	Intravenously (very slowly)	Similar reaction, but milder
8½ hours later	65.0 (diluted 1:2)	Intravenously (very slowly)	Mild reaction
6 hours later	75.0 (diluted 1:2)	Intravenously (very slowly)	Mild reaction
6 hours later	70.0 (diluted 1:2)	Intravenously (very slowly)	Moderate reaction

CASE 1.—This case, reported by Alexander,[10] is, so far as we are aware, the only reported instance of the successful administration of large amounts of serum to a genuine "horse" asthmatic who at the outset reacted with violent symptoms to a small subcutaneous dose of serum. A man, aged 42, who had had asthma fifteen years, gave strongly positive cutaneous reactions to horse serum and horse hair proteins. The protocol of desensitization is given in Table 3.

It should be noted that with this patient, despite the fact that he was not desensitized to the point at which 65 or 70 c.c. of horse serum produces no symptoms, the tolerance was nevertheless markedly increased. One cannot give to this increase of tolerance an exact numerical value; but from a condition in which the patient reacted with violent symptoms to 0.25 c.c. subcutaneously, his reactivity was in the course of a few hours so altered that he tolerated without symptoms 4 c.c. given intravenously.

TABLE 5.—DESENSITIZATION IN CASE 3

Date	Time	Amount of Horse Serum C.c.	Method of Administration	Result
4/13	11:25 a. m.	1.0	Subcutaneously	No reaction
	12:05 p. m.	1.0	Intravenously	Respiratory difficulty; urticaria ++++
4/14	12:00 m.	1.0	Intravenously	No reaction
	1:30 a. m.	2.0	Intravenously	Urticaria ++++; swelling of lips and eyelids

TABLE 6.—DESENSITIZATION IN CASE 4

Date	Time	Amount of Horse Serum C.c.	Method of Administration	Result
3/21	10:30 p. m.	0.025	Subcutaneously	None
	11:00 p. m.	0.05	Subcutaneously	None
	11:30 p. m.	0.1	Subcutaneously	None
	12:00 m.	0.2	Subcutaneously	None
3/22	12:30 a. m.	0.4	Subcutaneously	Slight difficulty in breathing
	1:00 a. m.	0.8	Subcutaneously	Erythema, site of injection
	1:30 a. m.	1.0	Subcutaneously	None
	2:00 a. m.	0.1	Intravenously	None
	2:30 a. m.	0.2	Intravenously	None
	3:00 a. m.	0.4	Intravenously	None
	3:30 a. m.	1.0	Intravenously	Swelling, lower jaw
	4:00 a. m.	2.0	Intravenously	None
	4:30 a. m.	4.0	Intravenously	None
	5:00 a. m.	8.0	Intravenously	None
	5:45 a. m.	16.0	Intravenously	Erythema on dorsum of fingers, around left eye and on forehead

CASE 2 (also from Alexander's report).—A man, aged 37, had had allergic rhinitis from horses until ten years prior to admission, at which time he gave up driving behind horses. Cutaneous tests were negative to horse serum, and strongly positive to horse hair protein.

There is no evidence that this patient's hypersensitiveness to horse serum was very marked, although to horse dandruff it may have been of high degree. At no time were there intense reactions to the serum; but it is significant that the later reactions were less severe than earlier ones, even though larger amounts were given.

CASE 3.—A man, aged 54, admitted to the Presbyterian Hospital, April 13, 1917, gave no history of asthma, hay-fever or urticaria. No serum had been given previously. Intracutaneous tests with horse serum were positive.

This patient represents the group of those spontaneously hypersensitive to horse serum, but who have never had symptoms referable to this hypersensitiveness or a previous serum treatment. Although the desensitization of this patient was not carried far, his tolerance was definitely increased. The second injection, consisting of 1 c.c. intravenously, caused marked symptoms, whereas the same dose twelve hours later caused no symptoms.

CASE 4.—A man, aged 22, admitted to Presbyterian Hospital, March 21, 1920, gave no history of asthma or allergic

9. Besredka, A.: Ann. de l'Inst. Pasteur **24**: 879, 1910; Anaphylaxie et antianaphylaxie, Paris, Masson et Cie, 1917.
10. Alexander, H. L.: Asthma Complicating the Serum Treatment of Pneumonia, Arch. Int. Med. **20**: 636 (Oct.) 1917.

rhinitis. Diphtheric antitoxin had been administered seven years previously, and antimeningococcus serum two years previously. About two weeks after the antimeningococcus serum was given, he developed urticaria over the entire body, and his eyes swelled. Intracutaneous tests, on admission, were positive for horse serum.

This patient represents the group of those artificially sensitized by a previous intraspinal administration of serum. Clearly he was not highly sensitized. It is interesting to note that an intravenous dose of 8 c.c., following a series of smaller but increasing doses, produced no symptoms, though reactions had followed some of the smaller doses.

COMMENT

Despite the many obscurities with which the problems of human sensitization and desensitization are beset, experience has demonstrated beyond question that, before serum is administered, information regarding the presence or absence of hypersensitiveness should be obtained. One should find out whether the patient has had asthma or allergic rhinitis from horses, or whether he has previously been treated with serum, and if so, by what route the serum was administered. An intracutaneous test should be made with horse serum in 1:10 dilution, injecting 0.1 c.c. or less—preferably 0.02 c.c. A control test with physiologic sodium chlorid solution or, better, with a 1:10 dilution of rabbit or sheep serum, should be made at the same time. One should wait half an hour before deciding whether the reaction is positive or negative. The interpretation of the mild type of positive reaction is not always easy; but if there is a definite enlargement of the small elevation caused by injecting the serum into the skin, and if this injection wheal is surrounded by a zone of erythema, the test is positive, provided the control test has not behaved in a similar way. The size of the wheal and its surrounding zone of erythema give a rough index of the degree of hypersensitiveness. A large wheal and a wide zone of erythema, and especially a wheal which has projections like pseudopods extending away from it, indicate greater hypersensitiveness than a small wheal without pseudopods and a narrow zone of erythema. There are, however, a few patients in whom the skin test fails to reveal a state of hypersensitiveness; at least we have observed one patient with a very definite history of allergic rhinitis from horses whose skin test with the dandruff protein was negative, but in whom symptoms of rhinitis could be readily produced by instilling a drop of an extract of horse dandruff protein into the nostrils.

If the patient has had asthma and gives a positive skin test, great caution is necessary. The first desensitizing dose should be given subcutaneously, beginning with a dose not larger than 0.025 c.c. The dose should be doubled every half hour until 1 c.c. is given. Then 0.1 c.c. is given intravenously. After twenty minutes the dose is doubled. In case the therapeutic serum is to be given intravenously, the intravenous injections are continued, the dose being doubled every twenty minutes until 25 c.c. has been given without reaction. Four hours later, 50 c.c. may be given, and after eight hours the treatment may be continued in the usual manner. In case a reaction occurs, one should wait the usual interval, and then the last dose that gave no reaction or only a mild one is repeated. There is no evidence suggesting a cumulative action. The first portion of the serum should always be given very slowly and careful watch kept for respiratory embarrassment, cyanosis, skin eruptions, edema and symptoms of collapse.

In case the therapeutic serum is to be administered intraspinally, the subcutaneous doses should be carried out in the same way and four or five of the intravenous doses given, when, if there has been no reaction, the intraspinal route should be tried very cautiously. It should be realized, however, that in the exquisitely hypersensitive patients with bronchial asthma, serum therapy may be impossible.

As for the patient who has previously been treated with serum, and is demonstrably hypersensitive by the skin reaction, the same procedure should be followed, even though such patients probably never attain the same degree of hypersensitiveness as the asthmatic individuals with natural sensitization. It is probably quite safe with some of these less sensitive patients to shorten the desensitization program in case the first few injections produce no reaction. This may be done by increasing the doses a little more rapidly than by doubling the preceding amount. The first intravenous dose should, however, never be more than one tenth of the largest dose tolerated subcutaneously. It will be found that only very rarely is it impossible to desensitize a patient whose sensitization dates from a previous treatment. Finally, when attempting desensitization, one should never inject serum without having epinephrin at hand.

VALUE OF THE ALIMENTARY TEST IN THE DIAGNOSIS OF MILD HYPERTHYROIDISM

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Several years ago, Denis, Aub, and Minot [1] studied the blood sugar of seventeen cases of hyperthyroidism, before and after the ingestion of 100 gm. of glucose and 50 gm. of bread. They found that, following the administration of this carbohydrate meal, a hyperglycemia occurred in all these cases.

BLOOD SUGAR PERCENTAGE IN THREE NORMAL PERSONS AND IN TEN CASES OF MILD HYPERTHYROIDISM *

	Time									
		After, Hours								
Condition	Before	½	1	1½	2	2½	3	4	Basal Metabolism, per Cent.	Goetsch Test
Normal 1.....	0.089	0.108	0.127	0.125	0.118	.....	0.086	.....	+ 2	—
Normal 2.....	0.077	0.101	0.132	0.108	0.094	.....	0.083	.....	— 1	—
Normal 3.....	0.093	0.116	0.133	0.126	0.100	.....	0.095	.....	+ 1	—
Hyperthyroid 1.	0.084	0.109	0.148	0.193	0.198	0.183	0.151	0.113	+16	+
Hyperthyroid 2.	0.103	0.133	0.143	0.160	0.179	0.186	0.172	0.122	+12	+
Hyperthyroid 3.	0.099	0.145	0.164	0.222	0.215	0.179	0.173	0.118	+17	+
Hyperthyroid 4.	0.097	0.135	0.189	0.175	0.183	0.174	0.160	0.118	+24	+
Hyperthyroid 5.	0.082	0.100	0.115	0.136	0.149	0.160	0.156	0.120	+12	+
Hyperthyroid 6.	0.088	0.118	0.152	0.168	0.179	0.185	0.177	0.131	+23	+
Hyperthyroid 7.	0.108	0.157	0.187	0.208	0.225	0.201	0.185	0.136	+15	+
Hyperthyroid 8.	0.079	0.111	0.127	0.161	0.152	0.136	0.123	0.096	+21	+
Hyperthyroid 9.	0.091	0.128	0.162	0.189	0.198	0.204	0.195	0.149	+18	+
Hyperthyroid 10	0.106	0.143	0.163	0.166	0.167	0.161	0.150	0.111	+13	+

* Before and after ingestion of 100 gm. glucose, compared with basal metabolic determinations and epinephrin test of Goetsch.

Lately it has seemed to be of interest to determine what value, if any, is attached to the alimentary hyperglycemia test in the diagnosis of mild hyperthyroidism—particularly in the so-called borderline cases in which the clinical signs and symptoms are not sufficient to warrant one in making a positive diagnosis, and in

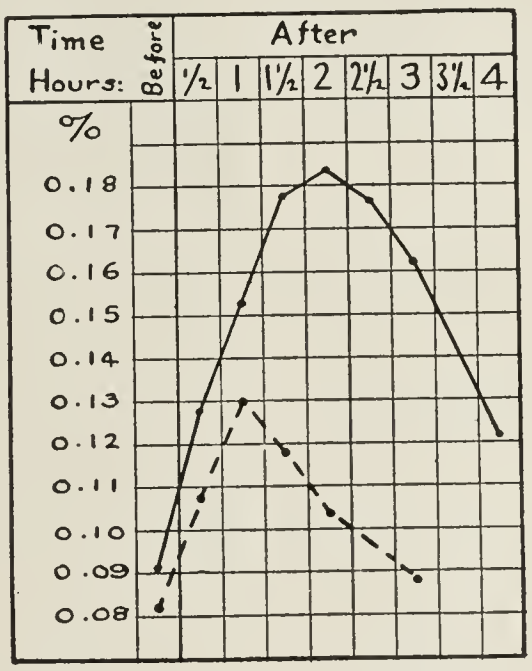
1. Denis, W.; Aub, J. C., and Minot, A. S.: Blood Sugar in Hyperthyroidism, Arch. Int. Med. **20**: 964 (Dec.) 1917.

which it is necessary to resort to laboratory tests in order to decide what the condition is.

With this object in view, I have selected ten cases in which a positive diagnosis of hyperthyroidism could not be made until the basal metabolic rate was known. These cases, therefore, very properly belong to the borderline group, as far as the signs and symptoms are concerned, and to the group known as mild hyperthyroidism after the metabolic rate is known. Three perfectly normal persons were used as controls for the experiment. The different tests and determinations in both normal and hyperthyroid cases were made under the same conditions, etc.

The sugar estimations were made according to the method recently described by Myers.[2] The basal metabolic rate was determined with the Jones metabolimeter, according to the method described by Jones.[3] The epinephrin test of Goetsch [4] was made in all thirteen cases. The blood sugar estimation before the ingestion of glucose was made after an over-night fast of fourteen or fifteen hours.

In the accompanying table are given the results of these three tests. One notices that all of the hyperthyroid cases react positively to the Goetsch test, and that the average metabolic rate of the thyrotoxic cases is 17 per cent. above normal. The average blood sugar, before the administration of glucose, was 0.82 per cent. for the normal persons and 0.91 per cent. for the hyperthyroid patients. One notices also that the normal persons show the highest blood sugar content at the end of one hour after the ingestion of the glucose, while, in the hyperthyroid cases, the maximum blood sugar values occur at the end of from one and a half to two and a half hours after the ingestion of the glucose. The maximum blood sugar in the thyrotoxic cases is notably higher than that of the normal cases. In the normal cases, the blood sugar values are well within normal limits at the end of two hours, and even more so at the end of three hours, while the blood sugar content in the mild thyrotoxic cases declined only to the upper limit of normal values at the end of four hours after the administration of glucose. In the accompanying chart are plotted curves representing the average results obtained in both the normal and the hyperthyroid cases.



Curves representing the average results, after the ingestion of 100 gm. of glucose, in three normal persons and in ten patients with hyperthyroidism of low degree. Solid line, hyperthyroid cases; broken line, normal cases.

One seems to be justified in concluding, from a study of the results obtained in this series of cases, that the alimentary hyperglycemia test is of distinct value in the diagnosis of mild hyperthyroidism. In persons whose symptoms and physical findings are suggestive, but insufficient to warrant the making of a positive diagnosis of hyperthyroidism, the obtaining of results similar to those recorded in the ten cases here reported may be considered as valuable corroborative evidence of the presence of thyrotoxicosis. The test, however, is not pathognomonic.

Candler Building.

2. Myers, V. C.: Chemical Changes in the Blood in Disease, J. Lab. & Clin. Med. **5**: 640 (July) 1920.
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4. Goetsch, E.: New York State J. M. **18**: 259 (July) 1918.

EXPERIENCES WITH THE LYON TEST (MAGNESIUM SULPHATE LAVAGE OF THE DUODENUM)

FOR THE DETERMINATION OF GALLBLADDER DISEASE *

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About four years ago, Meltzer [1] published an article in which he discussed the basis of our conceptions regarding the innervation of the gallbladder, and its contractile mechanism. In this article he dilated on the function of the sphincter at the papilla of Vater, and the interrelation between the contracting gallbladder, and the sphincteric action at the papilla.

Applying the facts that had been made known to us by experimental physiologists, he invoked the "law of contrary innervation" to explain the physiologic coaptation of contracting musculature and relaxing sphincter. Meltzer took a step forward and suggested that occasional types of jaundice, such as catarrhal or emotional jaundice, could be caused by disturbances in the carrying out of these coordinated nervous reflexes; he suggested an abnormal rigidity or passivity of the sphincter as the possible cause. He made the practical therapeutic suggestion that a concentrated solution of a magnesium salt introduced into the duodenum through a duodenal tube might, by causing a relaxation of a badly functioning sphincter at the papilla, tend to relieve the jaundice.

Lyon [2] of Philadelphia adopted the suggestion of Meltzer. He carried the argument one step farther. If magnesium sulphate relaxes the sphincter, then by the law of contrary innervation it causes simultaneous contraction of the gallbladder, and the emptying of its contents. By collecting the fluid in the duodenum after the saline lavage, he proposed a diagnostic test for disease of the gallbladder, based on a study of the amount, character, cytology and bacteriology of these contents under normal and abnormal conditions. In a large series of cases, Lyon has collected duodenal contents before and after magnesium lavage. The diagnosis of cholecystitis or cholangeitis is based on the presence of a large amount of cloudy, discolored, heavy, mucoid bile containing desquamated epithelium, pus cells and bacteria. He has applied the therapeutic element in the suggestion of Meltzer, using this method for the relief of catarrhal jaundice, chronic infections of the biliary tract, etc., and claiming considerable success as a result.

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1. Meltzer, S. J.: Am. J. M. Sc. **153**: 469 (April) 1917.
2. Lyon, B. B. V.: Diagnosis and Treatment of Diseases of the Gallbladder and Biliary Ducts, J. A. M. A. **73**: 980 (Sept. 27) 1919.

The methods, technic and the reasoning of Lyon are elaborated in a series of articles by him. The lack of space at this moment will not permit even a summary. Nor is it really necessary, since the work has aroused so much interest that it is fair to say that few practical workers in medicine or surgery remain unfamiliar with the basic conditions and principles of the test. No less a name than Meltzer's having been attached to the original therapeutic suggestion, our attention was aroused by the plausibility and rationale of the test. We, therefore, have attempted in a series of fifty or sixty clinical cases of gallbladder disease to gather data and, by examining these data with an open, though critical mind, to formulate a conclusion on the success of the method or to discover its possibilities and its limitations.

There is probably no other problem in borderline medicine and surgery that can vie with the diagnosis of chronic inflammatory gallbladder disease for interest and importance. The field is unlimited, and a successful method of diagnosing gallstones and chronic cholecystitis would be very welcome. The fruition of the test and its therapeutic application depend on the successful demonstration of all these premises:

1. Demonstration of the presence of a functioning sphincter at the mouth of the common bile duct.
2. Demonstration that rhythm and contractions of the gallbladder walls and simultaneous relaxation of the sphincter action at the papilla are both controlled by contrary acting systems of innervation.
3. Evidence to show that magnesium salts cause relaxation of the smooth muscle of this sphincter when applied to the duodenal mucosa, and thus reflexly cause contractions and emptying of the gallbladder.
4. Evidence that the fluid obtained is really gallbladder fluid, and that changes in color, consistency and amount indicate disease.
5. Evidence that cytologic, chemical and bacteriologic examination of this fluid is both possible and feasible and leads to dependable conclusions regarding gallbladder pathology.

The steps in the theorem of Lyon would, therefore, be as follows: The magnesium sulphate solution, introduced through the duodenal tube in the fasting state, relaxes the sphincter at the mouth of the common bile duct. A flow of bile, common duct bile, or "A" bile, as Lyon calls it, follows. Immediately thereafter, the gallbladder contracts as a result of the application of the "law of contrary innervation," and the gallbladder, or "B" bile, appears in the duodenum and is aspirated or siphoned off. There follows now in order "C" bile, or bile from the hepatic ducts, and finally "D," or pure liver bile. On the collection of these fluids and their examination, Lyon bases his conclusions regarding the character of these specimens, their normality or abnormality. On the amount and character of the "B" bile are based his assumptions regarding the size and status of the gallbladder. Similarly he deduces the facts, from observations on the "C" and "D" bile, regarding the presence of a cholangeitis or of an intrahepatic suppuration.

PHYSIOLOGIC BASES

Let us discuss in more detail the physiologic basis for each step in this reasoning. We shall then be in a position to judge better the actual results when we apply the test at the bedside.

1. *Presence or Existence of a Papillary Sphincter.*—Our real knowledge regarding the existence of such muscular mechanism is based primarily on the observations of Oddi,[3] an Italian physiologist and surgeon, who described an individual set of muscular fibers surrounding the terminal portion of the common bile and pancreatic ducts. While earlier anatomists had indicated the identity of such a mechanism, the maceration experiments of Oddi on the terminal ducts and the papilla of animals demonstrated a set of circular muscle fibers, surrounding the ducts, particularly the common bile duct. These fibers had their origin in the circular fibers proper of the duct. The muscular bundles increased in thickness and length as the duct entered and traversed the wall of the intestine; they threw out lateral fibers which commingled with the longitudinal and circular fibers of the intestinal wall, forming points of support for the duct in its course. Oddi declared the individual identity of such a sphincter bundle apart and separate from the circular fiber of the inner muscular coat of the duodenal wall.

In a painstaking research, Hendricksen[4] has confirmed in detail the findings of Oddi for such animals as the dog, cat, rabbit and guinea-pig: and, extending these observations to man, he was clearly able to demonstrate, by maceration specimens and microscopic sections, the existence of a corresponding sphincter in the human being. We have been able, without difficulty, to demonstrate microscopically in sections, both in man and in the dog, the existence of circular bands of smooth muscle fibers surrounding the common bile duct in its course through the intestinal wall. These transversely arranged bundles are continuations of the scanty musculature of the gallbladder and first and second portions of the common duct. In the third portion they are thicker and more numerous; yet at no point do they form a compact circular bundle or a substantial sphincter, such as is our conception, for example, of the sphincter of the pylorus or of the anal ring. The fibers of the sphincter of Oddi are scanty, widely separated and diffused, and are at no time continuous. Nor are they collected in a band at any one point, but are scattered evenly throughout the intramural course of the duct. A real anatomic sphincter, apart and separate from the inner circular coat of the duodenal wall, can hardly be said to exist.

Physiologically, however, a sphincteric action at the papilla of Vater is demonstrable. In animals, Mann[5] was able to show a resistance at the papilla equivalent to a pressure of a column of water of 100 mm. or more in height from within the bile duct. Herring and Simpson,[6] in series of animals including monkeys, demonstrated resistance at the sphincter, due to muscular tonus equivalent to a column of water from 200 to 300 mm. in height.

In some experiments on dogs which we performed with Dr. L. Auster in the Laboratory of Physiology at the Cornell University Medical College we laid open the duodenum and exposed the opening of the common bile duct. We noted that during digestion in the dog the flow of bile from the papilla was slow but practically continuous and consisted of bile from the liver. By drawing the finger even gently across the papilla, or by application of faradic stimulation or chemical irritants, it was seen that the sphincter promptly closed the duct. An interval of between 10 and 30 seconds elapsed during which the papilla was erected like a mammary nip-

3. Oddi: Arch. ital de biol. **8**: 317, 1887.
4. Hendricksen: Bull. Johns Hopkins Hosp. **60**: 221, 1898.
5. Mann: New Orleans M. & S. J. **71**: 80 (Aug.) 1918.
6. Herring and Simpson: Proc. Roy. Soc. London 1907 B **79**: 517, 1907.

ble. Then a relaxation took place, and the flow of bile was reestablished. Not only the papilla but also the surrounding segment of duodenum responded to the stimulus. If the stimulus was strong enough, the whole segment became tonically contracted; if weaker, only the papilla and adjacent musculature. Thus we were able to demonstrate a definite sphincteric action, though not actually a certain anatomic sphincter.

2. *Nervous Control of Contractile Tissues of Gallbladder and Papilla.*—It is supposed that the "law of contrary innervation" holds good for the excretory part of the biliary system, as it does elsewhere in the body. This law, interpreted in terms of gallbladder and sphincter, would call for a double innervation, splanchnic and parasympathetic, to both the gallbladder and the papillary muscle. Thus, the same stimulus that traversed the vagus system to cause contraction of the gallbladder would simultaneously relax the sphincter; or, traveling through the splanchnic system, would contract the sphincter and relax the gallbladder. Physiologists are not in accord in their results experimentally produced on animals. Thus, Doyon,[7] on stimulation of the peripheral end of the splanchnics, found contraction of the gallbladder and bile ducts; on stimulation of the central end of the splanchnics, he noted relaxation of the sphincter. Doyon states that he never saw these two effects produced simultaneously, but presumes that they do occur.

Bainbridge and Dale,[8] covering the same ground more than eleven years later, came to diametrically opposite conclusions. They said that "the invariable result of faradizing the splanchnic nerve was relaxation of the gallbladder." Stimulation of the cut end of the vagus in the thorax gave rise to contraction of the gallbladder. By means of a balloon in the gallbladder, rhythm and tonus were demonstrated by all the foregoing authors. Contractions of the gallbladder were evidenced by rise of manometric readings in an instrument connected with the balloon. Such contractions or rises in pressure were easily produced by rises in the general blood pressure, contractions of the diaphragm and liver, nerve stimulations, etc. However, relaxation of the papilla was never seen, though contraction and closure of the papilla were demonstrated as the result of vagus stimulation. A clearcut laboratory demonstration of the law of contrary innervation as applied in this field remains to be desired. It is more than likely, however, that some such regulatory apparatus does exist, similar to that in the intestinal tract, ureter, esophagus, etc.

In the experiments performed with Dr. Auster, we injected into the bladder cavity of dogs narcotized with chlorbutanol, a small quantity of a solution of methylene blue in physiologic sodium chlorid solution. This we did to differentiate gallbladder bile from the flow of liver bile. The duodenum was then opened and the papilla exposed for observation. It was noted that though the flow of bile is almost continuous after a meal, this bile consists entirely of liver bile, the blue discolored gallbladder bile not appearing at all except when manually expressed. Cholagogues and solutions of salines and peptones had a tendency to encourage this flow of liver bile; but we found no agent, applied in the duodenum, that caused the expulsion of the gallbladder contents. Strong faradic stimulation of the peripheral end of the right vagus caused general abdominal contractions of intestines, diaphragm, stomach, etc. With these contractions we noted the expulsion of the blue discolored gallbladder bile, though no evidence of actual muscular contractions of the gallbladder occurred. We are also led to believe, from our observations, that the gallbladder is a rather inactive organ, which takes little part in the physiologic production, storage or expulsion of bile.

Similarly, the sphincter, while capable of contractility and closure under mechanical or faradic stimulations, acted normally very little as a sphincter. The flow of bile was continuous, not interrupted or rhythmic, and no functional use of the sphincteric muscle was observed.

3. *Relaxation of Smooth Muscle of Sphincter When Magnesium Salts Are Applied to Duodenal Mucosa, and Reflex Contraction and Emptying of Gallbladder.*—The observations of Meltzer on the physiologic and pharmacologic action of magnesium salts are fundamental. He clearly demonstrated that magnesium solutions applied to exposed nerve trunks cause complete blocking or anesthetization peripheral to the point of application. Meltzer failed to see the intestinal peristalsis caused by the injection of barium salts, ergot, physostigmin (eserin) or the postmortem intestinal movements, when magnesium salts had previously been injected. We are familiar with the clinical intraspinal application of magnesium salts for the relief of the tonic spasms of tetanus, etc. Even when it was given by mouth to animals, Meltzer failed to see any acceleration of peristalsis, but claimed that he observed a depression of the intestinal movements.

It was natural, therefore, for Meltzer to think of applying the magnesium ion to the duodenal mucosa to relax, locally, the sphincter action. According to his conception of the double rôle of the innervation of the biliary tract, such a relaxation of the sphincter should be accompanied by a contraction of the gallbladder. To refer again to the experiments of Auster and myself on dogs, in which the gallbladder contents were stained blue to identify them, we applied to the mucosa of the fasting dogs' duodenum a concentrated solution of magnesium sulphate. (In the fasting state practically no bile of any kind passes out of the papilla; the gallbladder is moderately full.) No amount of magnesium sulphate caused any expulsion of the gallbladder contents. A slight flow of light golden yellow bile, apparently liver bile, followed, but no contractions of the gallbladder, and no blue discolored bile appeared. This experiment was repeated on eight dogs with the same negative results. McWhorter [9] demonstrated a lowering of pressure in the common bile duct of dogs of from 50 to 100 mm. after magnesium sulphate had been applied to the ampulla; no result was seen after peptone solution.

4. *That Fluid Obtained at Bedside by Magnesium Sulphate Lavage of Duodenum Is Gallbladder Fluid, and that Changes in Color, Consistency and Amount Indicate Gallbladder Disease.*—Let us lay aside for the time being all other considerations and try to draw independent conclusions from the clinical application of the suggested test. We have carried out the test in seventy instances; in a few of the cases the test was repeated a second time or a third time for confirmation, in one case the test being repeated four times. These were all cases of gallbladder or bile duct disease or related conditions, such as catarrhal jaundice (three cases),

7. Doyon: Arch. de physiol. norm. et path. **6**, 1894.
8. Bainbridge and Dale: J. Physiol. **33**: 138, 1905.
9. McWhorter, G. L.: Surg., Gynec. & Obst. **32**: 124 (Feb.) 1921.

syphilis of the liver, neoplasm of the common bile duct or papilla of Vater, etc. They were mostly cases in which definite pathologic conditions were present or presumably present; a few negative cases were interspersed. Of this series of seventy cases, we were fortunate enough to be able to follow twenty of them to the operating table, and there to ascertain the correctness or error of our conclusions based on the readings of the test. It is the latter small group of twenty cases which are the most valuable and instructve; they furnish the criteria for an honest judgment. The test in most instances was performed on the morning or on the day just previous to the operation.

The technic of Lyon was simplified and adapted to hospital use. The tube (Einhorn duodenal tube) was passed either the night before or in the fasting state in the morning. When bile of a golden yellow color was definitely obtained, the duodenum was slowly washed with from 30 to 50 c.c. of a 25 per cent. solution of magnesium sulphate. Thereafter, every five minutes for from one to two hours, specimens were aspirated until the color of the bile returned to that obtained before the saline lavage, or until it was definitely concluded that no change in color or character was taking place. Sometimes siphonage was practiced to ascertain the amount of the "B" bile obtained. The specimens of bile were then compared as regards color, consistency, titer, and presence of a sediment. A careful microscopic examination of the centrifugal residue, both in the natural state and in stained smears, was made. Only occasional cultures were taken, as no special precautions had been observed regarding sterilization of the teeth, mouth or stomach of these hospital patients. (It is a question whether such measures are ever successful.) The main conclusions rest on the changes in character of the bile outflow that follows the saline lavage, and the careful examination of the sediment for pus, bacteria or crystals as evidence of a pathologic process in the biliary passages.

SIGNIFICANCE OF CHANGES IN COLOR AND CONSISTENCY OF BILE AFTER MAGNESIUM SULPHATE

The color of the bile in the fasting duodenal content varied considerably, ranging from a light green to a golden yellow, or to a darker yellow or canary green hue. Much depended on the titer of the specimen collected. The lighter colored specimens, particularly those with a greenish hue, were the ones which contained a greater amount of gastric secretion, as indicated by their higher acid titration. Those typically golden yellow contained no free acid and not more than 20 per cent. total acid (20 c.c. of tenth normal sodium hydroxid to neutralize 100 c.c. of duodenal contents). Cloudiness or heavy granular sediment was no proof of pathogenicity, since in most instances such a sediment was free of pus or bacteria and consisted only of precipitated bile pigments and bile salts.

After the magnesium sulphate lavage the flow of bile was truly more profuse and abundant, usually of a darker shade varying from dark yellow or orange to a dark brown or deep greenish brown. After from twenty to forty minutes the shades of bile became again lighter, and within from three fourths of an hour to one hour returned to the original hue. This change took place in a large percentage of cases (65 per cent.) and was accompanied by a pathologic condition (stones or chronic cholecystitis) in 62 per cent. of these cases. In the remaining 38 per cent. of the cases, a definite change to darker and cloudier bile occurred after the lavage with magnesium sulphate, yet no pathologic condition was found at operation.

On the other hand, we encountered seven cases in which no change of color followed the lavage. Of these, five cases had definite pathologic changes associated; obstruction of the cystic duct was the presumable interpretation according to Lyon. Of our five cases without color changes in the bile, three had at operation apparently stones in the cystic duct. In the other four cases of the latter series in which no change of color scale occurred, no cause was found at operation to explain the phenomenon.

Whence comes this darker, heavier bile ("B" bile) which follows the lavage with magnesium sulphate? Is it really gallbladder bile as contradistinguished from duct or liver bile? Are we entitled to the conclusions that this "B" bile is the gallbladder emptying itself? It is of some significance that 62 per cent. of the cases with change of color in the duodenal content after the saline lavage were associated with definite pathologic changes in the gallbladder or with stones, or both. One may not necessarily infer from this that dark bile is significant of a pathologic condition of the gallbladder, for the remaining 38 per cent of cases showed dark colored bile and yet the gallbladder and ducts were pronounced normal at the operating table.. It would, in addition, be difficult to reconcile with this conclusion a case in our series. This was one in which the gallbladder had been removed at a previous date; in this instance, one of postoperative stricture of the common bile duct, the bile before the lavage was light lemon yellow, while after the saline lavage it was a dark brown, mucoid and grumose liquid. As there was no gallbladder present in this case, the change of color was evidently due to the flow of duct bile. We must, therefore, keep in mind, even conceding the point that the "B" bile is usually gallbladder content, that occasionally common duct bile can produce the same change.

The proof that the "B" bile is really gallbladder bile would lie in the similarity in color, consistency and microscopic findings between this secondary bile and the contents of the gallbladder as found at the operating table. For this purpose we made a special effort to ask the surgeon to aspirate the gallbladder immediately on exposing it and to allow us to examine the fluid so removed. The bile aspirated from the gallbladder at operation was nearly always darker, a deep dark brown shade, and more mucoid in consistency than the "B" bile in the duodenum. Microscopically, no similarity could be seen in the sediments of the two compared fluids. Often, on the basis of finding detritus and numerous pus cells in the duodenal sediment of the secondary bile, we would predict chronic cholecystitis, and often correctly so. But on sedimenting the fluid removed by aspiration of the gallbladder at the operation, we could not find the same pus cells and characteristic sediment found in the "B" bile specimen. This should not be a surprising statement, for old chronic cholecystitis with or without stones and with adhesions is usually, at the operating table, a sterile process, at least as regards the finding of frank pus or visible bacteria within the gallbladder lumen. We have received many such specimens and failed to find a purulent sediment or bacteria. Then why should we expect to find them in the "B" bile, even if this "B" bile is gallbladder fluid? If frank suppuration or an acute inflammatory process is present in this organ, the first result is a

swelling and occlusion of the cystic duct; and then again we would be unable to find the evidence of gallbladder disease in the duodenum.[10]

The conception of Aschoff and Bacmeister is that frank suppuration in the gallbladder (suppurative cholecystitis or empyema) never occurs when the cystic duct is draining, but only when it is occluded by stone or inflammatory edema. It is possible to conceive that chronic cholecystitis is usually associated with the production of small amounts of pus and bacteria from the common bile or hepatic ducts, and that such a cholangeitis creates the finding in the duodenal bile. But this is not our conception of cholangeitis, for in very few of these cases was there fever of even a low grade, or chills; they were nearly all afebrile interval cases.

ADDITIONAL CONSIDERATIONS

A few points remain to be discussed. What is the significance of cholesterin crystals in the duodenal specimens? We have found numerous such crystals when no stones existed. For instance, a case of Banti's disease showed many cholesterin crystals, and other entirely negative cases showed crystals. In the sediment of the material aspirated from the gallbladder, cholesterin crystals are not uncommonly present, apparently indicating supersaturated bile or bile stasis. In fact, cholesterin crystals are often precipitated out of normal specimens of bile, when the specimens are allowed to stand in the icebox.

Can any other salt than magnesium produce the play of colors seen on saline lavage? In a few instances sodium sulphate was tried with results similar to those obtained with magnesium sulphate. Einhorn[11] has experimented with sodium sulphate, sodium phosphate, etc., and attained results similar to those achieved with magnesium sulphate. We are reminded that peptone has been used clinically for this purpose. The flow of bile that follows the magnesium sulphate irrigation is apparently a saline action and not necessarily a specific quality of the magnesium ion. A freer flow of abundant bile was demonstrated by Okada[12] to take place after lavage of the duodenal mucosa with dilute hydrochloric acid, or with peptone solution, chloral, etc.

Recently, before the New York Surgical Society, Whipple pointed to some strong bacteriologic evidence favoring a direct relationship between the "B" bile and the content of the gallbladder. It is very likely that bacteriologic or cultural methods would give more promise than chemical or cytologic methods. The observations of Whipple are accurate, and deserve close attention.

The work of Lyon with magnesium sulphate has been employed by him with the therapeutic aim of facilitating the flow of pathologic bile from the duct system into the duodenum. His reports of success are enthusiastic, particularly in cases of catarrhal jaundice. My experience with the method as a therapeutic procedure is very limited. I have attempted duodenal lavage in a few cases of cholelithiasis, wherein chronic cholecystitis is suspected to be present, without noting any change in the clinical course. In cases of incomplete obstructive jaundice due to stone or new growths, a freer flow of bile took place after the lavage than before it. In catarrhal jaundice the icterus disappeared within a reasonable time, whether sooner than it would have done otherwise it is difficult to judge.

CONCLUSION

While we have not succeeded in utilizing the diagnostic test of Lyon for the identification of cases of chronic gallbladder disease, we think that the subject is entitled to much consideration and thought. The topic is one of such vital interest and importance that every suggestion and every such honest attempt to aid in its solution deserves our most painstaking attention.

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10. When the duodenal tube was first introduced, attempts were made to utilize the cytologic examination of duodenal contents for diagnostic purposes as described by Einhorn, by Bondi (Arch. f. Verdauungskr. **19**: 692, 1913) and by others. No uniform success or general approbation has attended these efforts.
11. Einhorn, M.: New York M. J. **113**: 313 (Feb. 19) 1921.
12. Okada: J. Physiol. **49**: 457, 1914.

SIGNIFICANCE OF DIABETES MELLITUS IN MENTAL DISORDERS

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While it has been long recognized that certain clinical forms of mental disorders are closely related to somatic affections, and various exogenous and endogenous toxins have been assigned a place among the etiologic factors of these diseases, the relationship, to a large extent, has been considered contributory, and sufficient emphasis has not been placed on the mental manifestations as a direct result of the somatic disease.

The general practitioner is often prone, in his efforts at correlation of symptoms and diagnosis, to regard the evidences of abnormal mental functioning as expressions of disease of the brain per se, and thus overlook many physical conditions which may be directly responsible for the mental symptoms.

Among these somatic conditions, those due to altered metabolism form an important group; and in this class of cases, the syndrome presented in connection with glycosuria is worthy of more than passing attention.

That lesions of the central nervous system are productive of glycosuria was first demonstrated by Claude Bernard in 1855, when, by puncture of the medulla between the levels of origin of the vagus and auditory nerves, he caused sugar to appear in the urine; and it is not infrequent to find under conditions of emotional excitement or nervous stress a transient glycosuria, while gross brain disease, paresis, tumors and lesions, especially in the neighborhood of the fourth ventricle, are often attended with this phenomenon of altered metabolism. In these conditions, the presence of sugar in the urine represents only one of the many end-products of altered cerebral function.

It is not uncommon to find patients suffering from various types of psychoses who present the clinical and laboratory evidences of diabetes mellitus, in which the glycosuria appears solely as a complication of the mental disorder. These psychoses should not be confused, however, with that more uncommon group in which the mental manifestations are unquestionably due to an autotoxemia resulting from faulty sugar metabolism and in which the psychic symptoms are typical and fairly constant.

REPORT OF CASES

During the past year, we have observed among the patients admitted to the State Hospital for the Insane at Danville, Pa., three cases of glycosuria, which illustrate concisely these two types.

PSYCHOSIS COMPLICATED BY DIABETES MELLITUS

CASE 1.—H. H., a man, aged 42, single, a laborer, whose father was mentally defective and whose mother was constitutionally inferior, early showed evidence of mental deficiency. He was unable to progress beyond the fourth grade studies, but adapted himself fairly well to his environment, supported himself by various kinds of laboring work, and until one year previous to admission was regarded as a simple-minded individual, a fit subject for the practical jokes of the boys around town, but inoffensive and harmless. He gradually developed, however, conduct disorders, and was finally arrested on the charge of improper conduct toward a young woman of the town and committed as insane.

Examination revealed emotional elation, euphoria and delusions of a sexual nature, absurd, loosely systematized, but fairly fixed. The intellectual level was 8 years and 9 months by the Binet-Simon scale. There were stigmas of degeneration, speech defect and impairment of hearing. Neurologic examination was negative. The blood Wassermann test was negative. Carbon dioxid alveolar tension was 34; glycosuria, 7 per cent.

CASE 2.—K. D., a woman, aged 50, married, whose father was insane, and concerning whose early life little was known, was first admitted to the hospital in 1901 at the age of 24, following the birth of her second child, at which time she presented the mental picture of an exhaustion infection psychosis. In 1903, she was discharged from the hospital and was subsequently admitted in 1916 from the county home, where she had been an inmate for ten years.

Examination and observation revealed inferior mentality. The patient showed emotional excitement, and had ideas of reference and delusions of persecution, which were mobile and loosely systematized. Physical and neurological examinations were negative. Routine laboratory examination always gave negative findings until February, 1920, when urinalysis revealed the presence of a small amount of albumin, epithelial cells and a trace of sugar. Under treatment, this condition promptly cleared up and the urine remained negative from May to October, 1920, when sugar again made its appearance (4.1 per cent.) and the patient has since shown the general clinical signs of diabetes mellitus.

In each of these cases, we are dealing with glycosuria occurring in a patient suffering from mental disease, but in which the somatic condition is in no sense contributory to the psychosis. It is interesting to note that in both of these patients, the development of the diabetes was unmarked by any alteration in the type or degree of the psychic manifestations.

PSYCHOSIS INDUCED BY DIABETES MELLITUS

CASE 3.—R. R., a man, aged 56, a merchant, with negative family history, was of average intellectual capacity, and had enjoyed good physical health until eleven months prior to admission, when he became depressed, had ideas of poverty, and developed delusions relative to the fidelity of his wife. The presence of sugar was demonstrated in the urine, following which the emotional depression deepened, the patient became listless and apathetic, and he was wholly unable to attend to business affairs and was admitted to a general hospital. Here, under intensive treatment, the sugar disappeared, and with it "the mental symptoms," and the patient returned to his home at the expiration of four weeks, apparently well. He failed, however, to continue the treatment prescribed, and again showed his former mental symptoms and was thereupon committed to this institution.

Examination and subsequent observation disclosed marked emotional depression, apathy and apprehension. Interest in his environment was impossible of stimulation, and the entire field of consciousness was occupied by concepts of a hypochondriacal nature with the stream of thought practically limited to expressions relating to the amount of sugar in the urine, diet, and fears as to the outcome of his condition. The skin was dry and harsh, the vision impaired; there was ptosis of the left eyelid; the radial vessels were somewhat sclerosed; there were marked varicosities of the veins of the lower extremities and a beginning ulceration of the dorsum of the right foot. There was general impairment of muscular strength. The systolic blood pressure was 148; the diastolic, 94. The blood Wassermann test was negative. Carbon dioxid alveolar tension was 28. The specific gravity of the urine was 1.030. A small amount of albumin, a few epithelial cells and sugar, 5 per cent., were noted.

COMMENT

This case presents the type of mental disorder associated with glycosuria as the etiologic factor. Beginning as a mild depression, these patients gradually develop ideas of poverty and of sinfulness, to which are frequently added delusions of persecution; and when they become aware of the underlying physical condition, hypochondriacal ideas with reference to the excretion of sugar are added and often dominate the psychic manifestations.

In these cases, the intensity of the mental symptoms is in proportion to the toxemia, and improvement of the sugar metabolism is marked by a corresponding approach to normal mental functioning.

CONCLUSIONS

1. The occurrence of sugar in the urine is frequently associated with diseases of the central nervous system, both organic and functional.

2. Diabetes mellitus may occur in the course of any psychosis as a purely physical complication.

3. Diabetes mellitus may be the direct etiologic factor in the development of a psychosis; if it is early recognized and promptly treated, the progress of the mental disorder may be stayed.

THE DIAGNOSIS OF CHRONIC GENITAL GONORRHEA IN THE FEMALE

WITH REFERENCE TO CUTANEOUS AND COMPLEMENT FIXATION TESTS

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In the gynecologic service at the Harlem Hospital, about 40 per cent. of the operative work is done for chronic adnexal disease. From the history of these patients and from signs of infection of the cervix, Bartholin ducts and urethra, we have assumed that the gonococcus is the etiologic factor in the production of this condition in the majority of instances. Laboratory findings from smears, and cultures taken from the lower genital tract, as well as from the tubes themselves at operation, have proved negative so far as the gonococcus is concerned. The only exception has been smears taken directly from pus exuding from the fimbriated end, during operative procedure, in acute tubal inflammations, and these have invariably shown the presence of the gonococcus.

In view of our inability to make a positive diagnosis of gonorrhea in chronic adnexal disease, we sought for some method by which we might detect the gonococcus as an infecting agent, although certain that this bacterium in the majority of instances was the causative factor.

This led us to undertake experimental work in cutaneous reactions and a statistical study of the value of the complement fixation test.

CUTANEOUS REACTION

Recent work in allergy[1] which resulted in obtaining positive cutaneous reactions among individuals infected with bacterial, animal and vegetable proteins, led us to attempt similar tests in gonorrheal infections. A protein was extracted from numerous strains of the gonococcus and dried to powder form. This powder reacted to the standard tests for protein, and was soluble in 0.2 per cent. solution of sodium hydroxid.

Cutaneous allergy of patients infected with gonorrhea was studied by Irons,[2] in 1912, and Shattuck and Whittemore,[3] in 1913. These investigators injected the glycerinated extract of the gonococcus, and reached entirely different conclusions as to the reliability of this test as a diagnostic agent. Their contradictory results influenced us to make further observations along these lines. We therefore performed a parallel set of experiments in each individual with the protein of the gonococcus and the glycerinated extract.

The patients selected for this experimental work were of four groups: First, those having positive laboratory evidence of gonorrheal infection. In this group there were ten patients, six males with active purulent urethral discharges and four females with purulent urethral and cervical secretions, all of whose smears showed gram-negative intracellular diplococci. Second, patients whose history and clinical findings stamped their infection as gonorrheal in origin, but whose smears were negative. There were sixteen females in this group. Third, a group of thirty-one patients with pelvic disease, the origin of which was doubtful. Fourth, a group of thirty-five entirely free from gonorrhea.

It might be said that in our endeavors to obtain subjects absolutely free from gonorrhea, we invaded the children's ward and performed these tests on male infants ranging from 1 month to 6 years of age.

Two methods of administration of the testing substances were used: (1) an intradermal injection of the solution was made in sufficient amount to raise a wheal from 1 to 2 mm. in diameter, and (2) scarification of skin areas was done similar to other allergic tests. Controls were made of both physiologic sodium chlorid solution and 0.2 per cent. sodium hydroxid.

In reading the reactions we considered negative those which presented no visible skin reaction. The doubtful reaction (or ±) we designated those which gave a redness over the injected or scarified site, but no extension from it. We called + those which gave a distinct reaction, consisting of redness and elevation of the inoculated area, extending 1 mm. outside its border. We considered ++ and +++ those in which the redness extended more than 2 or 3 mm. from the border of the inoculated site. Our readings in the first ten instances followed one hour, two hours, six hours, twenty-four hours and forty-eight hours. Subsequently we decided to take readings twenty-four hours following the injection, as the reaction at that time was at the maximum. The reactions in all four groups showed plus or minus in an indefinite and confusing manner. In Group 1 there would be several positive reactions, then several negative ones. Similar reactions occurred in Groups 2, 3 and 4. The results of these tests were, therefore, of no value as an aid in diagnosis.

No doubt these results were open to criticism in many ways, because we realized the handicaps and difficulties attendant on the tests, and our results may have been influenced. In the first place, the gaging of the dosage of the protein or the glycerinated extract might have been in error. Having this in mind, we modified the dosage by dilution; eight patients who had been injected with a very high dilution reacted very slightly or not at all. Others, who were nongonorrheal and were injected with the same strength dilution, showed similar results.

It might be said that our negative reactions may also be explained by the fact that our testing substances did not contain the particular strain of gonococcus which the injected patient harbored in her tissues. However, this would not explain the positive reactions in those not infected with the gonococcus.

The positive cutaneous reactions that were obtained both in the gonorrheal and nongonorrheal classes were, in our opinion, due to the sensitiveness of the skin to the toxicity of the testing substance, and not to any allergy or antibodies naturally possessed by the individual or manufactured in the body by the stimulation to a specific bacterium.

COMPLEMENT FIXATION TEST

The complement fixation test was made on patients with a gonorrheal history or, in lieu of an accurate history of infection, on patients in whom there were stigmas which would lead us to think that the disease was of gonorrheal origin.

Specimens of blood were taken from every patient in the gynecologic ward in whom we suspected genital gonorrhea. In thirty-one cases in which the diagnosis of adnexal disease was clinically that of gonorrhea, twenty, or 65 per cent., were reported as negative; six, or 19 per cent., reported as doubtful, and five, or 16 per cent., as positive.

In thirty-seven instances in which patients undoubtedly had other conditions, but in whom we suspected that a gonococcic infection might be present, including cases of indefinite pelvic infection, which were admitted for observation, the blood of twenty-seven, or 73 per cent was reported as negative; three, or 8 per cent., were reported positive, and seven, or 19 per cent., as doubtful.

The results of these sixty-eight complement fixation tests were most discouraging, especially as other investigators reported much higher percentages of positive results (Stevens and Heppner,[4] 59 per cent.; Lenartowicz,[5] 83 per cent).

These tests were performed at the laboratory of Bellevue Hospital, and were done according to the standardized technic.

Further results of the complement fixation test at the Post-Graduate Hospital were also found to be inconclusive. In the outpatient department the blood of 237 patients was examined as a routine irrespective of the diagnosis, at the N. Y. Department of Health Labora-

1. Schloss, O. M.: A Case of Allergy to Common Foods, Am. J. Dis. Child. **3**: 341 (June) 1912. Goodale, J. L., Boston M. & S. J. Nov. 5, 1914; **174**: 223 (Feb. 17) 1916; **175**: 181 (Aug. 10) 1916.
2. Irons, E. F.: Cutaneous Allergy in Gonococcal Infections, J. Infect. Dis. **11**: 77, 1912.
3. Shattuck and Whittemore: Gonococcus Vaccines and Glycerine Extracts of the Gonococcus in the Diagnosis of Gonorrheal Infections, Boston M. & S. J. **169**: 373, 1913.
4. Stevens, W. E., and Heppner, Maurice: Gonorrhea of the Lower Genito-Urinary Tract in Women, J. A. M. A. **75**: 1477 (Nov. 27) 1920.
5. Lenartowicz: Ueber den praktischen Wert der Komplementbindung in den gonorrhoischen Erkrankungen, Tygodnik lekarski **7**: 368, 1912; abst., Zentralbl. f. d. ges. inn. Med. **2**: 436, 1912.

tories, with eleven, or 4 per cent., positive; eleven, or 4 per cent., doubtful, and 215, or 92 per cent., negative. Only three of the positive cases had clinical evidence of chronic gonorrhea. One patient, whose blood was positive, was operated on; a fibroid tumor was removed supravaginally. The tubes and ovaries did not show any evidence of recent or old inflammation, being entirely free of adhesions, convolution or thickening. Of the doubtful cases, six could clinically be classed as of gonorrheal origin. Among the negative results there were eighty-five whose pathologic condition was probably gonorrheal from a clinical point of view. Of these eighty-five patients, four were operated on, and chronic salpingitis found in all, the condition being a purulent salpingo-oophoritis in one case, and the other three presenting thickened tubes with adhesions to broad ligaments and surrounding pelvic structures. Clinically, they must be classed as of gonorrheal origin, as their history and evidence of infection of the lower genital tract would indicate; although smears from the urethra and cervical canal were negative for the gonococcus.

In view of these contradictory results, it might be said that the patients so tested did not have a gonorrheal infection. We feel justified, however, in assuming a diagnosis of gonorrhea of those patients in whom there is present a chronic endocervicitis associated with a pyosalpingitis. We also class of gonorrheal origin patients having an endocervicitis of long standing, with no history of preceding trauma from childbirth or instrumentation, and whose history does not show a possible hematogenous origin from infected sinuses, teeth, tonsils or acute infectious disease, in spite of the fact that the smears from the cervix do not show the presence of the gonococcus. It is very seldom that a positive smear is obtained from chronic cases of gonorrheal endocervicitis irrespective of associated adnexal involvement, as the gonococcus in the cervix is rapidly destroyed by other bacteria of saprophytic variety, and a mixed infection occurs. It is only in the acute variety of endocervicitis, or a reinfection of the chronic cases, that, in our experience, smears may be positive.

CONCLUSIONS

1. Cutaneous tests made with the glycerinated extract and the protein extracted from the gonococcus is useless in detecting the presence of a gonorrheal inflammation of the urethra, cervix and adnexa.

2. A local gonococcal infection limited to the genital tract of females does not produce sufficient immune or toxic substances in the blood, or for a sufficient length of time to make the complement fixation test of diagnostic value.

3. The laboratory methods which we have at present to aid us in the diagnosis of chronic genital infections are extremely unreliable and inadequate, and the best guide is a reliable history of the case, together with the clinical findings.

Heredity in Tuberculosis.—The children of tuberculous parents who are the victims of active disease must in most cases, unless the necessary precautions are taken, be more exposed to the risk of infection. These children possess some natural immunity to the disease, for otherwise the percentage of children who develop tuberculosis should be much greater when the parents suffer from the disease than when they do not. The children of tuberculous parents when attacked by disease also show a greater resistance to the disease and a stronger tendency to recover than other persons.—*Tubercle* **2**:145, 1921.

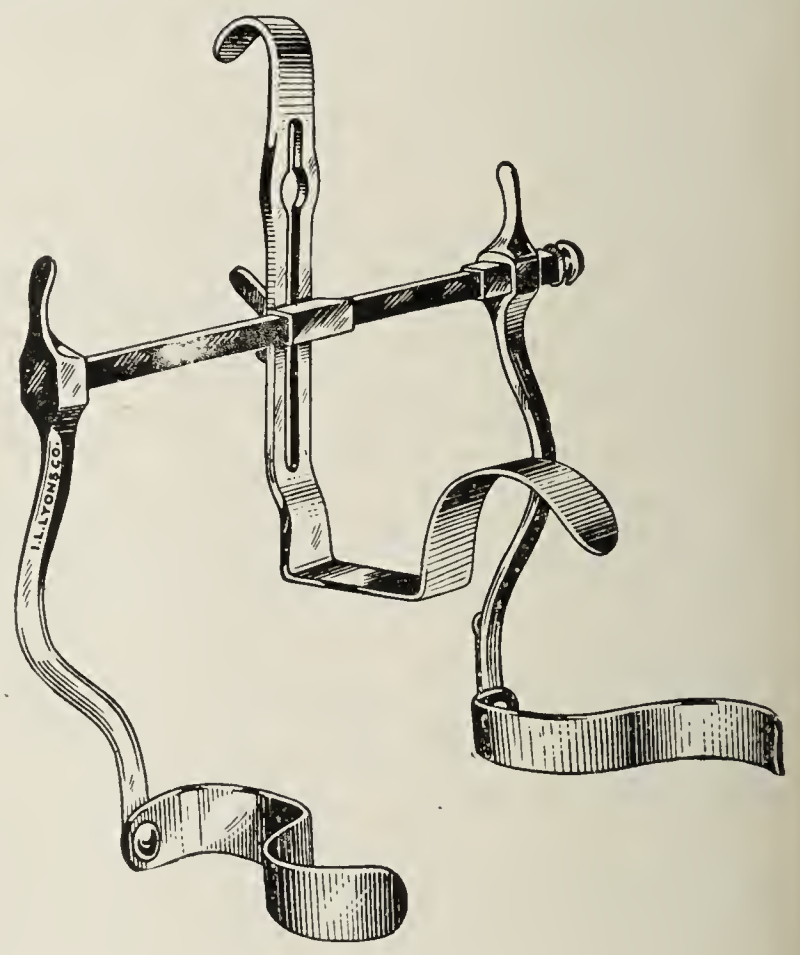
Clinical Notes, Suggestions, and New Instruments

A SELF-RETAINING BLADDER RETRACTOR

H. W. E. Walther, M.D., New Orleans

The difficulty of securing a satisfactory exposure of the vesical interior in urologic surgery is well known. That good retraction is necessary for good work needs no argument. The instrument shown in the accompanying illustration was designed to supply the lack of sufficient assistance at the operating table. It has been in use in the operating rooms at the Hotel Dieu for more than a year and has given satisfaction.

No originality is claimed, either for the design of the frame or for the shape of the blades, the former being an adaptation from Balfour and the latter being modified Walker blades. Only the incorporating of these ideas with the constructing of a three-bladed, self-retaining instrument is claimed as original.



Self-retaining bladder retractor.

Apart from its self-retaining feature, so far as I am aware, this instrument is the first three-bladed bladder retractor to be presented in this country.

CONSTRUCTION

All of the blades are removable from the frame. The two lateral blades are constructed on swivel joints. By removal of the upper blade and bringing the two lateral blades together, then swinging one around so that they telescope one within the other, introduction through a small wound is made possible. Then by means of the thumb grips, these lateral blades can be pried apart, the blades rightly adjusted, and the upper blade introduced, fastened to the frame, and retraction made to the size of opening required.

For exposure of the bladder trigon and internal vesical sphincter region the retractor has given perfect satisfaction. Whether the cystotomy is for vesical calculi, the enucleation of a prostate, the removal of tumors, the management of diverticula or the implantation of radium needles anywhere within the viscus, this retractor has proved a valuable aid.

The instrument was manufactured for me by I. L. Lyons & Co., New Orleans.

1922 Marengo Street.

ASPIRATING DISSECTOR FOR TONSIL SURGERY

J. D. THOMSON, M.D., ATLANTA, GA.

This dissector is similar in form to the Yankauer separator, but is one inch longer. It is 8½ inches long (over all) and has a 4 mm. bore, which makes its appearance on the convex surface of the beak, in the form of an oval opening (9 mm. in the long axis) with its center 15 mm. from the tip of the beak. On the upper surface, 5 inches from the tip of the beak, is a counter opening, 6 mm. in diameter. From the end of the handle projects a nipple with a shoulder (4 mm. bore). The aspirating tube is 24 inches long and connects by glass "connection" with the bottle tube. It is of stethoscope tube, as this does not bend at an acute angle from weight, nor does it slip



Aspirating dissector.

from the nipple. In use, the counter opening is controlled by the index finger. When closed, the beak opening is in action; when open, the beak opening is in abeyance. I have now used this instrument enough to be able to say that it is serviceable. The instrument was made by E. B. Meyrowitz, New York.

78 Forrest Avenue.

A SYPHILITIC MANIFESTATION IN THE NOSE

REPORT OF TWO CASES

HAROLD M. HAYS, M.D., NEW YORK

The engorged mucous membranes, covering the turbinates and the nasal septum, if such mucous membrane is not distinctly polypoid, will invariably shrink under the application of a 1 per cent. cocain solution, to which is added a third part of a 1:1,000 solution of epinephrin chlorid. An observation of equal importance is that if these mucous membranes do not shrink perceptibly under the application of such a solution, there is in all probability a syphilitic infiltration of the mucosa. The nasal mucosa is first sprayed with the solution, after which pledgets of cotton immersed in the medicament are inserted into the nose. These are removed in from five to ten minutes. If the mucosa still obstructs the nose, the inference is plain that there is some pathologic condition of this membrane which will not allow it to shrink—probably a syphilitic infiltration. This is evidenced in the following case reports:

REPORT OF CASES

CASE 1.—A man, aged 40, consulted me because of an acute infection of the antrum on the left side. The entire left side of the nose blocked because of what appeared to be a marked deviation of the septum. Attempts were made to clear up the acute antral condition by shrinkage of the mucosa and suction. Even under repeated applications of cocain and epinephrin there was little difference in the nasal space. He was advised that an operation on the septum would be necessary after the acute symptoms subsided. At the end of two weeks, I attempted to remove what was thought to be the obstructing cartilage and bone, although I had been advised by the patient that a similar operation had been performed a few months before. Incision in the mucosa revealed a very much thickened membrane without any evidence of bone or cartilage. A number of linear incisions were made in this mucosa, in the hope that it could be made to shrink, and the nares were tightly packed.

At the end of two days, I noticed that there was no appreciable difference in the nasal breathing space. The patient complained of a sore throat. Examination disclosed numerous whitish ulcerations on the right side which looked like mucous patches. A Wassermann test, taken at once, was reported four plus. He was immediately referred to a specialist, who instituted proper treatment. At the end of four weeks, his nasal condition cleared up completely, and he has been well ever since.

CASE 2.—A married woman, aged 30, was referred to me because of a complete nasal obstruction on the right side of the nose for which an operation had been advised. Examination revealed what seemed to be a large polypoid inferior turbinate which allowed of no breathing space. This mass became no smaller after a prolonged treatment with cocain and epinephrin. I made arrangements for the operation, but in view of my experience in Case 1 only a few months before, I had a blood test taken without allowing the patient to know what it was for. The report of the Wassermann test was four plus. There was absolutely no other evidence of syphilis, the woman had led an exemplary life, and test of her husband's blood, later on was negative. The administration of proper antisyphilitic treatment cleared up the nasal obstruction entirely.

COMMENT

A Wassermann test should be made in all cases of nasal obstruction in which the obstruction is due to a thickened mucous membrane which will not shrink under the application of cocain and epinephrin.

2178 Broadway.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

GUAIACOL BENZOATE.—Guaiacolis Benzoas.—Benzosol. $C_6H_5COO.C_6H_4.OCH_3$. The benzoic acid ester of guaiacol.

Actions and Uses.—Guaiacol benzoate is decomposed slowly in the intestinal tract into guaiacol and benzoic acid, which exert their usual actions. The liberated constituents are absorbed and excreted in the urine. It is claimed to be non-irritating.

Its uses are analogous to those of creosote and of benzoic acid. It is said to be useful in incipient pulmonary tuberculosis, as an intestinal antiseptic in fermentation, diarrhea, typhoid fever, diabetes mellitus and as a urinary antiseptic in cystitis, etc. (See general article on Naphthol Compounds.)

Dosage.—From 0.2 to 0.6 Gm. (3 to 10 grains), in powder, capsule, pill, or suspended in liquids or as an emulsion.

Guaiacol benzoate occurs in minute colorless crystals; odorless or having a faint aromatic odor; tasteless or nearly so. Guaiacol benzoate is almost insoluble in water; soluble in ether and chloroform; also soluble in hot alcohol. Guaiacol benzoate melts at from 59 to 61 C.

With sulphuric acid guaiacol benzoate forms a permanent yellow coloration. Ferric chloride produces in the guaiacol benzoate-sulphuric acid mixture a violet color, changing to green and blue, and on the further addition of nitric acid, to orange and green, or of potassium nitrite to green, violet and yellow.

On heating with alcoholic potassium hydroxide guaiacol benzoate is saponified and the odor of guaiacol is developed.

Guaiacol benzoate is incompatible with the alkalies, which split it into guaiacol and benzoic acid.

Incinerate about 1 Gm. of guaiacol benzoate, accurately weighed. The ash does not exceed 0.1 per cent.

Guaiacol Benzoate-Seydel.—A brand of guaiacol benzoate, N. N. R.

Manufactured by The Seydel Manufacturing Co., Jersey City, N. J. No U. S. patent or trademark.

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SATURDAY, JUNE 4, 1921

RESULTS OF ANTITYPHOID VACCINATION IN THE WORLD'S ARMIES

It is strange that of all nations engaged in the World War, only Germany expresses doubt as to the efficiency of antityphoid vaccination. During the whole period of the war, and even after it, there has been disagreement among the Germans as to the benefits derived from inoculation. Friedberger, who holds that real immunity can be produced only by living germs, maintains that the admitted reduction in the number of cases of typhoid in the thoroughly inoculated German army is to be attributed to the sanitary measures that were employed. A review by Banus [1] of the literature on the protective value of antityphoid inoculation, as shown by the results obtained in the armies during the war, indicates that German skepticism results from the inefficiency of the vaccine used and faulty methods. Kolle's vaccine, which has been heated to 60 C., seems to produce a far lower degree of immunization than vaccines used in other countries, and triple inoculation was never used extensively. Before the war the Italian army had used both the Kolle vaccine and Vincent's triple vaccine, in which the bacilli are killed by ether, and secured a relative incidence, after three injections, of 7.2 as against 0.3, in favor of the Vincent vaccine, in the Italian armies in North Africa. During the course of the war the Kolle vaccine was improved by using a temperature of 53 to 55 C. for killing, but paratyphoid bacilli were not often used. In the German army in Roumania an incidence of 101 typhoid to 552 paratyphoid cases was observed, which certainly indicates that the typhoid vaccination was of influence. Wolff-Eisner and others also observed instances in which epidemics were controlled by vaccination, so that there seems to be considerable favorable evidence and no proved unfavorable evidence even among the Germans.

With all the Allied armies the testimony is unanimous. In previous wars of the last half century the typhoid mortality had varied from 11.2 to 21 per thousand troops, whereas in the World War we find such figures as 0.4 per hundred thousand (French army, 1917). We are all more or less familiar with the convincing experience of the American army, both in peace and in war, but it is interesting to learn the net results obtained in other armies. Before the war there had been numerous opportunities to compare the typhoid incidence in vaccinated and unvaccinated troops exposed to similar opportunities for infection, and always the results have supported the great value of preventive vaccination. Summing up a large series of statistics from numerous armies, it is found that the frequency of typhoid in vaccinated and unvaccinated troops is generally in about the ratio of one to ten. During the first two years of the war the British records show that the morbidity rate was fourteen times greater in the unvaccinated and the mortality rate was forty-two times greater. In later periods, the discrepancies were not quite so great. As in many other reports, the specificity of the vaccination was established, for paratyphoid was relatively high until triple vaccines were employed. In the French army during the first months of the war, vaccination was not practiced extensively or systematically; but after February, 1915, it was progressively extended. The results are striking, for we find a steady fall from morbidity 678, mortality 98.6 per hundred thousand before this date, to morbidity 5.7, mortality 0.4 per hundred thousand in 1917. Interesting evidence was furnished by the French troops in Algiers, where inoculation was compulsory among 211,000 soldiers; only 154 cases of typhoid occurred, and of these 108 occurred in men who had escaped vaccination through fraud.

Figures for the entire Italian army are not available, but they report that the mortality among the typhoid patients who had been inoculated is much less than among the uninoculated, and the duration of the illness is much less. The Japanese army reports show that the morbidity of the inoculated soldiers is but one-seventh that of the uninoculated, the mortality but one-eighth. The morbidity in the army before compulsory vaccination was 8 per thousand; since vaccination it has fallen to 0.7, and the civilian population has shown no similar diminution in the incidence of typhoid during the same period. Of all the armies, however, the results obtained have been most striking with the American forces, which were practically 100 per cent. vaccinated. This foreign reviewer says:

> The results are shown in Russell's [2] article on the incidence of typhoid in the American army. These results are really surprising. During the period of the participation of America in the war, April, 1917, to November, 1919, four million men served in the army. There were 1,056 cases of typhoid, with 156 deaths. That this low incidence is due to the effect of the vaccination and not to improved sanitation is shown by comparing the rate found in civil life at the same time, and especially with that referring to the male population of military age.

Thus, in the Spanish war, one typhoid death occurred among every seventy-one soldiers; in 1917 there was

1. Banus, M. G.: Internat. J. Pub. Health **2**: 164, 1921.

2. Russell, F. F.: Typhoid Fever in the American Army During the World War, J. A. M. A. **73**: 1863 (Dec. 20) 1919.

one typhoid death for each 7,143 civilians; during the World War there was one typhoid death for each 25,641 American soldiers. And the experience of the recent epidemic at Salem, Ohio, shows that our discharged soldiers are protected by their typhoid vaccination for at least two or three years.[3] In the face of all these demonstrations, it would seem that Germany might charge up on the credit side of her war ledger some useful information received from the Allies concerning the prophylactic value of antityphoid inoculation.

WHAT IS THE CAUSE OF PELLAGRA?

Like most of the diseases that remain obscure in etiology, pellagra has had enthusiastic advocates of an "infection theory." This was true also of beriberi and of sprue, for example. Largely as the result of investigations of the United States Public Health Service, particularly the studies made under the leadership of Goldberger, the view has been circulated and widely accepted that pellagra properly falls into the category of dietary deficiency diseases. In a present-day discussion of nutritional deficiencies, one naturally thinks of the vitamin factor among the possibilities for consideration. The problems concerned have frequently been referred to in THE JOURNAL. It has been an outstanding fact in the Public Health Service observations that the diet in the pellagrous households was poorer and less well "balanced" from a modern nutritional standpoint than was the regimen in the nonpellagrous families. Changes in diet have brought relief or disease, respectively, depending on the nature of the variations introduced. Furthermore, all attempts to produce pellagra by methods of direct inoculation have thus far entirely failed.

Pellagra, says a recent writer, illustrates excellently how, despite a sufficient number of calories and despite a sufficient quantity of protein, the food may still be highly unsatisfactory.[4] This epitome represents the views of a large group of those concerned with the disease characterized by the four "d's": dermatitis, diarrhea, delirium and death. Other investigators, however, whose earnestness and competence cannot be minimized, have never accepted the deficiency hypothesis as an adequate explanation of the etiology of pellagra. They make the charge of "not proven" against it. Among them MacNeal[5] of the New York Post-Graduate Medical School, while arguing that the specific cause of pellagra is still unknown, has championed the existence of two etiologic factors, namely: (1) the specific causative factor which is a living organism, an infectious agent derived directly or indirectly from a previous case of the disease, and (2) a factor or group of factors, quite nonspecific, which serve to reduce the resistance of the victim. In the latter group are recognized malnutrition, either from inadequate food or inability to utilize food in an adequate manner, cachexia of disease, overwork, depressing influence of hot weather, strain of reproduction in women, involution of old age, alcoholism and many other influences. The undiscovered specific causative factor, according to MacNeal's conception, most probably resides in the gastro-intestinal tract, and the absorption of its products from the alimentary canal is what gives rise to the distinct manifestations of pellagra.

The evidence marshaled in defense of such views is largely epidemiologic in character. It deals with analogies and comparisons that have often been reiterated. Proximity to pellagrins is alleged to promote the danger of contracting the disease; but prolonged proximity often means common dietary possibilities and similar dietary habits. The British as well as the American workers are of divided opinion. Editorial argument will not solve the important question of the etiology of pellagra. Further investigation, clinical and experimental, is urgently demanded so that a common basis for agreement can be reached. Let us have it by all means. This much is certain: Good nutrition plays an admittedly important part in preventing pellagra; and sanitation can never do harm, to say the least. Perhaps, thanks to proper nutrition and sanitation more universally adopted, we shall ere long experience the anomaly of finding a disappearance of pellagra before its true cause has been convincingly demonstrated.

3. Bunn, W. H.: The Salem, Ohio, Typhoid Epidemic, J. A. M. A. **76**: 1159 (April 23) 1921.
4. Harrow, B.: Vitamines, New York, E. P. Dutton & Co., 1921, p. 169.
5. MacNeal, W. J.: Pellagra, Am. J. M. Sc. **161**: 469 (April) 1921.

THE LOSS OF ANTISCORBUTIC POTENCY IN FOODS

The world-wide investigations of scurvy which have been in progress are destined to clarify the knowledge of the conditions that tend to bring about the disease. The newer studies which recognize that a vitamin-like factor is involved have likewise already begun to throw light on seeming discrepancies relating to the conservation and destruction, respectively, of the antiscorbutic potency of foods. Thus, heating, desiccation and aging have in turn been charged with deteriorating effects on the content of so-called vitamin C in foods. Nevertheless, there are foods that can be heated quite vigorously without complete loss of antiscorbutic power; to this the efficiency of canned tomatoes bears witness. There are procedures by which milk can be successfully dried without becoming entirely devoid of antiscorbutic properties;[1] and orange juice has been concentrated to a dry state while still retaining its antiscorbutic virtues.[2]

1. Hess, A. F.: Scurvy Past and Present, Philadelphia, J. B. Lippincott Company, 1920.
2. Givens, M. H., and McClugage, H. B.: Orange Juice in Scurvy, Am. J. Dis. Child. **18**: 30 (July) 1919. Givens, M. H., and Macy, I. G.: The Antiscorbutic Property of Some Desiccated Fruit Juices, J. Biol. Chem. **46**: 11 (March) 1921. McClendon, J. F.; Bowers, W. S., and Sedgwick, J. P.: The Antiscorbutic Properties of Commercially Dried Orange Juice, ibid. **46**: 9 (March) 1921. McClendon, J. F., and Dick, S. M.: The Commercial Drying of Orange Juice Retaining Its Antiscorbutic Properties, ibid. **46**: 10 (March) 1921.

Again, whereas certain foods have been shown by Hess to be affected in their content of the antiscorbutic vitamin C by age, Givens and Macy's investigations show that this is not an invariable or inevitable consequence.[3]

Explanations for some, at least, of these paradoxical experiences have been ventured on several occasions. For example, an alkaline reaction has been asserted to facilitate greatly the destruction of vitamins B and C by heat.[4] Thus, variations in the reaction of foods during heating or desiccation may suffice to produce differing results. Acid fruits have long since been found to resist the extreme deterioration with respect to antiscorbutic efficiency that many other foods show after exposure to heat. Last year, Hess [5] reported that the antiscorbutic vitamin is destroyed by oxidation. Treatment of raw milk, for example, with hydrogen peroxid suffices to bring about this loss. Orange juice subjected to oxygen for a short period was likewise found to have lost some of its potency. Hess suggests that the harmful effect of "aging" may be interpreted as being due to the deleterious action of slow oxidation. He adds that as foodstuffs undergo oxidative processes frequently in the course of various manipulations, no doubt this factor plays an important part. This action probably explains the differences in the antiscorbutic potency of foodstuffs that have been treated in apparently similar ways; for example, of milk that has been heated in open pans or in hermetically sealed bottles.

The phenomena of instability of the antiscorbutic factor toward oxygen have been confirmed by Zilva [6] at the Lister Institute for Medical Research in London. His experiments revealed that bubbling air at ordinary temperature through an antiscorbutic solution inactivated it. It was found, on the other hand, that on boiling an active solution for two hours in an atmosphere of carbon dioxid, no marked diminution in the activity could be recorded, while on boiling a similar solution for one hour during which time air was bubbled through, almost the entire activity was lost. The facts at present available may be summarized as showing sensitiveness of both the fat-soluble vitamin (A) and the antiscorbutic vitamin (C) toward oxidative influences, whereas the water-soluble factor B—sometimes called the antineuritic vitamin—seems far more stable toward heat and oxidation. These facts will require due consideration hereafter in all manipulations to which vitamin-bearing food materials are exposed.

In this connection, reference to a recent report [7] of infantile scurvy following the feeding of modified raw certified milk almost from birth deserves some consideration. Such cases have not been unknown in the past.[8] Faber,[7] who observed the most recent patient, suspects that sodium citrate which was included in the infant's diet over a long period may have been responsible for destruction of the antiscorbutic vitamin; and he concludes that it would appear justifiable to regard sodium citrate in formula preparation with considerable distrust and to give preference to other substances, such as barley water, over the mineral salts when it is desired to alter the coagulability of cow's milk. In the light of recent evidence on the variation of the vitamin content of cow's milk with the feed of the animal, may it not be that the cases cited represent chance instances of feeding with milk of unsuspected low antiscorbutic potency due to the corresponding deficient diet of the lactating animal?

3. Givens, M. H., and Macy, I. G.: The Antiscorbutic Property of Some Desiccated Fruit Juices, J. Biol. Chem. **46**: 11 (March) 1921.

4. Hess, A. F., and Unger, L. J.: The Deleterious Effect of the Alkalization of Infants' Food, J. A. M. A. **73**: 1353 (Nov. 1) 1919. Osborne, T. B., and Leavenworth, C. S.: The Effect of Alkali on the Efficiency of the Water-Soluble Vitamine B, J. Biol. Chem. **45**: 423 (Feb.) 1921.

5. Hess, A. F.: Brit. M. J. **2**: 147, 1920. Hess, A. F., and Unger, L. J.: The Destructive Effect of Oxidation on Antiscorbutic Vitamine, Proc. Soc. Exper. Biol. & Med. **18**: 143, 1921.

6. Zilva, S. S.: The Influence of Aeration on the Stability of the Antiscorbutic Factor, Lancet **1**: 478 (March 5) 1921.

7. Faber, H. K.: Infantile Scurvy Following the Use of Raw Certified Milk, Am. J. Dis. Child. **21**: 401 (April) 1921.

THE PROBLEM OF GOUT

The problem of the etiology of gout has long hinged upon the theories of the metabolism of purins in the organism. No clear conception of the latter can be formulated without due consideration of the transformations which both the exogenous and the endogenous precursors of uric acid undergo in the body. Until recently it was believed that nucleoproteins, which represent the chief dietary sources of purins, are disintegrated by enzymes present in the alimentary tract so that free purins, such as adenin and guanin, are liberated for absorption. It was supposed that the latter reach the blood stream and subsequently undergo deamination and oxidation, resulting in the formation of uric acid.

This hypothesis of the early stages in nucleoprotein metabolism must now be modified. The nucleic acids are not so completely "digested" as has been supposed. Instead of the formation of free purins, it is the nucleosids, complexes of purins and carbohydrate radicals, that are liberated in the lumen of the enteric tract. Thus, adenosin and guanosin, rather than the smaller fragments adenin and guanin, represent the soluble nucleic acid derivatives that are absorbed. It appears that the nucleosids are not deaminated until after absorption, whereupon the free purins are split off and proceed rapidly in their further transformation to uric acid. Corresponding with this, if we may believe the results of Thannhauser and Czoniczer [9] of Müller's clinic in Munich, free purins, other than uric acid, are not found in the blood: they are represented by nucleosids. No essential differences in this respect have been observed between persons in normal health and those characterized by the so-called gouty diathesis. The circulating precursors of uric acid thus are purin-carbohydrate complexes, the nucleosids.

8. The American Pediatric Society's Collective Investigation on Infantile Scurvy in North America: Tr. Am. Pediat. Soc. **10**: 5, 1898. Morse, J. L.: Infantile Scorbutus, Boston M. & S. J. **170**: 504, 1914.

9. Thannhauser, S. J., and Czoniczer, G.: Kennen wir Erkrankungen des Menschen, die durch eine Störung des intermediären Purinstoffwechsels verursacht wird? Deutsch. Arch. f. klin. Med. **135**: 224, 1921.

Brugsch [10] has championed the view that in certain cases, at least, the deposition or accumulations of urates which characterize gout are due to a faulty, increased purin metabolism. There is little occasion any longer to accept this view; in fact, the evidence points to diminished destruction or elimination rather than to an overproduction of purin compounds. If we accept the views of several modern investigators that the human organism is virtually incapable of destroying uric acid, then failure to destroy can play no part in the etiology of gout.[11] Accordingly, interest remains centered on the problem of elimination. Cases of hereditary or constitutional type may be regarded primarily as having their origin in a functional inferiority of the kidneys with respect to the capacity to eliminate urates. The latter accumulate in blood and tissues, as do other unexcreted catabolites. They may in turn lead to insidious, diffuse nephritic changes of a severer type, resulting ultimately in far greater incapacity to excrete uric acid. This represents the secondary forms of gout. Other theories must be subsidiary to the fundamental fact that the kidneys, rather than the tissues or faulty metabolism, are a prime factor.

Current Comment

FLIES AS DISTRIBUTORS OF INTESTINAL PROTOZOA

Since the classic positive demonstration by Smith and Kilbourne that insects may be instrumental in the transmission of disease, the house fly has often been accused of being one of the disseminating agents. Today this familiar insect pest stands not only accused but also repeatedly and convincingly convicted of the serious charge. The association of the fly with pathogenic bacteria is frequently pernicious to public health. The micro-organisms of suppuration, the germs of typhoid, cholera, dysentery and tuberculosis, not to mention others less prominent in the public mind, have been detected in league with this omnipresent insect traveler. The incrimination that epidemics may be brought about through the dissemination of infectious material by flies has repeatedly been sustained. How persistently they may harbor the sources of danger is shown, for example, by Ficker's [12] observation that flies fed on typhoid cultures may still give off the bacilli twenty-three days after infection. Heretofore the bacterial parasites have claimed foremost consideration in relation to the fly. But now a new menace looms up. Root,[13] an entomologist of the newly established School of Hygiene and Public Health at Johns Hopkins University, has demonstrated the possibility of a hygienically undesirable association between flies and intestinal protozoa, including the genus *Endameba* of unsavory reputation. Fortunately, the free forms ingested by flies are apparently killed within an hour, without encysting. But cysts of the intestinal protozoa survive much longer in the bodies of flies. According to Root, flies feeding on a human stool containing cysts or free forms of intestinal protozoa will take large numbers of them into their intestines and deposit them again in their own feces. Since all stages of the protozoa are killed within a few minutes by drying, such fly feces are dangerous to human beings only when deposited on moist or liquid foods. A fly which has once ingested fecal material containing protozoa may deposit feces of its own which contain the infective forms of the protozoa at any time, from a few minutes after feeding until the most resistant forms, the cysts, are dead. The deposited cysts of amebas may survive as long as two days under favorable conditions. These experiments emphasize anew the importance of flies as carriers of disease-producing organisms from human feces to human food.

SMOKING VERSUS CHEWING

Newspaper comment insinuates persistently that My Lady Nicotine is to follow her paramour, John Barleycorn, to realms outside the blue laws. The reaction to these intimations, however, indicates that she will have more mourners and fewer detractors if she should ever be started along the same route as the more or less lamented John. From the medical standpoint, in any case, there is far less positive evidence of anatomic and physiologic damage from nicotin than from alcohol, to say nothing of the sociological aspects of the matter. In fact, there are not many reliable studies on the influence of tobacco on the human organism. The most recent one takes the form of a practical study of the relative working efficiency of those who use varying amounts of tobacco.[1] A number of men doing the same sort of work in a bottle-making factory were observed as to their speed of performance, and the results were compared with their habits in relation to tobacco. According to these figures the best work was done by the heavy smokers and those who do not smoke at all, while the men who chew are far below the average, although accompanied by the light smokers in amount of production. Such results are difficult of interpretation, and the only thing that seems very definite is the lower efficiency as a group of the men who prefer to chew their tobacco. If their inefficiency is to be attributed to the nicotin, a ready explanation is to be found in the fact that, in smoking, most of the nicotin is either burned or exhaled with the smoke, while the chewer has opportunities for absorption both from swallowed saliva and from the mouth itself. We are probably accustomed to underestimate the amount of absorption that may take place in the mouth, but it may be considerable and rapid. The late E. Fletcher Ingals,[2] in his graphic story of his own experiences with angina pectoris, extols the speed of absorption of nitroglycerin from tablets dissolved on or under the tongue. Unfortunately for the interpretation of the results of their

10. Brugsch, T.: Diagnose, Wesen und Behandlung der Gicht, Berlin. klin. Wchnschr. **49**: 1597, 1912.
11. A recent discussion is given by Gudzent, Wille and Keesee: Experimentelle Beiträge zur Pathogenese der Gicht, Ztschr. f. klin. Med. **90**: 147, 1920.
12. Ficker: Arch. Hyg. **46**: 274.
13. Root, F. M.: Experiments on the Carriage of Intestinal Protozoa of Man by Flies, Am. J. Hyg. **1**: 131 (March) 1921.

1. Baumberger, J. P.; Perry, Edna E., and Martin, E. G.: An Output Study of Users and Non-Users of Tobacco in a Strenuous Physical Occupation, J. Indust. Hyg. **3**: 1, 1921.
2. Ingals, E. F.: Angina Pectoris, J. A. M. A. **70**: 969 (April 6) 1918.

study, the authors of the paper under consideration do not take into account the ages of their light and heavy smokers and chewers, or other factors that might be of great significance. Perhaps the heavy smokers surpassed the light smokers because they were a heartier lot of workmen, who took their pleasures and their labors on "high."

RED CELL REFUSION IN THE PRODUCTION OF THERAPEUTIC SERUMS

The continued high level in diphtheria deaths maintained in this country during the last few years makes particularly valuable any step toward lessening the cost of diphtheria antitoxin. A marked improvement in the production of large quantities of therapeutic serums is forecast by the recent observations of Penfold [1] on the value of red cell refusion. It is well known in serum institutes that when horses are immunized and bled every week, 6 or 7 liters of blood or more being taken each bleeding, the animals soon get out of condition and do not live long. The procedure used by Penfold consists in receiving the blood in oxalate solution and allowing the bottles to stand to permit sedimentation of the red cells. After sedimentation has occurred, the supernatant plasma is drawn off and the red cells reinjected into the veins of the horse. By this means, without any artificial restoration of the blood volume, the horse may be bled to an enormous extent without any serious detriment to its physical condition. As much as 60 liters of blood have been taken from a horse in the course of ten days without any resulting anemia. Owing to the fact that the bleedings may be increased in number at the period of maximum antibody content of the blood, the potency of the serum derived from the plasma is greatly increased. This procedure should reduce still further the cost of diphtheria antitoxin, thereby facilitating its wide distribution and the early administration of large doses.

LIMBERNECK IN POULTRY AND BOTULISM IN MAN

The outbreaks of botulism observed in the United States within the last few years as the result of eating spoiled food have awakened an unusual interest in its etiologic factors. The subject has given rise to acrimonious debate, often characterized on each side of the controversy by more ardor than information. Part of the confusion is unquestionably attributable to the uncertainty regarding the saprophytic micro-organism responsible for the potent toxin in the deteriorated products consumed. Clarity is likely to be secured in the near future, in view of the extensive researches which the problem has called forth in a number of important laboratories. Meanwhile it may not be amiss to call attention anew to a suggestion which Dickson [2] offered in his extensive report on the subject in 1918, namely, that *Bacillus botulinus* may be an etiologic factor in the so-called "limberneck" of poultry. Affected birds display prostration, incoordination of movement and weakness, particularly striking in the pendulent or limber neck. Following a number of failures in previous studies, Graham and Schwarze [3] of the University of Illinois at Urbana have at length demonstrated that certain types or strains of the botulinus organisms are undoubtedly fatal to mature chickens, giving rise to symptoms indistinguishable from the widely known limberneck. The bacteria have been isolated from the feed and the intestinal contents of birds fatally affected in sporadic outbreaks. It is the toxin produced by the saprophytes which provokes the fatal intoxication; consequently one can understand why a corresponding antitoxin has been recommended as a specific prophylactic agent. As poultry are more or less closely associated with man in his everyday life, it cannot be safely assumed at present that the barnyard fowl is not a factor—possibly an important factor—in the distribution of the harmful virus.

1. Penfold, W. J.: M. J. of Australia **2**: 307 (Sept. 25) 1920.
2. Dickson, E. C.: Botulism, a Clinical and Experimental Study, Monograph 8, Rockefeller Inst. for Med. Research, July 31, 1918.

MAKING BEANS BETTER

Most persons trained in the science of nutrition are ready to laud the dietary virtues of milk. As a source of energy, of proteins suitable for the nutrition of growth, of useful inorganic elements and of the various vitamins, milk ranks high. Even the temperamental vegetarian will usually admit milk into his carefully guarded regimen. Again, the students of diet realize clearly that gelatin, though widely used as an acceptable article of food, is qualitatively inferior to many proteins. Unlike the proteins of milk, it cannot function as the sole source of the nitrogenous nutrients essential to the support of life. Other foods are still the subject of considerable debate. One hears that certain items in the diet are likely to be "too acid" or "heating" or "indigestible" or what not. Various species of beans are eaten in large amounts in many parts of the world; yet they belong in the category of the equivocal, so far as dietary virtues are concerned. The difficulty with which beans are digested in some instances does not lack the confirmation of real scientific observation. Thanks to the discoveries of Johns and his co-workers,[4] our knowledge of the nutritive chemistry of edible beans has been specifically enriched. Raw beans were found unsuited as a food for the subjects investigated. When they are cooked, the beans are digested and tolerated much better; yet animals cannot grow well if they receive no other proteins than those derived from these leguminous seeds. The addition of the sulphur-containing amino-acid cystin supplements the bean proteins excellently by supplying an essential factor for growth in which they are deficient. If man cannot live by bread alone, it is doubtless equally true that he cannot live by beans alone. What they lack to make a "complete" protein, other albuminous foods readily supply. We need not give up the cherished beans, but we must continue the tra-

3. Graham, R., and Schwarze, H.: Avian Botulism (Type A) or Limber Neck, J. Infect. Dis. **28**: 317 (April) 1921.
4. Johns, C. O., and Finks, A. J.: Studies in Nutrition, II, The Rôle of Cystine in Nutrition as Exemplified by Nutrition Experiments with the Proteins of the Navy Bean, Phaseolus Vulgaris, J. Biol. Chem. **41**: 379 (March) 1920. Finks, A. J., and Johns, C. O.: Studies in Nutrition, VI, The Nutritive Value of the Proteins of the Lima Bean, Phaseolus Lunatus, Am. J. Physiol. **56**: 205 (May) 1921. Johns, C. O., and Finks, A. J.: Studies in Nutrition, VII, The Nutritive Value of the Proteins of the Adsuki Bean, Phaseolus Angularis, ibid. **56**: 208 (May) 1921.

ditional practice of making them only a part of a protein-supplemented ration. Nor shall their undisputed virtues be minimized. Beans are rich in vitamin B, even though they have not yet attained the dignity of having the fact heralded in flamboyant advertisements.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

War on Fake Eye Doctors.—The California League for the Conservation of Vision and the state board of optometry have started a campaign in southern California to eliminate incompetent practitioners and pedlers of eyeglasses.

Chiropractors Convicted.—It is reported that the following chiropractors have recently been convicted for practicing medicine without licenses: C. A. Anderson, Fresno, fined $600, or 150 days in jail; Claud L. Houch, San Francisco; C. Z. Landreau, Huntington Park, who has ceased practicing and is now employed on a dredger, given a four months' suspended sentence; Harry S. St. Clair, Los Angeles, fined $200.——L. J. Snow, a chiropractor of Petaluma, Calif., was fined $200 on May 9 for violating the state medical laws. He paid the fine and declared his intention to continue practicing. He was denied a new trial.

Physician Faces Revocation of License.—It is reported that Dr. Jacob L. Arbogast, Sacramento, who was convicted last February on a charge of violating the state poison act, by prescribing narcotics, and fined $300, has been cited to appear before the state board of medical examiners, June 27, at San Francisco, and to show cause why his license should not be revoked. Among others cited to appear before the board and explain charges of illegal practices and misconduct are Dr. Amos J. Landis, Reading, also accused of violating the poison act; Galen R. Hickok of the Salada Beach, San Mateo County "Mystery Castle" case, and Dr. Martha R. Allen, said to be an associate of Hickok.

COLORADO

Ophthalmology and Otolaryngology Congress.—The Colorado Congress of Ophthalmology and Oto-Laryngology will meet in Denver, July 29 and 30.

Colorado Ophthalmological Society.—The final meeting for the year of the society was held at the Minnequa Club, Pueblo, May 21. The Pueblo members entertained the members of the society at a dinner served at the club.

New Laboratory for Colorado Springs.—Physicians of Colorado Springs have incorporated a new laboratory for general pathologic and roentgen-ray work. The work will be done for all physicians of El Paso County at actual cost.

CONNECTICUT

Personal.—At a meeting of the Yale Corporation held, May 19, announcement was made that Prof. August Krogh of Copenhagen, recently awarded the Nobel Prize for Physiology, and Prof. Clemens von Pirquet, the authority on the subject of the nutrition of children, have been appointed lecturers on the Silliman Foundation for next year.

DISTRICT OF COLUMBIA

Objections to Medical Student Bill.—The commissioners of the District of Columbia have protested to Senator L. H. Bell, chairman of the district committee in the Senate, against the passage of a bill to amend the law governing the practice of medicine so as to permit students taking the examination to claim credit for study time spent in the office of a physician.

FLORIDA

State Medical Meeting.—The forty-eighth annual convention of the Florida State Medical Association was held at Pensacola, May 10 and 11, under the presidency of Dr. William P. Adamson, Tampa. The following officers were elected for the ensuing year: Dr. S. R. Mallory Kennedy, Pensacola, president; Drs. Leonidas M. Anderson, Lake City, W. Herbert Adams, Jacksonville, and Julius C. Davis, Quincy, vice presidents, and Dr. Graham E. Henson, Jacksonville, secretary (reelected).

IDAHO

New County Physician.—Dr. Richard J. Sutton, Paris, was recently appointed physician of Bear Lake County, in place of Dr. Harry H. King, resigned.

New Coroner.—Dr. Michael E. Core, Reubens, was appointed last month coroner of Lewis county to succeed Dr. John F. Gist, Nezperce, resigned.

New Medical Society.—The Idaho Falls Medical Society was organized last month with Dr. Clifford M. Cline as president, Dr. Harry D. Spencer, vice president, and Dr. Arthur R. Soderquist, secretary-treasurer.

Board of Medical Examiners.—Dr. Frank W. Mitchell, Blackfoot, was recently elected president of the state board of medical examiners, and Dr. Leonard E. Hanson, Wallace, secretary. The other members of the board are Drs. Fred A. Pittenger and James L. Stewart, Boise, and Dr. Floyd G. Wendell, Sandpoint.

ILLINOIS

State Medical Meeting.—The Illinois State Medical Society held its annual meeting at Springfield, May 18 and 19, under the presidency of Dr. William F. Grinstead, Cairo. The following officers were elected for the coming year: president, Dr. Charles E. Humiston, Chicago; president-elect, Dr. Edwin P. Sloan, Bloomington; vice presidents, Drs. Archie W. Barker, Springfield, and Henry J. Way, Chicago; secretary, Dr. Wilbur H. Gilmore, Mount Vernon (reelected), and treasurer, Dr. A. J. Markley, Belvidere (reelected).

Military Surgeons Association.—Although a national organization was formed in 1890, officers to the first permanent state organization were elected, May 15, at Springfield as follows: president, Col. Gustavus M. Blech, Chicago; vice president, Major William McIlwain Thompson; secretary, Capt. Alfred De Roulet, and treasurer, Major James J. McKinley, all of Chicago. The Chicago branch of the association will hold regular monthly meetings. The state association will hold its meetings annually, and at the same place and time that the Illinois State Medical Society holds its annual meeting.

INDIANA

Violation of Harrison Narcotic Law.—It is reported that Dr. Frederick J. Freshley, Evansville, was arrested, April 29, on the charge of violation of the Harrison Narcotic Law. He was indicted recently by the federal grand jury at Indianapolis.

Councilor District Officers.—Dr. Arett C. Arnett, Lafayette, was elected president of the ninth councilor district of the Indiana State Medical Association, at the annual convention at Lafayette, May 12. Dr. George D. Marshall, Kokomo, was elected first vice president; Dr. Frederick A. Tucker, Noblesville, second vice president, and Dr. Aubrey F. Loop, Crawfordsville, secretary-treasurer. Dr. David L. Ross, Indianapolis, president of the state medical association, was the principal speaker at the banquet.

LOUISIANA

Organization of New Medical Society.—A meeting was held recently at Iberia for the purpose of forming the Iberia Parish Medical Society. Dr. Homer J. Dupuy, New Orleans, president of the state medical society, and Dr. F. T. Gouaux, Lockport, councilor of the third congressional district of the state society, addressed the new organization. The officers elected are Dr. George J. Sabatier, New Iberia, president, and Dr. Walter F. Carstens, New Iberia, secretary-treasurer.

MARYLAND

Personal.—Dr. Hugh H. Young, director of the James Buchanan Brady Institute, Johns Hopkins Hospital, will sail, June 25, for Europe. He will go first to Paris to attend a medical meeting and later to London, returning to the United States in August.

Alumni Reunion, University of Maryland.—A reunion of the medical department of the three amalgamated schools in Baltimore—the University of Maryland Medical School, the College of Physicians and Surgeons, and the Baltimore City Medical College, now the University of Maryland—will be held, May 30-31 and June 1, in Baltimore. There will be a business meeting with election of officers at Osler Hall,

Medical Library Building; clinics and demonstrations at the various hospitals, with alumni banquet on the evening of May 31. The commencement exercises at the Lyric Theater, June 1, will close the reunion.

United States Health Service Dispensary to Be Established.—The largest dispensary in the United States for the treatment of disabled soldiers and sailors is to be established in Baltimore, in charge of Dr. Henry A. Smith, who is director of the city office of the United States Public Health Service in Baltimore. The dispensary will be conducted under the United States War Risk Bureau, which has taken over much of the public health service work, and a staff of from fifteen to eighteen physicians, detailed by the Public Health Service to the War Risk Bureau, will be employed. Dr. Smith will move his office to the new headquarters in the Merchants' and Manufacturers' Association Building, and the clinic now conducted by the United States Health Service at Mercy Hospital will be closed. In establishing the dispensary, the War Risk Bureau desires to keep soldiers and sailors out of the hospital unless they absolutely need hospital treatment. The hospital of the Public Health Service at Fort McHenry will be continued. The patients will first go to the dispensary and if they require hospital attention will be sent to Fort McHenry. Patients at Fort McHenry who do not need hospital treatment will become patients at the dispensary. The dispensary also will look after the medical work of the Federal Board for Vocational Training.

MASSACHUSETTS

Personal.—Dr. Carlos Chagas, director of the Institute Oswaldo Cruz, Rio de Janeiro, will give a series of three lectures with lantern slides at the Harvard Medical School, May 26 and 27.

Announcement of Harvard Appointments.—Dr. George S. Derby, Boston, '96, and Alfred C. Redfield, Ph.D., '14, Boston, have been made assistant professors in the medical school, and Dr. Harry C. Solomon, Boston, '14, has been appointed instructor in psychiatry for a three-year term.

Hospital News.—The Somerville Hospital celebrated the twenty-eighth anniversary of the admission of the first patient to the hospital on National Hospital Day.——The Essex County Tuberculosis Hospital, Danvers, erected at a cost of $1,000,000, was opened to receive patients on May 18.

Tuberculosis League.—Dr. Edward O. Otis, Boston, was elected president of the Massachusetts Tuberculosis League, for the third consecutive year, at the annual meeting of the league, held recently in Boston. Dr. Edward S. McSweeney, director of the hygiene department of the New York Telephone Company and New York Stock Exchange, spoke on methods for the eradication of tuberculosis in industry. In connection with the conferences, the pupils of the Prince School presented "A Modern Health Crusader" at the Children's Theater.

MINNESOTA

Personal.—Dr. Carl C. Chatterton has been appointed surgeon-in-chief, Minnesota State Hospital for Crippled Children, St. Paul, to succeed the late Dr. Arthur J. Gillette.

NEW JERSEY

Osteopath Bill Defeated.—Early in April the bill to give osteopaths the unlimited rights to practice medicine and surgery in New Jersey without having to possess the same education and training required of physicians was defeated.

Bergen County Medical Society.—A special meeting of the society was recently held at Hackensack, at which Joseph H. Gunn, executive secretary of the state society, outlined the state society's plan for a campaign to protect the medical interests by legislation or otherwise during the coming year.

NEW MEXICO

Typhus Epidemic.—According to an announcement of the state public health bureau on May 21, there are from thirty to forty cases of typhus among the Navajo Indians, near the Shiprock Agency, and sixteen deaths have already occurred. The deaths of Dr. E. C. Davis and Dr. John C. Graffin, relief workers, are also reported.

NEW YORK

New York City

Personal.—Dr. Walter T. Dannreuther has been promoted from assistant professor to associate professor of gynecology at the New York Post-Graduate Medical School and Hospital.

Health Department Plans to Fight Imported Disease.—Health Commissioner Copeland has asked the board of estimate for an appropriation of $50,000 to be used for the examination of immigrants arriving here and for rat extermination along the water front. The committee considering the request, it is said, will report favorably upon it.

For University in Jerusalem.—Over 800 Jewish physicians assembled at a dinner in the Waldorf-Astoria, May 21, at which Prof. Albert Einstein and Dr. Chaim Weizmann, president of the World Zionist Organization, were guests of honor. It was announced that American Jewish physicians had subscribed $250,000 of the $1,000,000 which the Zionists are trying to raise to build and equip a medical school of the Hebrew University at Jerusalem. Dr. Nathan Ratnoff presided, and among those who made addresses were Dr. Abe M. Hilkowich, Dr. Samuel J. Kopetzky, and Dr. Schmaryah Levin.

Announcement of Medical Appointments at Columbia.—The first appointments to the faculty of Medicine, a unit of the proposed $15,000,000 Columbia University Medical Center, was announced, May 21. They are: Dr. Allen O. Whipple, of the Presbyterian Hospital staff, as professor of surgery and director of the surgical service; Dr. Walter W. Palmer, Johns Hopkins University, as Bard professor of medicine and director of the medical service, and Dr. Herbert B. Wilcox, as Carpentier professor of diseases of children, to succeed Dr. L. Emmet Holt, resigned after twenty years of service. Dean William Darrach announced that the plans for the new medical center contemplate the building up of special institutes, incorporating such hospitals as the Sloan Hospital for Women and the Vanderbilt clinic, and the expansion of research and graduate work. The departments of medicine and surgery will be reorganized, July 1, on the university basis.

County Society Recommends Amendment to Sanitary Code.—At a stated meeting of the Medical Society of New York, held on May 23, resolutions were introduced by Dr. Alfred C. Prentice, New York, calling attention to the fact that by the repeal of the Whitney Act, and the failure of Governor Miller to sign the Fearon-Smith bills (which measures were approved by this society) the state of New York was now without adequate provisions of law for the commitment of drug addicts to proper custody for treatment, or for the prosecution of illicit dealers in narcotics. Magistrates have no legal power because of these facts to hold those drug addicts now in custody and undergoing treatment. The agents in this district have sought aid from the department of health in their efforts to enforce the federal narcotic laws, and the commissioner of health of the city of New York has appointed a committee instructed to draft a suitable amendment to the sanitary code in order to supplement the deficiency in the state law. In view of these facts be it

Resolved, That the Medical Society of the County of New York hereby urges the enactment of such an amendment to the Sanitary Code as shall definitely prohibit any practice of the "ambulatory treatment" of drug addicts (in full conformity with the meaning and intent of the Harrison Law, as more clearly set forth by recent court decisions relating thereto), and shall declare to be unlawful the possession of narcotic drugs with intent to use or to sell for the purposes of addiction; and

That this Society earnestly protests against any attempt to give force of law, through provisions of the Sanitary Code, or otherwise, to those provisions contained in the former Whitney Act, or in the Regulations issued under its authority, relating to the registration of physicians and the issuance of special licenses to prescribe narcotic drugs; to the registration of addicts and the issuing of special permits for their alleged "treatment" by a physician who continues to supply them with narcotic drugs for self-administration; and to the compulsory use of official narcotic prescription blanks in triplicate; the more especially, since the demand for repeal of the Whitney Act was predicated largely upon the annoyance caused by it to physicians in their proper medical practice, and their consequent protest against the imposition of these particular obnoxious and burdensome requirements. And, further,

That a copy of these resolutions, duly executed, be presented to the Commissioner of Health, and to the President of the Board of Magistrates of the City of New York.

The adoption of these resolutions was recommended by the Comitia Minora, sitting as a reference committee, and was adopted by an almost unamimous vote of the society.

OHIO

Chiropractors Not Exempt.—The state supreme court in April rendered a decision that chiropractors must comply with provisions of the medical practice act in order to secure licenses to practice in Ohio. This reverses the action of the common pleas court which declared certain provisions of the medical practice act unconstitutional.

OKLAHOMA

State Medical Meeting.—The Oklahoma State Medical Association held its annual meeting, May 17-19, at McAlester,

under the presidency of George A. Boyle, Enid. The following officers were elected for the ensuing year: president, Dr. McLain Rogers, Clinton; vice presidents, Drs. John A. Walkers, Shawnee, Jesse C. Best, Ardmore, and Loyal B. Torrance, Okmulgee; secretary-treasurer, Dr. Claude A. Thompson, Muskogee. Oklahoma City was selected for the next place of meeting.

PENNSYLVANIA

Personal.—Dr. Robert T. Miller, head of the department of surgery, school of medicine, University of Pittsburgh, resigned, June 1.

Tuberculosis Hospitals.—The bill, passed by the Pennsylvania legislature, authorizing counties to establish and maintain hospitals for the treatment of persons afflicted with tuberculosis has been approved by Governor Sproul.

Philadelphia

Conviction for Failure to Report Narcotics Prescribed.—It is reported that Dr. John G. Dougherty will have to serve a sentence of two years in prison imposed by Judge Stern last December, both the supreme and superior courts having decided against him.

Unveiled Tablet.—A tablet erected to the memory of Dr. John D. Heist, a martyr in the cause of humanity, was unveiled in the Jewish Hospital, May 30. The tablet was officially presented to the hospital by Dr. Myer Solis-Cohen, director of the Jules E. Mastbaum research laboratory of the Jewish Hospital. A tribute to the memory of Dr. Heist was paid by Dr. John A. Kolmer, of the graduate school of medicine of the university.

Women to Study Teeth Hygiene.—At the request of the state department of health, the University of Pennsylvania Dental School will open a school for the training of dental hygienists in September, the first class to be limited to fifty women. The purpose is to train women to serve as teachers in schools, hospitals and private dental offices and to make them capable of thoroughly cleansing the mouth and teeth and discovering the need of expert dental attention among children or parents.

Jefferson Commencement.—The ninety-sixth annual commencement of Jefferson Medical College was held Saturday, June 4, in the American Academy of Music. The valedictory address was delivered by Rev. Samuel Charles Black, D.D., L.L.D., president of Washington and Jefferson College. Hon. William Potter, president of Jefferson Medical College, will deliver the valedictory address at the commencement exercises of Washington and Jefferson College at Canonsburg, and will receive the degree of Doctor of Law. Jefferson Medical College came into being in 1825 as the medical branch in Philadelphia of the Jefferson College at Canonsburg, and it was not until 1837 that Jefferson Medical College became an independent institution.

SOUTH CAROLINA

Appointment of Health Committee.—The governor has appointed the following members of the executive committee of the state board of health: Dr. Robert Wilson, Jr., Charleston; Dr. William M. Lester, Columbia; Dr. Robert A. Marsh, Edgefield; Dr. Claude C. Gambrell, Abbeville; Dr. William Egleston, Hartsville; Dr. Edgar A. Hines, Seneca; Dr. Miles J. Walker, York.

SOUTH DAKOTA

State Medical Meeting.—The annual meeting of the South Dakota State Medical Association was held, May 24-26, at Aberdeen, under the presidency of Dr. Harry T. Kenney, Pierre. The following officers were elected for the ensuing year: president, Dr. George S. Adams, Yankton; vice presidents, Drs. Gilbert G. Cottam, Sioux Falls, Francis E. Clough, Lead, and Robert L. Murdy, Aberdeen; secretary-treasurer, Dr. Frederick A. Spafford, Flandreau. The constitution and by-laws were amended by adopting, with a few changes to meet the local needs, the constitution and by-laws recommended by the American Medical Association. The next meeting will be held in May, 1922, at Huron.

TENNESSEE

Personal.—Dr. Eugene M. Holder, Memphis, has been elected chief of the division of surgery of the Tennessee College of Medicine, to succeed Dr. McIver Woody, Memphis, resigned.

WASHINGTON

Personal.—Dr. John B. Anderson, Seattle, for three years state commissioner of health, has been appointed surgeon in the U. S. Public Health Service with the rank of major.

WEST VIRGINIA

Birth Registration.—The state legislature has recently passed a law making compulsory the registration of births and deaths.

New Health Commissioner. — Governor Morgan has appointed Dr. William T. Henshaw, Martinsburg, as state health commissioner.

Practice Act Amended.—The medical practice law of West Virginia has been amended, requiring that hereafter only graduates of Class A medical schools shall be granted licenses to practice medicine in the state and then only when the college requires for admission at least two years of premedical work in a college of arts and sciences equal in rank to the college of arts and sciences of the University of West Virginia. It is stated that the same requirement will apply to those practicing any form or methods of treatment.

WISCONSIN

Illegal Practitioner Fined.—It is reported that, early in May, Theodore F. Whipple, a masseur of Milwaukee, was fined $100 and costs for practicing medicine without a license.

CANADA

Personal.—Dr. George D. Porter, Toronto, for many years secretary of the Canadian Association for the Prevention of Consumption, has resigned and has been succeeded by Dr. Robert E. Wodelhouse, O.B.E. Dr. Wodelhouse was formerly situated at Port Arthur but has lately resided in Toronto.

Relation of the Physician to the Ontario Temperance Act.—A questionnaire has been submitted to the members of the Ontario Medical Association, and its outcome will be awaited with interest. On that outcome will depend the decision of the organized medical profession as to what attitude they will take on prescribing liquor in Ontario.

Canadian Physique Drops.—Hon. Dr. William F. Roberts, St. John, N. B., minister of health for the province of New Brunswick, has been chosen president of the Canadian Public Health Association, which recently met in Toronto. At the annual meeting of this organization the statement was made that the people of Canada were heading downward in physical strength and health, as 75 per cent. of the children in the public schools were suffering from some minor ailment.

Tuberculosis Among Ex-Service Men.—According to the recent report of the board of tuberculous consultants, appointed by the Canadian Department of Soldiers' Civil Reestablishment to investigate all the sanatoriums throughout Canada where ex-service men are being treated, it is estimated that there has been twice as much tuberculosis among the ex-service men as among civilians of the same age period (20-44). One of the real benefits of the war has been the great increase in sanatorium capacity. Not only have accommodations been more than doubled, but all institutions enjoying federal assistance are more highly efficient because of improved equipment as well as enlargement. The board believes that the government has done a great constructive work in behalf of the tuberculous ex-service men, in a broad and sympathetic manner, and that a real and needed stimulus has been given to all antituberculosis work in Canada.

GENERAL

National Tuberculosis Meeting.—The annual meeting of the National Tuberculosis Association will be held, June 14-17, in New York, under the presidency of Dr. Gerald B. Webb, Colorado Springs, Colo.

Bill to Permit Tax Exemption for Medical Expense.—The man whose net income does not exceed $5,000 will be allowed income tax deduction up to $1,000 for medical, hospital and funeral expense under a bill introduced by Representative Rosenbloom of West Virginia.

American Association of Pathologists and Bacteriologists.—At the annual meeting of the association held in Cleveland, March 24, the following officers were elected for the year: president, Dr. Harry T. Marshall, University of Virginia; vice president, Dr. Paul A. Lewis, Philadelphia; secretary, Dr. Howard T. Karsner, Cleveland, and treasurer, Frank B. Mallery. It was voted to hold the next annual meeting in

connection with Tercennial Congress of America Physicians and Surgeons, in Washington, D. C., during May, 1922.

Colored Physicians Adopt Resolution on Volstead Act.—The National Medical Association, composed of 2,000 colored physicians, dentists and pharmacists, through its president, Dr. John P. Turner, Philadelphia, has addressed a letter to Mr. Volstead assuring him that the association is in thorough accord with the prohibition amendment and the laws of its enforcement, and stating that the organization does not feel that there should be any modification in the regulations for dispensing liquors.

Research Information Service.—The National Research Council announces that it is prepared to assist investigators by locating scientific publications which are not generally or readily accessible. It will also, if desired, have manuscripts, printed matter or illustrations copied by photostat or typewriter. Requests for assistance and information regarding expense of copying should be addressed, National Research Council, Information Service, 1701 Massachusetts Avenue, Washington, D. C.

Bill to Prevent Misbranding.—Senator Lodge of Massachusetts has introduced a bill to protect the public against misbranded, misrepresented or falsely described goods, wares and merchandise. The bill prohibits such articles from interstate commerce; it defines an article to be misbranded which is offered for sale under the name of another article; or, if the contents of the original package are removed and other contents placed therein; or, if the contents are stated in terms of weight or measure not correctly printed on the outside; or, if there is published in any newspaper, circular or other advertising any false, fraudulent or deceptive words. Medicines and drugs are not specifically mentioned in the bill, but it is drawn in such a manner that such articles may be included within the meaning of the proposed legislation.

Hearings on Public Welfare Bill.—The Joint Committee of Senate and House which has been holding hearings on the legislation to create the Department of Public Welfare has concluded the work of taking testimony. It is understood that members of the committee will confer with President Harding before any definite legislation is recommended, for it is the wish of Chairman Kenyon and others to draft this measure in a form satisfactory to the President. An important provision of the bill which is in controversy, is whether or not the Bureau of Education shall be included in the proposed department of Public Welfare. Advocates of the so-called Smith-Towner Educational Bill earnestly urge the creation of a separate department of education and protest against including it as a subordinate bureau of any other department.

A Model Health Department Makes Report.—A model health department has been established in the 516-acre government reservation at Perryville, Md., by the U. S. Public Health Service. The first annual report shows that the death rate was only 3.67 per cent. Careful work has kept the record of communicable disease low. Only three cases of diphtheria occurred during the year and this low prevalence of contagious disease is ascribed directly to close watch and prompt isolation, laboratory diagnosis, and prophylaxis, and also to pasteurized milk, filtered and chlorinated water, school medical supervision. A physical examination of the children showed that 93.5 per cent. had physical defects of teeth, tonsils, adenoids, eyes and hearing. Between 1919 and 1920 the percentage of underweight children was reduced from 42.7 to 13.8 per cent. This reservation was formerly a government nitrate plant and was turned over to the U. S. Public Health Service by Congress after the war. The buildings were transferred into a model village, there being now 200 cottages, two general stores, a model schoolhouse, club, firehouse and theater for the employees. It also contains a hospital caring for 430 patients.

Report on Bill Covering Veterans' Bureau.—The Sweet bill providing for the consolidation of all government activities dealing with former soldiers and sailors into the "Veterans' Bureau" has been reported favorably to the House by the Interstate Commerce Committee. The measure provides for the appointment of assistant secretary of the treasury with a salary of $10,000 per year. The functions of the Public Health Service, dealing with the ex-service men, of the Bureau of War Risk Insurance and the duties of the Federal Board of Vocational Training would be combined in this new Bureau. The measure also provides that there shall be a central office in Washington with fourteen regional offices and fifty suboffices throughout the country. The fourteen regional offices, through the terms of the proposed act, may exercise full powers in hearing complaints of former war veterans, of making physical examination, rate and award compensation claims, grant medical, dental, surgical and hospital care, make insurance awards and grant vocational training. An important feature of the bill is a section which would empower every postoffice in the country to receive payments on insurance policies held by war veterans.

Bequests and Donations.—The following bequests and donations have recently been announced:

Palo Alto (Calif.) Base Hospital, $500, the proceeds of a military ball given by San Francisco Chapter of the Military Order of the World War.

Clinton (Mass.) Hospital, instruments, supplies and medical books valued at $500, by the will of Dr. Chester C. Beckley, Lancaster, Mass.

New Orleans Hospital and Dispensary for Women and Children, $2,500, by the will of Dr. William Kohlmann, New Orleans.

Children's Free Hospital, Detroit, and Walkerville, Ont., toward the building of a general hospital, each $25,000; Harper Hospital, Detroit, $10,000, by the will of J. H. Walker, Detroit.

York (Pa.) Hospital, the remainder of his estate following a list of bequests, estimated to be between $150,000 and $200,000, to be used entirely for the erection of a new hospital and for the construction of a nurses' home as a memorial to his mother, Catherine A. Dale, by the will of Dr. James A. Dale, York.

Lankenau Hospital and Children's Homeopathic Hospital, Philadelphia, each $5,000, by the will of Alfred E. Burk, Philadelphia.

Germantown Dispensary and Hospital, $100,000, as an addition to the endowment fund of the institution in memory of the testator's parents, to be known as the "William G. and Sarah W. Warden Endowment Fund," by the will of Mrs. William L. McLean, Philadelphia.

Mount Sinai Hospital, New York, $10,000 Hebrew Orphan Asylum, $5,000; St. John's Guild, $3,000; Hospital for Deformities and Joint Diseases, Society for the Relief of Ruptured and Crippled, Manhattan Eye, Ear and Throat Hospital, Bellevue Hospital, Montefiore Home for its sanatorium at Bedford, each $2,500; Henry Street Settlement, New York, and Monmouth Memorial Hospital, Long Branch, N. J., by the will of Mrs. Julia Seligman.

Newton Hospital, Boston, $10,000; Perkins Institute for the Blind, and Floating Hospital, Boston, each 1,000, by the will of Fanny Coburn, Boston.

Medford, Mass., $200,000, for the construction of a hospital, by the will of Daniel W. Lawrence, Medford, Mass.

LATIN AMERICA

Sanitation of Colombian Ports.—The congress of Colombia has made appropriations amounting to 500,000 pesos for the sanitation of the ports of Barranquilla, Cartagena and Buenaventura. A contract has also been made for sanitary work at Puerto Colombia.

New Hospitals at Rio.—The new detention hospital in connection with the House of Correction at Rio was recently inaugurated; Dr. A. Pinto, minister of the interior, presided. A sectarian asylum has also recently been transformed into a hospital, with capacity for 500 beds. The new wards will be ready in five months it is anticipated.

The Child Welfare Congress in Brazil.—The First Brazilian Child Welfare Congress is to convene at Rio de Janeiro Sept. 7, 1921, and the *Brazil-Medico* states that already 2,354 members have been enrolled, and it gives a long list of communications to be presented. One of them is entitled "Let Us Mineralize the Teeth," by Dr. Pio M. de Paula Ramós.

Election of Officers.—The Sociedad de Cirugía of Buenos Aires recently elected officers for the current year with Dr. E. Beláustegui, president; Dr. Enrique Finochietto, vice president; Dr. J. M. Jorge, secretary general; Dr. M. Ruiz Moreno, recording secretary; Dr. A. J. Bengolea, director of the *Review;* Dr. M. Viñas, treasurer, and Drs. D. J. Cranwell and O. Copello, members of the board.

Panama Purchases Gorgas' Bust.—The government of Panama has purchased a bronze bust of Gorgas, which will be placed at the entrance of the Santo Tomás Hospital at Panama. President Porras of Panama, in writing to the English sculptor in charge of the work, P. Bryant Baker, has stated, "We appreciate very deeply the sanitary work accomplished by Dr. Gorgas in Panama and feel this is one of the most appropriate ways of showing our gratitude."

Tuberculosis Sanatorium in Brazil.—In order to select a location for the founding of a tuberculosis sanatorium and a hospital for convalescent patients, the following commission has been appointed: Generals Drs. A. F. do Amaral and J. de Araujo Aragao Bulcao, Majors Drs. M. de Marsillac Motta and C. E. Guimaraes, First Lieutenants Drs. P. Barcellos and A. Notari. Several locations have already been visited by this commission.

International Congress of Ophthalmology.—A special invitation has been sent to Latin American physicians to participate in the International Congress of Ophthalmology which will be held in Washington, D. C., April 25-28, 1922. Two prominent Latin-American ophthalmologists, Dr. M. Uribe Troncoso of Mexico and F. M. Fernández of Habana, have been appointed to fill places in the general organizing committee and the committee on scientific material. Spanish will be one of the three official languages of the congress.

Congresses in Uruguay.—The Second South American Congress of Dermatology and Syphilology and the Third

South American Congress on Hygiene, Microbiology and Pathology will meet in Montevideo in October, 1921. The organizing committee of the former consists of the following: Drs. J. Brito Foresti, J. A. Rodríguez, A. Penco, J. May, M. Halty, B. Vignale, H. Del Campo and P. R. Alonso; and of the second of Drs. A. Vidal y Fuentes, E. Fernández Espiro, A. Berta, E. Claveaux, J. F. González, C. Brito Foresti, A. Gaminara and A. F. Puyol. At the same time there will be held the Second National Medical Congress which will be presided over by Dr. B. Etchepare. The Uruguayan Congress has allowed 12,000 pesos for this work.

Personal.—During the absence in North America of the chief of the National Public Health Service in Brazil, Dr. Carlos Chagas, the service is in charge of Dr. Leitão da Cunha, and the Instituto Oswaldo Cruz is in charge of Dr. Adolfo Lutz.——Dr. J. Lefèvre is in Brazil on a mission in behalf of the Museum of Natural History of Paris.——Dr. Isabel K. de Berchmann of Buenos Aires has been decorated with the medal of the Order of Queen Elizabeth in appreciation of her work on behalf of orphans in Belgium.——Dr. P. Barbosa has just returned to Brazil from the United States where he studied ways and means to combat tuberculosis.——Dr. F. J. Medina, a surgeon of Mexico City, is now in this country visiting clinics at Chicago, Philadelphia, New York and Rochester.

FOREIGN

Tribute to Sormani.—The Institute of Hygiene at the University of Pavia was the scene recently of the placing of a tablet to record the devoted services of its founder and director until reaching the age limit last year, Prof. G. Sormani. He is now 77.

Graduate Courses at Naples.—Practical two or three months postgraduate courses in pediatrics, obstetrics and gynecology and in otolaryngology have been organized at Naples for this summer. The fees for each course are between 200 and 300 liras; with exchange normal, this would be $40 to $60.

Tribute to Prof. Swaen.—The friends and former students of Prof. A. Swaen are planning to place a tablet in his honor on the Institute of Anatomy at the University of Liége where he has taught for thirty years. Those subscribing 25 francs will receive a bronze replica of the tablet. Address J. Duesberg, 22, Quai Mativa, Liége, Belgium.

French Medical Congress.—The internists of France and other French-speaking countries are to meet at Strasbourg, Oct. 3-5, 1921, for the twenty-fifth Congrès de Médecine. Three topics have been appointed for discussion: glycemia, antianaphylaxis, and the anatomic and functional adaptability of the heart in pathologic conditions in the circulation.

Prize for Detection of Errors.—The late Prof. A. Cavazzani of Pisa left his property to the University to found a perpetual prize to be awarded for the best work in the line of detecting errors and unmasking fraud in the field of the medical sciences or even in allied disciplines. The purpose of the foundation is to aid in promoting high grade scientific production in Italy.

Medical Radiator Caps.—The *Vie Médicale* is opening a competition for radiator caps for physicians' automobiles. In a recent issue it reproduces some of the art caps sent in for the competitive tests of the journal *Auto*. They are artistic, but not medical emblems. The address of the *Vie Médicale* is 49 rue Geoffroy-St. Hilaire, Paris, but the conditions of the competition have not yet been announced.

Professor Henderson at Bordeaux. — Our Bordeaux exchanges are praising the lectures delivered at the university by Prof. L. J. Henderson of Harvard, who spoke in French. His three lectures were on biologic chemistry, and he explained how the latest biochemical research on the blood has confirmed the ideas announced by Claude Bernard over half a century ago on the physicochemical nature of vital phenomena.

International Child Welfare.—The creation of a permanent international organization devoted to the interests of child welfare is one of the objects of the Second International Conference of Child Welfare, which has been called by the Belgian government to meet in Brussels, July 18-21. Belgian and foreign experts have been asked to prepare reports on work carried out in their several countries for the protection of children. America has been invited to participate in the conference.

New Unit of Royal Free Hospital.—The unit of obstetrics and gynecology recently established at the Royal Free Hospital, London, was formally opened, May 11, by the queen. It is the first unit in these subjects to be established in London. Dr. Annie Louise McIlroy, formerly senior assistant to the Muirhead professor of obstetrics and gynecology in the University of Glasgow, Scotland, has been made director. Her assistants are Drs. Gertrude Dearnley, and Dr. Charlotte L. Houlton.

Convalescent Home for Women and Babies.—To help the wives of professional and business men, who find it difficult to get suitable and reasonable accommodation, a cottage at Farnham, England, which was formerly the home of Sir James Barrie, has been adapted as a convalescent home for six recently confined mothers and babies. The cottage is well furnished, with an experienced matron in charge, a nursery nurse and an adequate domestic staff. Mothers are received only on a physician's recommendation and can remain from one to four weeks.

Netherlands League for Mental Hygiene.—A society for this purpose was organized at Amsterdam early in 1919 for the scientific study of the treatment of nervous and mental diseases, especially by experimental research on the pathology and therapeutics of nerve and brain diseases. One of the aims of the society is to get in touch with all other organizations for similar purposes in other countries. The society publishes a journal, *Neurotherapia*. The leading neurologists and alienists of the Netherlands are charter members of the society, including Profs. S. van Leeuwen, Wertheim-Salomonsen, Jelgersma and Ariens Kappers.

British Medical Association.—The annual meeting of the British Medical Association will be held, July 15-23, at Newcastle-Upon-Tyne, under the presidency of Prof. David Drummond. On the occasion of the president's address, July 19, the gold medal of the association will be presented to Sir Dawson Williams, editor of the *British Medical Journal* since 1898, in recognition of his distinguished services to the association and the medical profession. Sir William Macewen, regius professor of surgery in the University of Glasgow, is announced as president-elect in connection with the 1922 meeting, which will be held at Glasgow. The council of the association has recommended that the 1923 meeting be held at Portsmouth.

Spanish Week at Paris.—A party of twenty-three physicians from the Barcelona district, the extreme northeast of Spain, recently spent a week at Paris, delegates from a newly organized local society formed to promote postgraduate work in France. This is the third delegation that has been sent to Paris by the society, and they were fêted by the profession in Paris and special demonstrations made for them in the hospitals, etc. The society was instrumental in having three Paris physicians deliver lectures in Barcelona in March, Profs. J. L. Faure, Broca and L. Bernard. A banquet was tendered the Spanish delegation by the Association at Paris for Development of Medical Relations with the countries of the Allies and their friends. This latter organization, the A. D. R. M. as it is called, is in charge of Professor Hartmann.

China's First Minister of Public Health.—Dr. S. M. Woo, who left Shanghai in January to organize a department of health under the Canton local government, was soon after his arrival also appointed minister of public health under the southern government. Dr. Woo, after graduating from St. John's University, finished a medical course at Johns Hopkins University and a course in public health at Harvard-Massachusetts Institute of Technology. While still in America he was engaged by the China Medical Missionary Association and the National Medical Association to return to China as secretary of the Council on Health Education, in which capacity he served from July, 1917, until 1921.

Public Health Work in Samoa.—The New Zealand government has published the regulations under the "health act" providing for a department of public health in western Samoa. The board will consist of the administrator of Samoa; the chief medical officer, who is to be the official head of the department and whose duties will include the control of the division of clinical medicine and the division of hospitals; the medical officer of health, who will have charge of the preventive and sanitary activities of the board, and the engineer in charge of public works. In addition to the usual functions of a health department, the board will investigate causation and possible prevention of tropical and other diseases. The government has decided to erect modern research laboratories in Apia and has appointed, as pathologist to the government, Dr. Francis W. O'Connor, who some time ago was commissioned by the London School of Tropical Medicine to investigate the disease filariasis in the Gilbert and Ellia Islands and elsewhere in the Pacific. The staff will

further include a resident medical officer at the public hospital at Apia. There will also be a secretary of the board, a hospital steward, native sanitary inspectors and such others as the board may find necessary.

Deaths in Other Countries

Dr. **Dario Ribeiro** of Rio de Janeiro, physician to the Hospital S. Sebastião and to the Anti-Tuberculosis League.—— Dr. **Libotte**, a roentgenologist and electrologist at Brussels. ——Dr. **A. Morselli**, at Bologna, aged 77.

Government Services

Public Health Service Establishes New Hospitals

Nine new hospitals, which will accommodate more than 3,000 additional patients, are now being put into shape by the U. S. Public Health Service. Three of these, in Iowa, Montana and Oregon, with a capacity of about 500 patients will be in full operation within two months. The Colfax hotel at Colfax, Iowa, a leased building with 130 acres of grounds, is being fitted to receive 200 patients. The Army hospital at Fort William Henry Harrison, near Helena, Mont., will be opened with 100 general patients. The Hahnemann Hospital at Portland, Ore., will provide for 164 general patients and the Speedway Hospital at Chicago will be improved so as to accommodate 1,000 patients by August 1. Three army hospitals have also been turned over to the U. S. Public Health Service. They are located at Fort Walla Walla, Wash., Fort McKenzie, Wyo., and Fort Logan H. Root, Little Rock, Ark. A naval hospital at Gulfport, Miss., has just been taken over by the Public Health Service from the Navy.

Army Medical School Graduation

Closing exercises for the Army Medical School were held at the National Museum in Washington with an elaborate program at which Secretary of War John W. Weeks presented the diplomas to the sixty-five graduates. Surg.-Gen. Merritte W. Ireland also took part in the ceremonies presenting the Hoff memorial medal to Major Albro L. Parsons, Medical Corps. The Sternberg medal was presented by Brig.-Gen. Walter D. McCaw to Capt. Virgil H. Cornell, Medical Corps. The Slee medal was presented by Col. Richard Slee to Capt. Philip P. Green, Medical Corps. The honor graduates of this class of 1920-1921 follows:

Major A. J. Dabney, Kentucky.
Major A. L. Parsons, Kentucky.
Major D. M. Roberts, Ohio.
Capt. J. B. Anderson, Virginia.
Capt. S. D. Avery, Missouri.
Capt. A. F. Ballester, Cuban Army, Cuba.
Capt. J. H. Blackwell, Alabama.
Capt. V. H. Cornell, New Jersey.
Capt. R. E. Curti, Nebraska.
Capt. G. B. Denit, Virginia.
Capt. P. P. Green, Missouri.
Capt. M. R. Johnston, Missouri.
Capt. H. W. Mahon, New York.
Lieut. E. A. Casserly, Indiana.
Lieut. A. Mordecai, No. Carolina.

The other graduates not included in the honor class are as follows:

Major H. C. Bradford, Virginia.
Major G. A. Klock, Florida.
Major J. B. Latta, New York.
Major J. E. Phillips, Arkansas.
Major C. W. Sale, Virginia.
Major E. E. Whittemore, New York.
Major F. E. Winter, California.
Capt. R. F. Annis, Mississippi.
Capt. J. H. Ashcraft, Alabama.
Capt. W. R. Beardsley, Michigan.
Capt. M. C. Berry, Arkansas.
Capt. D. R. Blakely, S. Carolina.
Capt. R. B. Bretz, Indiana.
Capt. J. U. Cazorla, Peruvian Army, Peru.
Capt. W. E. M. Devers, Oregon.
Capt. C. E. Dovell, Virginia.
Capt. M. B. Dunning, Iowa.
Capt. M. A. Farlow, Indiana.
Capt. B. F. Fridge, Jr., Louisiana.
Capt. J. W. Garrett, Oklahoma.
Capt. A. J. Greco, New York.
Capt. G. D. Griggs, Kentucky.
Capt. H. W. S. Hayes, New York.
Capt. W. E. Huddleston, Texas.
Capt. M. G. Keeler, Connecticut.
Capt. I. K. Lovett, New Jersey.
Capt. W. W. McCaw, Pennsylvania.
Capt. W. E. McCormack, Kentucky.
Capt. P. S. Madigan, D. C.
Capt. W. D. Middleton, Iowa.
Capt. O. P. Mueller, Kansas.
Capt. E. S. Murphy, Minnesota.
Capt. M. J. Myres, New York.
Capt. T. W. O'Brien, Delaware.
Capt. C. P. Prince, Kentucky.
Capt. J. A. Rogers, New Hampshire.
Capt. C. A. Stammel, Ohio.
Capt. F. O. Stone, Tennessee.
Capt. E. H. Tonolla, New York.
Capt. T. G. Tousey, New York.
Capt. C. L. Vanderboget, Washington.
Capt. L. F. Wright, Georgia.
Capt. C. A. Zevallos, Peruvian Army, Peru.
Lieut. J. F. Brooke, Missouri.
Lieut. H. M. Bullard, Pennsylvania.
Lieut. W. F. Hamilton, Alabama.
Lieut. H. W. Kinderman, West Virginia.
Lieut. R. E. Murrell, Missouri.
Lieut. G. E. Rehberger, Maryland.

The commandant of the Army Medical School is Brig.-Gen. Walter D. McCaw, assistant surgeon-general of the Army. The faculty consists of eighteen specialists of the Army Medical Corps.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 2, 1921.

Civilization as a Cause of Race Deterioration

In a lecture at the Eugenic Society, Mr. F. C. S. Schiller, D.Sc., said that civilization was an achievement of man and not a congenital quality like, for instance, sex. A baby had to acquire civilization by training, and if subsequently the individual liked civilization, it was an acquired taste. The transmission of civilization in the social order was effected in very complex ways; and were the mechanism of this transmission to be destroyed or seriously damaged, civilization would disappear in one generation, as would probably be the case in Russia. It was often regarded as a fatal objection to eugenics that what would be the best type of man was not known, and therefore could not be produced. Though there was truth in this objection, a knowledge of what was good was equally involved in the notions of progress and of civilization. The eugenist at least knew enough to deplore the suicidal organization of our present civilization, which was arranged so as to eliminate not only the qualities which were good but even those thought to be good, and so was ruining the human race. The reason was that in all civilized societies the birth rate was relatively high in the lower social strata, and so low in the higher that it had to be recruited from the lower. As social promotion was everywhere the reward of merit—of the qualities a society valued and regarded as good—and as social structure was now less rigid than in the past, merit rose more easily than formerly. This promotion, however, meant inclusion in a class in which the numbers were halved in each generation. This recognition of merit was biologically its capital punishment. Civilization was actually extirpating the very qualities it considered valuable. The organization of society at the present moment was appallingly dysgenic; it had become an instrument of deterioration of the race, and if progress was still being made it was being made in the mechanism by which the world was controlled, which was quite independent of what was good. This dysgenic effect of civilization was no new thing, though it was now probably proceeding faster than formerly; it explained why aristocracies always died out, why the physical development of the human race had been arrested, and why there was no reason to think that modern races were mentally superior to the ancients. Militarism tended to eliminate itself. All through history the fighting races had fought themselves to extinction, and all through history the meek had inherited the earth. There had been going on in every community an internal selection which might profoundly change the ideas and type of the people.

The bodily development of man had long ago come to a standstill. There had been no improvement in the human type since the beginning of history, nor was there reason to think that man was more intelligent. Brain development had apparently been retrogressive for a long time, and it was a mere assumption that we use smaller and more compact brains more efficiently. The only power which man had developed was a resistance to microbic disease. It was a mistake to think that intelligence was not an important factor in savage life. The savage could not afford to be a fool or to breed fools, and in the ordinary affairs of life he was far more capable of fending for himself than those who disparaged him. Nor was he more helpless in the city of London than a bank clerk on a primitive island, or a professor in a jungle. In savage life the fool and the idiot could not grow up. The human stock must at one time have been progressive, or else it would never have developed out of the ape. It was still

progressive wherever social conditions conduced to a preferential survival of the better portions of the stock. This occurred among savages subjected to severe natural selection so that weaklings could not be preserved. This also occurred among barbarians where the well born were more prolific than the lower classes. It could occur in civilized societies if they recognized the error of their ways and the need of thoroughgoing eugenic reform. The recognition of the race deteriorating tendency of civilization was a new important fact; but, once recognized, it could be counteracted by a variety of expedients, which, though difficult, were not impracticable.

Scientific Terminology

The Medical Research Council has issued a useful pamphlet entitled "Notes upon the Preparation of Monographs and Reports for Publication," which contains many rules which are often disregarded by medical writers: "The decimal point should never be placed at the beginning of a number, as when so placed it may well be overlooked by the compositor; for example, the form 0.5 should be used, not .5." The scientific names of animals and plants are formed according to the binomial or Linnaean system, for the use of which international rules exist and should be followed. The specific name must be written with a small initial letter; thus, *Bacillus typhosus,* not *Bacillus Typhosus;* further, "Specific names should not be employed alone, but should always be preceded by the full name or initial capital letter of the genus to which they belong; for example, write *Bacillus coli* or *B. coli,* not *coli.*" In zoological nomenclature, specific names should be written with a small initial letter, even when formed from names of persons or places; thus, *Trypanosoma brucci,* not *Trypanosoma Brucei.* The specific names of micro-organisms should be written with a small initial letter; for example *B. welchii,* not *B. Welchii.* "Generic names are frequently used as common English nouns denoting classes. In such cases the name should be written in roman and not italic type, without an initial capital; for example, 'large numbers of bacilli and amoebae were found in the specimen,' not '. . . of Bacilli and Amoebae . . .' (the latter statement would mean that many different species belonging to the genera Bacillus and Amoeba were found)."

Hospital for Functional Nervous Disorders

A hospital of a new type—for functional nervous disorders—has been founded by Sir Ernest Cassel, who has provided the munificent donation of $1,125,000 for the purpose. A mansion and park have been purchased at Penhurst (in Kent) and the house has been reconstructed to provide for sixty patients. It is primarily intended for educated persons unable to meet expenses of a nursing home. The conditions to be treated are neurasthenia and other nervous conditions not associated with structural changes in the nervous system. The medical committee of the hospital includes Dr. Farquhar Buzzard, Lord Dawson, Prof. J. S. Haldane, Dr. Henry Head, Dr. A. F. Hurst and Sir Frederick Treves.

Production of Surgical Catgut at the London Hospital

After nearly a year's investigation, there has been produced at the London Hospital a surgical catgut which is claimed to be perfectly sterile. It is now produced in quantity beyond the hospital's needs, and a departure, which is entirely new in hospital policy in this country, has been made. The catgut has been placed on the market. The intestines of sheep which have been killed a few hours before are brought to a department in the hospital, where they are cleansed by women. They are passed to a worker who, with a special knife, slits the gut into three strips, of which the mesenteric is rejected. Then all fat and adhesive matter are scraped away. In another room each strip is throughly sterilized and then twisted on a loom to make the different thicknesses required for surgical work. The gut is then hardened. The finished article is packed in lengths of 5 feet in air-tight glass tubes containing an antiseptic. During the manufacture, lengths are produced which are not of the regulation size, 5 feet, but are capable of use. It was decided that these should not be wasted but sold attached to a needle. One of the surgeons, Mr. H. S. Souttar, has invented a special needle, which has the advantage of being without an eye. Instead, there is a hollow in which the end of the thread is inserted and then sealed in the needle. Thus, suturing can be performed with a single thread—an advantage which surgeons have long desired.

PARIS

(From Our Regular Correspondent)

April 29, 1921.

Erection of Monument in Memory of the Interns Who Died for France

The monument erected to the memory of the hospital interns of Paris who died in the service of France was dedicated, Sunday, April 24, 1921, at the Hôtel-Dieu. The ceremony was presided over by Monsieur Léon Bérard, minister of public instruction, assisted by Dr. Louis Mourier, director of public charities. Dr. Walther, president of the Association amicale des internes et anciens internes des hôpitaux de Paris, who collected by subscription the funds for the erection of the monument, presented it to the bureau of public charities.

The Medical School at Hanoi

A fully equipped medical school has been established at Hanoi, the capital of French Indo-China, in place of the preparatory school which has existed heretofore. At present it has 150 students in attendance. Under the direction of Dr. Yersin, the scientist to whom we owe the discovery of the plague bacillus, this school has grown and developed, but has long been inadequate to meet the needs of the situation. A secondary school has been established at Hanoi, in which the young citizens of Anam can obtain a bachelor's degree. Equipped with such preparation, they are admitted to the Medical School of Hanoi which has just been created. Here, just like students in France, they will take a year's preparatory training in physics, chemistry and the natural sciences. They will then pursue a regular five-year medical course, following which they will come to France and spend a year in the Medical School of the University of Paris. Here they will complete their clinical instruction and their laboratory work, taking some special courses in the Institut de médecine coloniale. They will thus become thoroughly familiar with French doctrines and methods, and, after having passed their finals at Paris and defended a thesis, they will return home, where they will be entitled to practice without restrictions the profession of their choice.

Paris' Supply of Spring and River Water

The *Economiste Français* recently published some interesting items of information on the water supply of Paris. The spring water, or possibly we might better say, the water from brooks and springs, is furnished by the Vanne, the Dhuis, the Avre, the Loing and the Lunain. The quality of these waters is controlled, from the standpoint of their bacterial content, first, by laboratories located at the points of intake, and secondly, before entering the Paris mains. The daily consumption amounts to 400,000 cubic meters ordinarily, but occasionally exceeds 500,000 and even 550,000 cubic meters. The springs or brooks furnish only 384,000 cubic meters at the most, and in time of drought only 265,000 cubic meters. To make up for the shortage in the supply of spring water, filtering establishments have been located on the Marne—one at Ivry-sur-Seine and another at Saint-Maur—which furnish 200,000 cubic meters, but the endeavor is being made to

increase the supply of filtered water by 100,000 cubic meters. By 1923 or thereabouts the waters of the Voulzie, the Durteint and the Dragon will add 80,000 cubic meters to the present supply. But the 600,000 or 700,000 cubic meters now in sight, as it were, will, it is feared, no longer suffice, and it will doubtless be necessary to draw on the waters of the valley of the Loire, which will entail a very heavy expense. From the financial standpoint, the distribution of water was accomplished in 1913 at a figure which yielded a profit of 7,000,000 francs, but since 1915 there has been a deficit each year of more than 2,000,000 francs. In 1919 the deficit amounted to 18,000,000 francs and it is estimated that the deficit for 1921 will reach 38,000,000 francs.

The Annual Meeting of Neurologists

The second annual meeting of neurologists will take place, June 3 and 4, 1921. It will be held at the Salpêtrière. Only one topic for discussion has been placed on the program; namely, "Parkinsonian Syndromes." Dr. Souques will open the discussion with a paper. A program of the meeting will be sent out in advance to all who announce their intention of being present at the meeting. All communications must deal with the question proposed. All communications and inquiries should be addressed to the general secretary: Dr. Henry Meige, 35, rue de Grenelle, Paris, 7-e.

BELGIUM

(From Our Regular Correspondent)

April 25, 1921.

The Total Number of Physicians in Belgium

The annual statistical report for Belgium contains some figures that are of interest to the medical profession. It enables us to follow the progressive increase in the number of practitioners, and the large number in the ranks of the profession elicits some surprise when we consider that the total population of the country is only 7,500,000. The record of the total number of physicians and pharmacists is as follows:

Year	Physicians	Pharmacists
1900	3,544	1,875
1910	4,263	1,883
1912	4,336	1,951
1913	4,426	1,970

The number of physicians (medicine, surgery and obstetrics) per 10,000 inhabitants was 5.79 in 1912; 5.74 in 1910, and 5.29 in 1900.

Adulteration of the Arsphenamins

For some time past, as already mentioned in a previous letter, the medical profession has, with justice, complained of the numerous adulterations that are found among certain brands of arsphenamin. The evil is not confined to Belgium alone. Quite recently the *Schweizerische medizinische Wochenschrift* called the attention of its readers to evident adulterations of neo-arsphenamin. The results of the study on the toxicity of arsphenamins, as presented by De Myttenaere, Magnus and Van Boeckel to the Belgian Academy of Medicine, have, therefore, considerable importance at this time and merit our attention. They instituted a comparison, from the qualitative standpoint, of certain brands of arsphenamin; namely, neosalvarsan, novarenobenzol-Billon and sulpharsenol. They determined the amount of arsenic, nitrogen, sulphur and sodium, and, in some of the products examined, also the sodium chlorid content. The results of their analyses go to show that these various products are not of constant composition. Furthermore, in most of them there is a deficiency in nitrogen in relation to the arsenic content, thus revealing the presence of an arsenical product other than arsphenamin. In determining the toxicity they used two different procedures. By the one they ascertained the amount of "arsenoxid"; by the other they extracted from the different products the arsenic in the inorganic form (or readily converted into the inorganic form) and determined the amount. The results of the latter method are given in cubic centimeters of hundredth-normal solution of sodium thiosulphate. A remarkable parallelism was noted between the chemical results obtained by this method and the range of toxicity found to exist in the various samples as determined by experiments on rabbits and mice. These investigators state that the ampules which were sent to them and designated as toxic all contained 0.6 gm. of the product. They consequently raise the question whether this is not a toxic dose of the drug for certain patients. Moreover, the number of cases of frank intoxication and posttherapeutic accidents is increasing. Before the Belgian Dermatologic and Syphilologic Society, Lespinne and Wydooghe lately reported a case of frank intolerance: Herxheimer reaction, erythemas, purpura hemorrhagica with salivation, which phenomena—especially the purpura—recurred with every serial treatment, so that this form of therapy had to be abandoned. Also De Grave reported four severe cases of generalized oozing eczema, which persisted for several months.

Determination of Carbon Monoxid in the Blood

Before the Belgian Biologic Society, Dr. Stockis, professor of medical jurisprudence in the University of Liége, has presented a communication in which he describes a special type of chemical reaction available for the determination of carbon monoxid in the blood. A 10 per cent. aqueous solution of zinc chlorid combined with normal blood produces a dirty brown precipitate, but with blood containing carbon monoxid a beautiful cherry-red coloration is brought about. This reaction is more sensitive than the usual chemical and spectroscopic methods. By this method, amounts of carbon monoxid as small as 2.5 c.c. per liter can be determined.

BUDAPEST

(From Our Regular Correspondent)

April 29, 1921.

The First Minister of Health for Roumania

Roumania, since it has grown in territory and population (according to the latest census 20,000,000 people), has become decidedly progressive. In medical and health matters it is taking steps which time and again the old régime considered, but rejected as inopportune. The new public health bill has been explained to the legislature by the chief sanitarian of the state. The bill provides for the creation of a bureau of health and fixes the machinery for the more adequate supervision of the health of the kingdom. The principal feature, however, is that there will be a minister at the head of the bureau, and a deputy who shall be known as the commissioner of health, equipped with a staff sufficient to handle the work of the department. A health council consisting of four medical practitioners and the commissioner will advise the department, meeting at stated periods for that purpose.

Infant Mortality in Jugoslavia

The vital statistics for last year show that although the general mortality has notably decreased, that of infants has been hardly affected. It would seem that all the hygienic advance which has been made during past years, and which has proved so beneficial to the population at large, has hardly touched the fringe of infant mortality. Its magnitude depends on alimentary disturbances, diarrhea, too frequent feeding and feeding with infected milk, etc. (There is a charity society, which distributes free pasteurized milk to the poor classes; this, however, is exceedingly small in proportion to the number of children.) Experiments have been made in Budapest from cow's milk from different suburbs, and it was found that

dirt was invariably present, varying in amount from 1 to 72 mg. per liter. The first milkings always contained the most dirt, the amount of which decreases proportionately as the milking proceeds. From a hygienic standpoint it would be wise to discard the first milking.

Measures Against Cholera

The prevalence of cholera in the Russian border adjacent to Bessarabia (now part of Great Roumania) has naturally been a subject of careful attention for the Roumanian government. Although there is no traffic at all between Russia and the neighboring part of Bessarabia, still it is likely that at least some cases of cholera will be conveyed here. Indeed, some days ago a case was reported of a Bessarabian woman who had come with her husband to Viseneff and showed symptoms of cholera. She was immediately conveyed to a hospital, while the husband and the servants were placed under observation in a pavilion for suspected cases. The case caused some nervousness throughout Bessarabia, but on microscopic examination it proved not to be cholera but typhoid fever. Meanwhile there had been a conference between the delegates of the different Roumanian, Transylvanian and Bessarabian administrative departments, of the medical, railway, seaport, police and other authorities. It was decided to abstain at first from quarantine measures but to examine the passengers (late war prisoners coming from Russia), who in great numbers pass through the Bessarabian boundary. Arrangements will be made for the conveyance of eventual cases of cholera and to keep special pavilions ready in the hospitals of Bessarabia. The water of the rivers coming from Russia will be daily examined by bacteriologists on the frontier as to the presence of cholera bacilli.

BERLIN

(From Our Regular Correspondent)

April 22, 1921.

The Berlin Session of the Surgical Congress

CONSTITUTIONAL PATHOLOGY

At the recent session of the surgical congress, held in Berlin, Professor Payr of Leipzig spoke on constitutional pathology in relation to surgery. Surgeons, he said, have thus far paid too little attention to this subject. It is true, the exact significance of the term "constitution" is not yet fully established. Some understand by constitution only the hereditary qualities transmitted by the germ plasm. However, the sum of the physical and mental good and evil inherited from one's forebears is subject to change. The most important concept for the surgeon, it was brought out, is the status hypoplasticus, with which is associated an asthenia of the tissues and the organs, and which is related to the status thymolymphaticus. In children it occurs in the form of an exudative diathesis. In this connection should be considered also the status enteroptoticus and the status neuroticus. The weakness of asthenic patients lies in the inferiority of their contractile and elastic body elements. On the other hand, we find in them a tendency to increased connective tissue formation. This leads, on the one hand, to connective tissue degeneration of organs, and, on the other hand, to good healing of wounds. Weakness of scar tissue, and hernias are rare in such subjects, but, on the other hand, there is often a tendency to keloids, formation of adhesions of the serous membranes, encapsulation of inflammatory foci (rarely is peritonitis due to disease of the appendix or the genitalia found); also a tendency to fibrous tissue formation (fibrous diathesis) and to stiff joints. On the other hand, we find an increased immunity to infections. Exceptionally strong individuals are often carried off by pneumonia, whereas asthenic subjects survive. Perhaps hemophilia also belongs in this category. There are procedures by which deficient connective tissue formation can be stimulated and the excessive combated (hormones from various endocrine glands; inorganic substances such as hydrocarbons, protein bodies, weak roentgen-ray doses on the one hand, and fibrolysin, mustard oil and pepsin as a digestant, on the other hand). In delayed blood coagulation, stimulative irradiation of the spleen, following the method of Stephan-Jurasz, may be employed. In subjects characterized by status thymicolymphaticus, great care should be exercised in connection with general anesthesia. Subjects suffering from lymphatism are often vagotonics and neurotics as well (weak heart, enlarged lymph follicles at the base of the tongue, low blood pressure, lymphocytosis, extrasystole). Here the calming influence of psychotherapy and proper sedatives is indicated. The vascular system of hypoplastic subjects is susceptible to every form of damage (fat embolism).

BIOLOGIC AND PATHOLOGIC ASPECTS OF OLD AGE

Pribram, an assistant of Professor Bier, discussed the endosecretory causes of pathologic old age. All the organs and tissues age in a different manner. The onset of old age signifies an abatement in the capacity of the cells to divide and renew themselves. In the first period of life the appearance of old-age signs and symptoms is often due to premature development, such as is brought about by the endocrine glands. After removal of a sarcomatous ovary from a 6-year-old girl who presented fully developed breasts, the manifestations of premature development receded, and the girl again assumed the character of a child. In the second period of life we often see evidences of premature old age. A woman, aged 32, came down with puerperal fever following a manual loosening of the placenta. After partial recovery, she was unable fully to regain her health. She looked prematurely old; recurring spells of drowsiness set in, and death ensued. It was a case of involvement of the hypophysis cerebri, the thyroid and the suprarenals, whereas the ovary was intact. The marked disturbance in the functioning of the thyroid gland was doubtless the main cause for the reduction of the capacity for regeneration. The bearing of the endocrine system on the constitution of an individual is very great. Owing to disturbances of the endocrine glands in pregnant mothers, malformations are liable to develop, which fact has a relation to the alleged consequences of "maternal impressions."

Campaign Against Alcoholism and the Social Evil

The reichstag committee on population propaganda has requested the government to draft a law to combat alcoholism. The committee also recommends that the government shall close all the brothels still existing in Germany and abandon the segregation policy. The committee supports its request by pointing out that such arrangements as exist are in violation of Paragraph 180 of the Penal Code.

Deaths from Vaccination

According to the recently published report on vaccination against smallpox in Prussia during the year 1918, two out of the total number vaccinated died from the results of vaccination. In one previously healthy child a generalized vaccinia developed, and a bronchitis in addition. Death ensued in sixteen days. In the second case, the child, who before the vaccination was suffering from otitis media suppurativa, died twenty-seven days after the inoculation, from sepsis. That the death of the child was in some way associated with vaccination was stated as probable. General vaccinia was observed in five other cases. The instrument chiefly used for inoculation was the Lindenborn platinum iridium knife. Vaccine points were employed in some instances. Some physicians used alcohol to sterilize their instruments. There were eight instances in which subjects were forcibly com-

pelled to submit to vaccination. In Essen there were 2,033 cases and in the government district of Cologne 1,779 cases in which persons failed to respond to the call for vaccination.

Health Insurance Statistics

According to the statistics issued by the government insurance bureau, in 1919, 163,846 insured members of the health insurance societies received therapeutic treatment at a cost of 47,003,931 marks. There were 29,747 lung and larynx patients who received constant treatment and 1,315 who received temporary treatment; there were 282 lupus patients and 258 with tuberculosis of the bones and joints; 94,546 persons were supplied with artificial teeth; 7,880 received treatment for venereal disease, and seventy-one (fifty-one women and ten men) for cancer. Of 25,765 treated for pulmonary tuberculosis, 21,884 could be dismissed in a condition to earn their living; only 3,881 were enrolled on the list of invalids.

Health Insurance in Greater Berlin

In the 222 health insurance societies (krankenkassen) of Greater Berlin there are 1,298,798 persons insured. Of this number 811,590 are insured in the twenty-eight local societies; 471,086 in the 1919 industrial societies, and the three so-called landkrankenkassen have 16,122 members.

Numerical Ratio of the Sexes

According to the census reports, the number of women in proportion to men has increased. Whereas in 1914 the excess of women over men was 1.92 per cent., it rose in 1919 to 9.04 per cent. and is now around 7 per cent. The greatest excess of women is found in Berlin, where there are 119.59 women to 100 men.

Vital Statistics of Germany and France

A comparison of the vital statistics of Germany and France yields the following results: In Germany, during the period from 1881 to 1891, the population increased 9.5 per cent.; from 1891-1901, 14.3 per cent.; from 1901 to 1911, 14.9 per cent. In France, during the same periods, the percentages of increase were 2.0, 1.6 and 1.6 per cent. In the course of thirty years the population of Germany increased 44 per cent., while that of France increased something over 5 per cent.

PRAGUE

(From Our Regular Correspondent)

April 28, 1921.

New Pathologic Institute

A new pathologic and bacteriologic institute has been opened in Prague. There are divisions for pathologic anatomy, experimental pathology, bacteriology and legal medicine. It is popularly called Hlava's Institute, from the name of its chief, Prof. Jaroslav Hlava. Dr. Hlava is the senior professor of the staff of the Czech medical school, and is a well known authority on exanthematic fevers. In addition to being president of several medical societies and a corresponding member of the French Academy of Medicine, he is also the president of the Czech Society for Cancer Research. On the day the new building for pathology was opened, the president of the republic made a gift of 100,000 crowns to the Cancer Society for continuing and developing its work.

Census of Czechoslovakia

The first census in the Czechoslovak Republic was taken, Feb. 15, 1921. Preliminary results for Bohemia, Moravia and Silesia have already been published, and it is expected that further data will be available by the middle of May. The total population in the above named three provinces is about 10,000,000. Compared with the last census, taken in 1910 there is a loss of 77,120. Preliminary figures for the city of Prague surprised those who expected that the population would reach a million. The population increased in the last decade only by 9.7 per cent., as compared with 19.8 per cent. for the previous decade. It is to be expected that there will be a marked increase in population in Great Prague as soon as the housing shortage has been overcome.

Congress of Surgeons

A congress of surgeons and gynecologists was held in Prague, April 4-5. Prof. Otakar Kukula presided. More than a hundred papers were presented. The congress was a testimony to the great influence which Maydl and Albert had on the development of surgery in this part of the world. At the first meeting the first number of a new monthly periodical, the *Surgical Review,* was presented.

Carlsbad and Other Health Resorts

The government is making every effort to facilitate the travel of foreigners into the watering places in the republic, which is one of the richest countries in this respect. Many people still fail to realize that the famous watering places, like Carlsbad and Marienbad, are within the boundaries of the Czechoslovak Republic. All the Czechoslovak consuls in foreign countries have been notified that the giving of visas on passports for foreigners going to watering places in the republic must be simplified as much as possible. Foreigners will be allowed to leave the country and come back while taking treatment in one of the watering places. A sleeping car service has been established between Paris and Carlsbad.

New Periodical for General Practitioners

Recently a number of the younger Czechoslovak physicians organized themselves into a special group which at first was opposed to the central organization of Czechoslovak physicians. Finally an agreement was reached, and the group of young physicians has been taken into the central organization as a separate section. It is expected that they will add vigor and energy to the medical organizations. Among their first enterprises must be noted the publication of a monthly periodical for general practitioners. The need of such a publication has been felt for a long time.

Marriages

William John Clarke Agnew, Lieut.-Com., M. C., U. S. Navy, Washington, D. C., to Miss Vera M. Radcliffe of Tal-u-Werydd, Cardiff, Wales, at London, England, April 27.

Edwin Wheeler Buckingham, Soochow, China, to Miss Bessie Kenniger of London, England, at Shanghai, China, February 28.

William Pinkney Herbert, Asheville, N, C., to Miss Frances Venable Carrington of Richmond, Va., April 26.

Richard Ovid Rogers, Bluefield, W. Va., to Miss Nancy Louise Martin of Stuart, Va., at Richmond, Va., April 30.

Fleete S. Steele, Lieut., M. C., U. S. Navy, to Miss Edith Marguerite Ducker of San Diego, Calif., May 2..

Andrew Robert Warner, Chicago, to Miss Gertrude Elizabeth Schnaitter of Sandusky, Ohio, April 30.

Francis Whittle Upshur to Miss Martha Maury Robinson, both of Richmond, Va., April 20.

Charles Pearre Hawkins, Fort Worth, Texas, to Miss E. Lou Scott of Sherman, Texas, May 6.

William Holcombe Aiken, New Orleans, to Miss Helen Curtis Henry of New York, May 19.

Walter Centennial Hill, Cleveland, to Miss Virginia Austin of Chicago, May 12.

John Carroll Wiggins, Winston-Salem, N. C., to Miss Inez Hester, May 16.

Frank Stoddard Johns to Miss Anne Page, both of Richmond, Va., April 30.

Bert Mobbs to Miss Violet Alice Hyatt, both of Honolulu, T. H., March 27.

Deaths

Harry Mitchell Sherman ⊕ San Francisco; College of Physicians and Surgeons in the City of New York, 1880; major, M. C., U. S. Army, in charge of the surgical service at Fort Rosecrans, Calif., and discharged, Dec. 23, 1918; surgeon to Children's Hospital, San Francisco, since 1886, and to St. Luke's Hospital, San Francisco, since 1901; clinical professor of orthopedic surgery, 1896-1899, and professor of principles and practice of surgery, 1899-1912, in the University of California, San Francisco; died, May 15, aged 66.

Oscar Huntington Allis ⊕ Philadelphia; Jefferson Medical College, 1866; Mütter lecturer in the College of Physicians of Philadelphia, from 1888-1906; Lane lecturer in Cooper Medical College, San Francisco, 1903; surgeon to Presbyterian and Roosevelt hospitals, Philadelphia; awarded Gross Prize for brochure, "Obstacles to the Reduction of Dislocations of the Hip"; a well-known surgeon and contributor to literature on his specialty; died, May 16, aged 85.

Charles W. Halterman ⊕ Clarksburg, W. Va.; Eclectic Medical Institute, Cincinnati, 1889; captain, M. C., U. S. Army, and discharged, March 31, 1919; at one time superintendent of the Weston (W. Va.) State Hospital; died, May 11, aged 53.

Richard B. Gilbert ⊕ Louisville, Ky.; University of Louisville, Ky., 1868; emeritus professor of pediatrics in his alma mater; a member of the board of education for six years; died, May 18, from cerebral hemorrhage, aged 78.

Yancey C. Blalock, Walla Walla, Wash.; Jefferson Medical College, 1884; a member of the Washington State Medical Association; coroner of Walla Walla County for three terms; died, May 12, from pneumonia, aged 61.

Elizabeth Lain, Santa Rosa, Calif.; Hahnemann Medical College of the Pacific, San Francisco, 1897; a member of the Medical Society of the State of California; died, May 16, from carcinoma of the liver, aged 56.

Moses Reginald Pollom ⊕ Thorntown, Ind.; Medical College of Indiana, Indianapolis, 1904; president of the Boone County Medical Society in 1920; died, May 13, following an operation for brain tumor, aged 42.

Frank Borsody, New York; University of Budapest, Hungary, 1872; died, May 17, from injuries received when he leaped from a window of his home while despondent on account of ill health, aged 75.

Frank Augustus Bryant ⊕ White Plains, N. Y.; Bellevue Hospital Medical College, 1895; a well-known author of textbooks on stammering and speech disorders; died, May 17, from pneumonia, aged 69.

Russell S. Hill, Maplewood, Mo.; Homeopathic Medical College of Missouri, St. Louis, 1900; was instantly killed, May 5, when he was struck by a truck while returning from a visit to a patient, aged 72.

Frederick William Wunderlick ⊕ Brooklyn; St. Louis Medical College, 1864; surgeon to St. Peter's and Wyckoff Heights hospitals; a veteran of the Civil War; died, May 15, from pneumonia, aged 79.

John Franklin Grabill, Elyria, Ohio; Miami Medical College, Cincinnati, 1880; was found dead, May 13, having committed suicide by hanging, while despondent on account of ill health, aged 65.

William Preston Simpson, Louisburg, N. C.; University of Virginia, Charlottesville, 1903; a member of the Medical Society of Virginia; died, about April 28, from cerebral hemorrhage, aged 42.

Lauriston Hardin Hill, Germanton, N. C.; Jefferson Medical College, 1861; a member of the Medical Society of the State of Pennsylvania; a Confederate Veteran; died, May 13, aged 84.

Virgil W. Hudson, Sallisaw, Okla.; Kentucky School of Medicine, Louisville, 1894; a member of the Kentucky State Medical Association; died, May 11, from uremia, aged 71.

Arthur Scrimgeour ⊕ Bridgeport, Conn.; Long Island College Hospital, Brooklyn, 1909; captain, M. C., U. S. Army, and discharged, March 24, 1919; died, May 11, aged 37.

William H. Roberts, Terre Haute, Ind.; Jefferson Medical College, 1861; a practitioner of Terre Haute for half a century; a veteran of the Civil War; died, May 8, aged 81.

William Allen Brooks ⊕ Boston and Lincoln, Mass.; Harvard University Medical School, 1891; lieutenant-colonel, Massachusetts State Guard; died, May 20, aged 56.

John McCurdy Knott, Los Angeles; George Washington University, Washington, D. C., 1870; a practitioner of Sioux City, Iowa, for forty years; died, May 14, aged 74.

Frank L. Watkins, Buffalo and Orchard Park, N. Y.; University of Buffalo, 1891; a member of the Medical Society of the State of New York; died, May 13, aged 57.

William Willis Cummings, Brooklyn; University of the City of New York, 1882; surgeon of the *S. S. Trafford Hall;* died in Calcutta, India, February 10, aged 62.

Robert B. Woodward, Somerset, Ohio; Western Homeopathic College, Cleveland, 1867; for fifteen terms mayor of Somerset; died, May 15, from uremia, aged 82.

John Alfred Burch, Eastman, Ga.; Atlanta (Ga.) College of Physicians and Surgeons, 1909; a member of the Medical Association of Georgia; died, May 6, aged 38.

William James Cowardin, Richmond, Va.; University College of Medicine, Richmond, 1898; a member of the Medical Society of Virginia; died, May 11, aged 44.

John James Harper, Alliston, Ont.; University of Toronto, Ont., 1892; at one time mayor of Alliston; died at the Wellesly Hospital, Toronto, May 11, aged 54.

Thomas Potts Allen, Pembroke, Ky.; University of Louisville, Ky., 1884; a member of the Kentucky State Medical Association; died, May 7, aged 62.

Reuben Henry Duggar, Gallion, Ala.; University of Pennsylvania, Philadelphia, 1858; a Confederate veteran; died at Auburn, Ala., May 5, aged 83.

George Washington Miller ⊕ East Chicago, Ind.; Miami Medical College, Cincinnati, 1901; died, May 12, from carcinoma, aged 43.

Joseph Come Maranda, Montreal, Que.; Laval University, Quebec, Que., 1876; formerly of Woonsocket, R. I.; died, May 7, aged 75.

Lucien C. Ely, New Palestine, Ind.; Indiana Medical College, Indianapolis, 1878; died, May 5, from cerebral hemorrhage, aged 66.

Dennis W. King, Wenatchee, Wash.; College of Physicians and Surgeons, Keokuk, Iowa, 1881; died in Seattle, April 6, aged 60.

John Anderson Ingles, Hoopeston, Ill. (license, Illinois State Board of Health, 1878); died, May 4, from pneumonia, aged 83.

Daniel Lewis Porterfield ⊕ Jamesport, Mo.; Washington University Medical School, St. Louis, 1906; died, April 25, aged 41.

Frank Pierce Kenyon ⊕ Pomona, Calif.; Detroit Medical College, 1876; died, May 8, following a surgical operation, aged 67.

John S. Wood, Cleveland; Western Reserve University, Cleveland, 1876; died, May 6, from heart disease, aged 67.

Fremont Reid, Denver; Missouri Medical College, St. Louis, 1886; formerly of Humphreys, Mo.; died, May 5, aged 70.

Bernard George Gordon, McKenzie, Tenn.; Vanderbilt University, Nashville, Tenn., 1879; died, April 16, aged 74.

Elbert Judson Clark, Cleveland; Chicago Medical College, 1871; formerly of Rockford, Ill.; died, May 8, aged 73.

Marcus Clay Graham, Gainesville, Ark.; Memphis (Tenn.) Hospital Medical College, 1901; died, April 29, aged 41.

Robert W. McClelland, Pittsburgh; Hahnemann Medical College and Hospital, Philadelphia, 1884; died, May 18.

Owen Ambrose Igoe, North Tarrytown, N. Y.; Queen's University, Kingston, Ont., 1903; died, May 11, aged 40.

John H. Sutton, Sutton, Ark. (license, Arkansas, 1903); died, May 16, from carcinoma of the liver, aged 53.

Albert Parker, Ora, Ind.; Curtis Physio-Medical Institute, Marion, Ind., 1895; died, May 6, from gangrene.

Busrod Foley Laird, Covington, Ky.; Medical College of Ohio, Cincinnati, 1874; died, May 3, aged 74.

Alfred M. Potter, Springfield, Ohio; Eclectic Medical Institute, Cincinnati, 1872; died, May 5, aged 70.

William S. Hendricks, Iola, Kan.; Medical College of Ohio, Cincinnati, 1860; died, April 29, aged 93.

Frank H. Rowe, Cincinnati; Miami Medical College, Cincinnati, 1893; died, May 4, aged 73.

Harrison Peachee, Indianapolis (license, Indiana, 1898); died, May 11, aged 78.

⊕ Indicates "Fellow" of the American Medical Association.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

"NATIONAL IODINE SOLUTION" NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

"National Iodine Solution" is a proprietary sold by the National Drug Co., Philadelphia, Pa. From inquiries received by the Council on Pharmacy and Chemistry it is evident that the product is extensively brought to the attention of physicians by means of circulars. The name implies that it is a solution of iodin and the inference is given that it has the advantages of iodin without the disadvantages.

COMPOSITION

In view of the foregoing, the Council took up the investigation of "National Iodine Solution," and in turn asked the A. M. A. Chemical Laboratory to analyze it. The chemist's report follows:

According to the label of National Iodine Solution, "each fluid ounce represents three grains Proteo-albuminoid compound of iodin (National)"; also an alcohol declaration of 7 per cent. is made. Otherwise no information is given as to the composition either of the "solution" or of "Proteo-albuminoid compound of Iodine."

Each bottle contained about 115 c.c. (nearly 4 ounces) of a yellowish solution, acid in reaction, having an odor resembling witch hazel; its specific gravity at 25 C. was 0.9860. Qualitative tests indicated the presence of zinc, alcohol, sulphate, an iodin compound (the solution gave tests which indicated a very small amount of free iodin; most of the iodin was in the form of ordinary iodid), a small amount of vegetable extractives, and traces of aluminum and potassium. If any protein was present, it was in amounts too small to be identified, though a small amount of a nitrogenous compound was present. The amount of solids in "National Iodine Solution" was equivalent to 0.72 per cent. and the amount of ash, to 0.2 per cent. Quantitative estimations yielded the following:

Alcohol (by volume)	7.0 per cent.
Zinc (Zn^{++})	0.096 per cent.
Iodin (free and combined)	0.029 per cent.
Sulphate (SO_4^{--})	0.146 per cent.
Protein (N x 6.36)	0.012 per cent.

The above findings indicate that each 100 c.c. contains about 7 c.c. of alcohol, 0.5 gram of zinc sulphate U. S. P. ($ZnSO_4 + 7H_2O$.), 0.03 gram of iodin, 0.01 gram of protein (calculated as such from nitrogen times the factor 6.36) and some hamamelis water. Expressed in equivalent apothecary terms, each fluid ounce contains essentially:

Zinc sulphate	2⅓ grains
Iodin (free and combined)	⅛ grain
Protein	1/25 grain
Alcohol	34 minims

This amount of alcohol is equivalent to about 3½ fluid drams of witch hazel water. Although the label states that each fluid ounce contains three grains of "proteo-albuminoid compound of iodine," yet the sum of the protein (calculated from nitrogen content) and iodin components is equivalent to less than ⅕ grain.

"National Iodine Solution" appears to be very similar to "Gonocol (The National Drug Co., Philadelphia, Pa.)," which was analyzed by the Bureau of Chemistry of the U. S. Department of Agriculture. The bureau stated that "it [Gonocol] consisted essentially of an aqueous solution of zinc sulphate, hamamelis water, a small amount of alcohol, 0.38 grain of iodin, and 0.36 grain of protein per fluid ounce."

It is evident that "National Iodine Solution" is not a solution of free (elementary) iodin as the name suggests; instead it appears to be a solution of zinc sulphate in witch hazel water containing less than 0.03 per cent. of combined iodin and *not more than a trace of free iodin.* "National Iodine Solution" is one more to be added to that already long list of proprietaries which makes capital of the high esteem in which physicians hold iodin.

THE CLAIMS

An advertising circular sent to physicians begins:

"Dear Doctor: We beg to suggest a line of treatment while using National Iodine Solution which our many years of experience has proven to us to give the best and quickest results in the treatment of inflammation of the urethral tract . . ."

In it are given directions for the treatment of "acute gonorrhea, male," "anterior urethritis," "anterior-posterior urethritis," "ardor urinæ and chordee," etc., by means of National Iodine Solution and other proprietaries of the National Drug Company's make. In fact the solution is claimed to be "Indicated in All Conditions of Urethra Accompanied by a Discharge."

COMMENT AND CONCLUSIONS

The therapeutic claims made for "National Iodine Solution" are unwarranted. Such a solution is not indicated in all conditions of the urethra accompanied by discharge. The advice contained in the circular is equivalent to mail-order treatment of gonorrhea.

It is of interest to note that the claims for an identical or a similar solution prepared by the National Drug Company as a treatment for gonorrhea and intended for use by the laity, has been adjudged misbranded by the federal authorities (Notice of Judgment No. 8150, issued Jan. 25, 1921) in that it misled and deceived the purchaser or purchasers thereof in the statements regarding the therapeutic or curative effects of the article, which falsely and fraudulently represent it to be indicated in all conditions of the urethra accompanied with a discharge, "whereas in truth and in fact it was not."

The Council would emphasize that if physicians give heed to advertising such as that sent out by the National Drug Company for this preparation the medical profession cannot with good grace protest against the routine treatment of venereal diseases by quacks and "patent medicine" venders.

Correspondence

THE MEDICAL PROFESSION AND THE VOLSTEAD ACT

To the Editor:—The purpose of this letter is to bring to the attention of the physicians of the country the significance of recent and pending legislation affecting their liberty in the selection of remedies. While the restrictions of the Volstead Act form the basis of the letter, we wish distinctly to disclaim any intention of initiating among physicians a propaganda for or against prohibition. In fact, from the present point of view, it is immaterial whether a physician does or does not believe in prohibition. The point at issue is the right of the physician to select his remedies and to decide what doses of these remedies each patient requires.

The Volstead Act denies this right. While recognizing the medicinal value of alcohol, it says to the physician, "Thou shalt not give more than a pint of whisky (or brandy) to any patient within ten days." Further than this, recent interviews given by persons interested in promoting similar legislation contain the threat to prohibit altogether the medicinal use of alcohol. While there is difference of opinion among the physicians of the country with respect to the therapeutic value of alcohol, the number of those having faith in it is sufficiently large to receive attention.

The medical restrictions of the Volstead Act constitute an indictment of the integrity of the whole profession, in that it is assumed that many of its members, unless restrained by law, will pander for gain to the people's desire for drink.

Under the provisions of the Volstead Act, physicians who believe in the therapeutic use of alcohol are debarred from the practice of their profession with respect to patients who in their opinion require more than one pint of whisky (or brandy) within ten days (the equivalent of about 1½ ounces a day) since the statute states, "Any person violating the provisions of any permit . . . or who violates any of the provisions of the law shall be fined for the first offense. . . . If a permittee is guilty of wilfully violating the law . . . *permit will be revoked and will not be reissued to such person within one year thereafter*" [italics ours]. We have been told, however, at the office of the Prohibition Directory in New York City that he (the director) may, in his discretion, permit physicians to continue to treat patients who require alcohol.

Another provision of the Volstead Act reads that "Physicians may not prescribe liquor for their own personal use, and pharmacists should refuse to fill any such prescription presented to them." In other words, a physician who is ill and needs alcohol is prevented by law from obtaining it unless a fellow practitioner with a permit to prescribe it is near by.

In some sections of the country, especially in rural districts, it is impossible for physicians to prescribe alcohol, though they may hold licenses, because local conditions prevent druggists from carrying it in stock.

Further, it should be pointed out that the Volstead Act contains the most drastic legislation affecting the medical profession yet enacted. A physician becomes a criminal by the mere fact of writing a prescription for more than a pint of whisky for one patent within ten days, and, so far as the revocation of his permit is concerned, is denied his constitutional right of trial by jury. (This interpretation of the law is supported by competent legal opinion.) The law states that "After a permit has been revoked by the Commissioner, the permittee may have a review of the decision before a court of equity. During the pendency of such action such permit may be temporarily revoked."

The precedent established by the Volstead Act in restricting medical practice should, if physicians value their therapeutic liberty, be met with a protest which will command attention. Today it is alcohol, tomorrow it may be any remedy which falls under the ban.

We would suggest that the physicians of the country write to their Senators and Representatives in Congress in terms which leave no doubt with respect to their attitude concerning the regulation of therapeutic proceedure by statute.

CHARLES L. DANA, M.D., HARLOW BROOKS, M.D.,
SAMUEL A. BROWN, M.D., GEORGE B. WALLACE, M.D.,
SAMUEL W. LAMBERT, M.D., WALTER B. JAMES, M.D.,
ROBERT A. HATCHER, M.D. WARREN COLEMAN, M.D.,
HERMANN M. BIGGS, M.D., New York.

THE SHEPPARD-TOWNER BILL

To the Editor:—Dr. Oppenheimer, in her communication (THE JOURNAL, May 21, 1921, p. 1418), states the obvious fact that the Children's Bureau has eminent pediatricians as consultants, competent physicians and public health nurses; therefore, she concludes, it is the logical agency to take charge of expending millions for better obstetrics. She goes farther and asks the medical profession to back this bill as the best expedient so far suggested. Dr. Oppenheimer is a pediatrician and is certainly loyal to the Children's Bureau.

As an obstetrician vitally interested in better obstetrics and in educating the public in the necessity of demanding better obstetric care, I cannot accept with enthusiasm the provision of the bill that places the administration in the hands of the Children's Bureau. Pediatricians are not trained or equipped to give prenatal care, or to operate the obstetric requirements of the Sheppard-Towner bill. "A public health nurse and a consultation center" are powerless for good unless the public health nurse has had a thorough training in prenatal care and the consultation center contains a trained obstetrician.

The chief objection to this bill is that it cannot give what it promises if administered as proposed. The women of this country who are demanding this measure are doing so because they think that it promises better obstetrics. They are asking for bread, and while perhaps they would not receive a stone, at the same time the loaf promises very little nourishment, because it is to be administered by a bureau that minimizes the importance of obstetric care. This was brought out at the hearings on the bill. It is further emphasized by Dr. Oppenheimer directly and indirectly in her letter.

Her charge that Mrs. Putnam's objection is based on insufficient knowledge is perfectly ridiculous. The point is that Mrs. Putnam, who has taught the world the value of the prenatal nurse, knows that a division of hygiene composed largely of pediatricians is not equipped for the job of teaching the United States of America better obstetrics.

Place the administration of this bill in the hands of the Public Health Service—prejudiced neither for obstetrics, neglecting the child, nor for pediatrics, neglecting the mother; equipped for both, administered by broad minded, medically trained experts. Then the Sheppard-Towner Bill can keep its promise to the mothers of America.

JAMES LINCOLN HUNTINGTON, M.D., Boston.

PROTEOGENS IN SYPHILIS

To the Editor:—We have in this city a physician who has just begun a prison sentence for his second conviction for selling narcotics to addicts. Two of his patients came to me recently, with clear histories of syphilitic infections a year ago, and said he had been treating them with Proteogen No. 10, one injection every other day, for almost a year. Both these patients were four-plus to the Wassermann test, and one of them showed a papular crop of syphilids covering about two thirds of the entire skin area. The doctor had explained to the patient that this was a sign that the treatment was "driving it out" of the system.

The laboratory reports on these cases reached my office at the same time the mail brought a copy of the *Therapeutic Digest,* put out by the Cincinnati firm that manufactures "Proteogens," under the formula of Dr. Horovitz, who, if I remember correctly, is the Horovitz of the late "Autolysin" cancer cure. On the back page of this precious bit of advertising is a list of proteogens for everything from cancer to diabetes.

The tragedy of the whole thing is that here are two people at least who have been deprived of adequate treatment for a year, spending money for ignorance and fakery, getting worse instead of better and all because of the cupidity of these people, and their success in putting over, on some of the weak sisters of the profession, this pseudo-scientific bunk.

C. F. ENGELS, M.D., Tacoma, Wash.

[COMMENT.—Proteogens were the subject of an extensive report by the Council on Pharmacy and Chemistry which appeared in THE JOURNAL, July 12, 1919. The Council declared that all twelve of the Proteogens were inadmissible to New and Nonofficial Remedies because their composition is secret, because the therapeutic claims made for them are unwarranted and because the secrecy and complexity of their composition makes their use irrational. The "Dr." A. S. Horovitz, who is alleged to be the originator of the Proteogens, is not a physician. He is, as our correspondent says, alleged to be the originator of "Autolysin" exploited some years ago as a remedy for cancer and later shown to be worthless. The assertion has been made that Plantex—now called Proteogen No. 1—is similar to "Autolysin."—ED.]

LOCAL ANESTHESIA IN OPERATIONS FOR MASTOIDITIS

To the Editor:—Enthusiasts over one form of anesthesia too often possess an unforunate tendency to consider their special hobbies as perfection and all other forms as imperfect. E. E. Koebbe is no exception, as he endeavored in his recent paper (The Journal, May 14, 1921, p. 1334) to impress on your readers the awful defects of general anesthesia in goiter.

Under the "supervised" anesthesia used in the Navy, which permits the administration of anesthetics by anybody and everybody, usually an orderly or other nonmedical persons, the disadvantages claimed by Dr. Koebbe doubtless occur. If he will cease the employment of such unskilled and dangerous anesthetists and will employ physician experts he will discover that under their administration the operative field is not contaminated, no one but the patient will inhale the anesthetic, mucus will be prevented by premedication, falling tongue will be very rare and, should it occur, will be efficiently managed and pneumonia will not occur if the patient is protected from chill during and after operation.

As long as "supervised" anesthesia is inflicted on unfortunate gob and doughboy, the trouble experienced by Dr. Koebbe will continue. Only expert anesthesia will end it. Dr. Koebbe is, of course, not responsible for the type of anesthetist forced upon him by the U. S. Navy.

A. S. McCormick, M.D., Akron, Ohio.

REQUEST FOR DATA ON VARIOUS AUTHORS

To the Editor:—I desire data concerning:

A. B. Strong, author of "Illustrated Natural History" and "American Flora."

Edward H. Dixon, of New York (1808-1880), editor of the *Scalpel.*

Thomas L. Nichols (1820 ?—), early dietitian and hydrotherapist in New York.

Henry McMurtrie, who wrote "Sketches of Louisville and Its Environs."

I am also anxious for references in the literature to Alban Goldsmith's ovariotomy.

I shall be glad of the help of any of your readers.

Howard A. Kelly, M.D., Baltimore.

CONTAGIOUS DISEASES AND THE MEDICAL CURRICULUM

To the Editor:—From time to time suggestions are made regarding the curriculum of medical schools. May I add a suggestion from the standpoint of a health department.

Medical students see few or no cases of contagious diseases while in the schools, and with the exception of those who serve internship in county or municipal hospitals, even those with hospital experience see no contagious diseases. And yet, when the recent graduate commences practice, one of the most important classes of work he is likely to obtain as a family physician is caring for the children suffering from acute infectious diseases. We are seeing many cases of contagious diseases that are distinctly atypical, and the general textbook on medicine cannot possibly cover all points in the diagnosis.

We observe frequently cases of nephritis following undiagnosed cases of scarlet fever. In these cases no precaution in the way of diet and general management had been taken to safeguard the kidneys because the physician had not recognized the case, and naturally had not thought of taking these precautions.

In diphtheria the young graduate is too likely to expect to see a typical membrane before realizing that it might be diphtheria; and a certain percentage of cases are laryngeal from the first, or nasal, or at times may prove fatal, yet resemble nothing except a tonsillitis. Without a clinical experience the physician is not so likely to bear these possibilities in mind and take cultures early. Smallpox is often far removed from the picture given in textbooks and often is difficult to diagnose.

It is rather hard on a physician when starting in practice to make an incorrect diagnosis of a contagious disease. This may not be his fault, as he probably never has seen a case before. When a member of the health department comes along and diagnoses this case correctly, the family is too ready to believe that he does not know anything about medicine, whereby in reality he may be very well posted, and have fallen down because of lack of proper training while in the medical school.

It seems to many of us, in looking back over our days in college, that a great deal of the teaching was more to display the ability of the teacher than to give instruction to the student. A student observes a surgeon of experience operating in a selected case under most favorable conditions, with trained assistants, and gains the impression that it is an easy thing to perform major operations. If a student does not obtain hospital experience after graduating and before entering private practice, he is liable to attempt these operations with possibly disastrous results to the patient and to himself. Many of us believe that more attention should be paid to instructing students in the care of the commonplace diseases that are usually met in private practice, and less attention to handling cases which require special training.

J. W. Robinson, M.D., Los Angeles.
Deputy Health Officer, Los Angeles County.

"FALL OF BLOOD PRESSURE AFTER INJECTIONS OF NEO-ARSPHENAMIN"

To the Editor:—In The Journal, May 21, page 1419, Dr. J. Phillip Kanoky states that he "has found no mention in the literature of the effect on blood pressure following the intravenous use of neo-arsphenamin." On pages 387 and 399 of Harrison's "Venereal Diseases," Oxford Medical Press, the desired information may be found. Syphilographers are agreed that little alteration of the blood pressure occurs in syphilis. In the intravenous administration of neo-arsphenamin in the treatment of syphilis or of any other disease, the injection should invariably be preceded by determination of the blood pressure. Should this be low, the patient is in danger of reaction. In such cases the injection of epinephrin is prophylactically efficient.

John E. Luzadder, M.D., Bloomington, Ind.

"PUBLIC HEALTH ACTIVITY AND PRIVATE PRACTICE IN VENEREAL DISEASE CONTROL"

To the Editor:—In a contribution to The Journal, April 30, under the title of "Public Health Activity and Private Practice in Venereal Disease Control," Dr. J. H. Stokes has written of the efforts and wide publicity recently given to the prevention of venereal disease. So far as they apply to public education in sex hygiene, prophylaxis after exposure and legal measures seeking to control the infected, such as compulsory notification, and segregation, they have met with results of more or less promise. But however effective these efforts may be, they touch only a few of the phases of a many-sided problem. Dr. Stokes calls attention to another phase: the treatment of venereal disease in the hands of the practitioner, whether specialist or otherwise, whether in private or dispensary practice. Perhaps much less need be said of syphilis than of gonorrhea, the pariah of the genito-urinary specialist. Within the last fifteen years much has been done

) control promptly through treatment the contagious syphi-tic. While syphilis has enjoyed all the advantages of the ıvorite offspring the more effective treatment of gonorrhea as been almost completely neglected.

Since urology has become a well-defined specialty, the esponsibility devolves on the urologists to promote a better nderstanding of the processes at work in gonorrhea as well s improvement in its treatment. But the tendency to develop he surgical aspects of the specialty, to elucidate the patho-ogic physiology of urinary excretion, to refine technical pro-edures has apparently so diverted their interests that gonor-hea seldom has its day in court. On urologic programs it is arely in evidence, and, if present, is lightly touched on and lays a subordinate rôle. A dissertation on the subject con-ers little prestige and less honor: it may brand the aspiring cientific urologist as a "clap doctor," a position from which ıe will have difficulty in extricating himself.

Yet, if one were to consider what single practical factor vould contribute most to the prevention of the spread of gonorrhea, I believe that it would be the more critical and better treatment of the stage when it is nothing more than an acute anterior urethritis. Such improvement in treatment, when coupled with an attentive attitude and a conscientious sense of responsibility equally as great as that imposed by any grave surgical condition, will serve to bring the con-tagious elements of the disease under more prompt control, and will prevent those chronic complications which play such a large part in distributing it widely.

If "a fair demand is made of us, a demand that the medical practitioner . . . shall refuse to accept patients with syphilis and gonorrhea for treatment unless he has had an amount of training adequate for the work he attempts," then in the case of gonorrhea it becomes incumbent upon the urol-ogist as a specialist to give the early manifestations of this disease more serious attention and to accord it a place on his program which its importance warrants. If training is to be adequate, besides competence it implies interest on the part of the instructor.

MELVILLE SILVERBERG, M.D., San Francisco.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

METHOD OF PREPARING BODIES FOR DISSECTION

To the Editor:—Please give me in detail the most approved method of preparing subjects for dissection, including both method of preservation and that of injection of arteries and veins with coloring materials.

Department of Anatomy. T. D. MANSFIELD, M.D., Seoul, Korea.

To the Editor:—Please give formula for arterial injection in cadaver that will show color through the artery.

W. L. BROWN, M.D., El Paso, Texas.

ANSWER.—Embalming fluid consists of equal parts of denatured alcohol, crystalline phenol (carbolic acid) and glycerin, stirred thoroughly, and allowed to stand an hour or more. It is injected by T tube into the femoral artery, 7 quarts to each 150 pounds of body weight, under a gravity pressure of 3 or 4 feet. This takes a variable time. Inspection of the surface will show whether or not the fluid has entered any particular part. If it does not enter the other lower extremity, a cannula should be put into the femoral artery of that side also, and the fluid injected distally. If the fluid does not run well into the hands or feet, or if the body is greatly emaciated, a hollow needle, 18 inches long, is run distally under the skin of the extremity, and a pint or more of the fluid is injected slowly with a syringe into each of the extremities.

COLORING THE ARTERIES

A week after embalming, there is injected with a brass syringe, either (1) corn-starch, 90 parts, red lead, 10 parts, and hot water, about 210 parts (enough to make a suspension which is thoroughly fluid while hot), the injection being continued till the rubber tubing connecting the syringe with the cannula remains firm for a minute or two after pressure ceases, or (2) ultramarine blue, shellac and alcohol. This will require a month to "set."

STORAGE

Bodies should be stored in tanks containing either 3 per cent. phenol in water or liquid petrolatum. Good tanks may be made of concrete, reinforced, and finished so as to have a smooth, impermeable surface on the inside.

CARE DURING DISSECTION

Evaporation from the extremities may be prevented by covering them with petrolatum, tissue paper and gauze bandages. At the end of each day, the exposed parts should be covered with cloths wrung out of cold water, and the entire body covered with a sheet of oilcloth. Should any part tend to dry out or to become black, immersion over night in the 3 per cent. phenol tank will help.

The following references may be consulted:

Mall, F. P.: *Bull. Johns Hopkins Hosp.* **16**: 38, 1905.
Keiller, W.: *Am. J. Anat.* **2**: 7, 1902-1903.
Lusk, W. C.: *Anat. Rec.* **3**: 47, 1909.

LEWISOHN'S METHOD OF TRANSFUSION OF CITRATED BLOOD

To the Editor:—Please give, briefly, the technic of Lewisohn's sodium citrate method of blood transfusion. Please omit my name.

E. G., Arizona.

ANSWER.—Lewisohn claims that a minute dose—0.2 per cent.—of sodium citrate is sufficient to prevent coagulation of the blood for forty-eight hours, and that the maximal dose which can be injected safely intravenously into an adult is 5 gm. The technic of transfusion of citrated blood consists of taking the blood from the donor and injecting the citrated blood into the recipient. The outfit for a citrate transfusion consists of two glass ampules, each containing 50 c.c. of a 2.5 per cent. sterile solution of sodium citrate; two large graduated glass jars of 500 c.c. each; two small graduated glass jars of 50 c.c. each; one glass rod; one arsphenamin flask, and two cannulas—one large size and one medium size. The blood is obtained from the donor by puncture of one of his arm veins, after having previously been tested for syphilis and for hemolysis and agglutination. The average transfusion consists in transferring 500 c.c. of blood from donor to recipient. The ampule is emptied into one of the 50 c.c. jars. From this jar 25 c.c. is poured into the large glass jar. A tourniquet is applied to the donor's arm, and one of the prominent veins is punctured. The blood is mixed with citrate solution by gently stirring with a glass rod. After 250 c.c. of citrated blood is collected, the residual 25 c.c. required for the proper citration of 500 c.c. of blood is added. The cannula is then removed and the small puncture opening is covered with a piece of gauze. The introduction of the citrated blood into the recipient resembles an intravenous infusion. The vein is exposed, and the cannula is introduced and attached to an arsphenamin apparatus, and 50 c.c. of physiologic sodium chlorid solution is allowed to run in, immediately followed by the citrated blood, thus safely eliminating the air contained in the rubber tubing without wasting any of the donor's blood. The technic of blood transfusion is described fully in the Handbook of Therapy, American Medical Association Press, p. 722.

BLEACHING OF BONES

To the Editor:—Please let me know of a good method to bleach bones just removed from the body; or, rather, which substances are employed in dissecting-rooms to keep bones constantly white.

DR. JACINTO PEREZ, H., San Salvador, El Salvador, C. A.

ANSWER.—The best method for bleaching bones is to expose them to ether vapor. The bones are laid on a rack in a metal box containing ether. By means of heat, the ether is vaporized and the bones are bleached. Immersion in xylene or gasoline is a much cheaper method, but not so good as the first mentioned, because not all of the oil is removed from the bones thereby.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 12. Chairman, Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: Hartford, July 12-13. Sec., Regular Board, Dr. Robert L. Rowley, 79 Elm St., Hartford

CONNECTICUT: New Haven, July 12. Sec., Eclectic Board, Dr. James E. Hair, 730 State St., Bridgeport. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover.

FLORIDA: Jacksonville, June 13-14. Sec., Reg. Bd., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta, June 8-10. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 20-23. Supt. of Registration, Mr. F. C. Dodds, Springfield.

INDIANA: Indianapolis, July 12-14. Sec., Dr. Wm. T. Gott, 84 State House, Indianapolis.

IOWA: Iowa City, June 9-11. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 21-22. Sec., Dr. H. A. Dykes, Lebanon.

LOUISIANA: New Orleans, June 9-11. Sec.Treas., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

MAINE: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 140 Pine St., Portland.

MARYLAND: Baltimore, July 19. Sec., Regular Board, Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.

MASSACHUSETTS: Boston, July 12-14. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.

MICHIGAN: Ann Arbor, June 14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 7-9. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. W. S. Leathers, University.

MISSOURI: St. Louis, June 13-15. Act. Sec., M. E. Holliway, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEBRASKA: Lincoln, June 7-9. Sec., Dept. of Public Welfare, Mr. H. H. Antles, State House, Lincoln.

NEW JERSEY: Trenton, June 21-22. Sec., Dr. Alexander MacAlister, State House, Trenton.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. Kemp P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.

OREGON: Portland, July 5-7. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 5-9. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 7-8. Dr. Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

SOUTH DAKOTA: Deadwood, July 19-20. Director of Medical Licensure, Dr. H. R. Kenaston, Bonesteel.

TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

TEXAS: Austin, June 21-23. Sec., Dr. Thomas J. Crowe, 918-919 Dallas Co. Bank Bldg., Dallas.

VERMONT: Burlington, June 28-30. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 14-17. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

WASHINGTON: Olympia, July 12. Commissioner of Licensure, Mr. Wm. Melville, Olympia.

WEST VIRGINIA: Charleston, July 12. State Commissioner of Health, Dr. L. T. Vinson, Masonic Bldg., Charleston.

WISCONSIN: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

WYOMING: Cheyenne, June 6-8. Sec., Dr. J. D. Shingle, Citizens National Bank Bldg., Cheyenne.

Colorado January Examination

Dr. David A. Strickler, secretary, Colorado State Board of Medical Examiners, reports the written examination held at Denver, Jan. 4, 1921. The examination covered 8 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 17 candidates who took the physician's and surgeon's examination, 12, including 1 osteopath and 1 graduate of a dental school, passed, and 5 candidates, including 3 osteopaths, failed. Twenty-six candidates were licensed by reciprocity. One candidate was licensed on government credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery		(1911)	82.2
Johns Hopkins University		(1916)	94.3
Eclectic Medical University, Kansas City		(1917)	79.6
St. Louis College of Phys. and Surgs.		(1915) 76.2, (1920)	75.2, 78.5
Lincoln Medical College		(1908)	76.8
University of Pennsylvania		(1920)	82.5, 84.2
University of Berlin		(1913)*	86.1
	FAILED		
Kansas City College of Medicine and Surgery		(1920)	62.4
University of West Tennessee		(1918)	60
College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Colorado		(1913)	S. Dakota
Atlanta Medical College		(1916)	Georgia
American Medical Missionary College		(1910)	Nebraska
Jenner Medical College		(1910)	Illinois
Northwestern University		(1906)	New Jersey
Rush Medical College		(1893) Wisconsin, (1906)	S. Dakota
Iowa Medical College		(1885)	Iowa
Keokuk Medical College		(1902)	Iowa
Hospital College of Medicine, Louisville		(1906)	Kentucky
Kentucky School of Medicine		(1907)	Illinois, Indiana
Louisville Medical College		(1893) Utah, (1904)	Kentucky
University of Louisville		(1917)	Kentucky
Tufts College Medical School		(1910)	Maine
University of Minnesota Medical School		(1916)	Minnesota
Missouri Medical College		(1890) (1899) Missouri, (1895)	Washington
St. Louis College of Physicians and Surgeons		(1904)	Arkansas
Washington University Medical School		(1919)	Wisconsin
Jefferson Medical College		(1884)	Penna.
Memphis Hospital Medical College		(1900)	Louisiana
University of Texas		(1912), (1919)	Texas
College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Tufts College Medical School		(1917)	U. S. Navy

* Graduation not verified.

Alabama January Examination

Dr. Samuel W. Welch, chairman, Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, Jan. 11-14, 1921. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 7 candidates examined, 5 passed and 2 failed. Three candidates were licensed by reciprocity and 2 candidates were licensed on government credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Birmingham Medical College		(1915)	89.5
New York Homeopathic Medical College and Hosp.		(1899)	88.7
Jefferson Medical College		(1920)	89.6
Vanderbilt University		(1920)	86.8
University of Virginia		(1920)	91.9
	FAILED		
Birmingham Medical College		(1915)	73.7
Georgia College of Eclectic Medicine and Surgery		(1913)	61.7
College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Hospital College of Medicine, Louisville		(1903)	Kentucky
Memphis Hospital Medical College		(1912)	Mississippi
University of Tennessee		(1891)	Mississippi
College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
University of the City of New York		(1890)	U. S. Navy
University of Tennessee		(1916)	U. S. Army

Minnesota January Examination

Dr. Thomas S. McDavitt, secretary, Minnesota State Board of Medical Examiners, reports the oral, written and practical examination held at Minneapolis, Jan. 4-6, 1921. The examination covered 15 subjects and included 80 questions. An average of 75 per cent. was required to pass. Twenty-eight candidates were examined, all of whom passed. Two candidates were licensed on certificates from the National Board of Medical Examiners. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
George Washington University		(1909)	81.3
Rush Medical College		(1916)	88
Harvard University		(1878) 78.5, (1919)	87.5
University of Minnesota		(1920)*	78.5, 84.8, 85.7, 86, 87.4, 87.9, 88.1, 88.4, 88.5, 88.6, 88.8, 89, 89.2, 89.3, 89.4, 89.5, 89.6, 89.8, 89.8, 89.9, 90.8, 91.3, 91.6, 92.7
College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Hahnemann Medical College and Hospital, Chicago		(1920)	Illinois
Rush Medical College		(1912) Illinois, (1915)	S. Dakota
University of Illinois		(1918), (1920)	Illinois
Indiana University		(1908)	Indiana
Milwaukee Medical College		(1903), (1910)	N. Dakota
College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement of
Northwestern University		(1917)	Natl. Bd. Med. Ex.
Rush Medical College		(1919)	Natl. Bd. Med. Ex.

* These candidates have finished the medical course, and received their M.B. degrees and will obtain the M.D. degree after they have completed a year's internship in a hospital.

Social Medicine and Medical Economics

OCCUPATION THERAPY

W. GILMAN THOMPSON, M.D.
Professor of Medicine Emeritus, Cornell University Medical College
NEW YORK

Before the war, so-called "occupation therapy" was extensively practiced in the treatment of insane, tuberculous and neurasthenic patients and, to some extent, for chronic cardiac cases; but for general medical and surgical cases it cannot be said to have won a distinctly recognized position as an important therapeutic measure.

As a definite outcome of the war, however, it became necessary to provide gainful employment for enormous numbers of physically handicapped men returning to civil life. This resulted in the development in the British and Canadian, but notably in the French army, of an elaborate system of reconstruction hospitals which proved so surprisingly successful that it is now being introduced in varying degree into our general hospitals.

It is difficult to define occupation therapy in concise terms, but in general it may be said to refer to any productive work designed to lessen the patient's period of disability, whether the disability be caused by injury or disease. It possesses thus a distinct advantage over a mere game or other form of mental and physical diversion. A game, like checkers, for example, may divert the patient's mind from his ailment and promote recovery to such degree as the mind controls the body; but when the game is over, nothing remains. On the other hand, true occupation therapy involves *production*, i. e., making some product of more or less value which grows from day to day, and thereby much further interests and encourages the patient. This adjunct to medical and surgical treatment presents three phases: 1. If properly supervised by the physician or surgeon, it may be used to exercise disabled muscles, nerves or joints, and increase their function. 2. It diverts the patient's mind from his ailment and encourages him to do more and more for himself. 3. It may be utilized in many instances as a means of earning, while still handicapped and undergoing treatment, as I shall presently point out. It thus may acquire considerable economic importance.

Occupation therapy may be employed independently for any or all of the foregoing purposes, or it may be so directed from the outset as to merge into "vocational training," which may be defined as teaching the disabled patient some trade or occupation which he intends to follow continuously as a means of livelihood. To take a concrete example, a right-handed man, whose right hand is seriously crippled through cicatricial contracture following a burn, may be taught by means of occupation therapy to acquire increasing dexterity with the left hand, as in painting wooden toys or using a typewriter. He does not expect to remain a painter or a typist, but having acquired sufficient dexterity, he may take a course of vocational training in electric arc welding and secure a well paying job. This is a peculiarly well adapted trade, for the stick of solder may be held steadily in a crippled hand while the electric "torch" is manipulated with necessary dexterity by the other hand. Hence it is highly desirable that occupation therapy should be directed intelligently and prescribed with definite purpose. The time element with every industrial cripple is most important. He must never be permitted to lapse into a state of discouragement, or he may easily assume an attitude of hopeless dependence. Moreover, the "compensation" payments awarded under state statutes for treatment are for a limited period, depending, of course, on the original extent of the injury, and for every economic reason he must be restored to work as soon as may be.

The occupations which in this country thus far have received most favor may be divided into: First, those which are available while the patient is still in bed, convalescing after an injury or from a disease; such are making bead necklaces, weaving belts or suspenders, using a small portable typewriter, or making small baskets. Second, those which are followed when the patient is up and about, either walking or in a wheel chair; such are making toys, boxes, etc., with a jig saw, leather stamping, making larger baskets, painting various fancy articles, weaving blankets or rugs, and pottery molding. Such occupations are soon taught, are interesting and the articles produced may be of real usefulness and often of considerable artistic merit. None of them, however, are likely to offer fields of permanent employment, and it is to the more serious occupations of the vocational school that the patient must turn if he is to be taught a wage earning trade, provided always that he has been so injured as to be unfit to return to his original work. Among the favorite vocational trades may be reckoned linotyping, zinc plating, making artificial limbs, electric arc welding and some phases of "movie" production or exhibition. Some of these trades, moreover, may be available only for those whose lower limbs are handicapped, not the upper limbs.

OCCUPATION THERAPY FOR THE CONVALESCENT

Quite different from occupation therapy for the injured is the problem how far it may be useful for the convalescent from an acute disease. Many general hospitals are now opening occupation therapy departments more or less at random or in an experimental way. In such cases statistics show that the average duration of stay in the hospital, for each patient, is about three weeks: not time enough to learn to complete many of the usual "occupation" products. Take, for instance, the ordinary case of a poor woman recovering from a mild pneumonia. She has four small children at home, "keeps house" and is on her feet all day long over the washtub, range or cradle. She never knew a real day's rest in her life. How absurd to hurry her out of bed to keep her "occupied"! The one thing she needs is rest and plenty of it. Or, if diversion is required, any kind hearted person might sit down by her bedside and play checkers with her, without putting the hospital to the expense of providing materials and a teacher of occupation therapy. On the other hand, it may do some neurasthenic patient good to learn to make a few simple baskets to take home to show with pride to her friends. But all this sort of thing is more or less of an amateurish type. What I wish to emphasize is that a hospital organization desiring to install an occupation therapy department should, before going into the expense of providing rooms, materials and teachers, determine the actual needs of the situation. Furthermore, the active interest and cooperation, of both the medical staff and the social service department, are essential if time and money are not to be wasted. There should be, by now, sufficient experience available on which to base more systematized work. It should be determined more definitely what kinds of "occupation" are best adapted for what groups of cases, and particularly whether some special kind of article may not be produced having real value and acquiring a reputation so that the occupation therapy department may be made self-supporting. Records should be tabulated showing the results of all "occupation" work, and through a "follow-up" system a better idea should be obtainable as to how much it all really amounts to. Thus might one refute the opinion expressed to me recently by a member of the board of education connected with the trade schools that "the whole thing is a passing fad which will be over in ten years at most." I myself dissent from this opinion, and believe that occupation therapy, now in a formative stage as regards system, has

come to stay and prove of increasing benefit. But this can result only from cooperation among those interested, and comparison of results. Without constant oversight and support from the physician and surgeon it is doomed to ultimate failure, and without coordination, in many instances with subsequent vocational training, it will fall far short of its best results.

It should be emphasized also that much depends on the personality of the instructor, and the ability to deal with difficult patients tactfully. Many an industrial employee who has worked hard all his life, perhaps with heavy machinery, sees no reason why he should be invited to string beads or paint a yellow tomcat for a toy! Why, he thinks, should he not enjoy to the full his leisure, lounge about in the corridor smoking surreptitious cigarets and comparing his accident with that of his neighbor? This, in fact, is what he is left to do in many of our general hospitals. With the maimed soldier, undergoing reconstruction treatment and drawing good pay from the government meanwhile, the occupation system is often still more difficult to carry on.

THE RECONSTRUCTION HOSPITAL

These problems we have quite successfully solved in the newly reorganized Reconstruction Hospital at One Hundredth Street and Central Park West, New York City. This institution began more than two years ago as a war service under the name of the Clinic for Functional Reeducation for the rehabilitation of the disabled soldiers, sailors and marines, and more than 3,300 patients already have been treated. From the outset many industrial accident cases also have been treated, and thus an unusual opportunity was presented of developing occupation therapy with patients of varied classes. Recently the organization of the Demilt Dispensary and the Park Hospital (formerly the Red Cross Hospital) have joined forces with the clinic and been reincorporated with it under the title the Reconstruction Hospital, where the lessons learned through war service are to be applied for the treatment of industrial accident cases by means of operation, physiotherapy and occupation therapy. An affiliation also has been created with the Institute for Crippled and Disabled Men, which is devoted to vocational training, thus bringing four institutions together for the purpose of furnishing a complete and logical system of treatment.

I have referred to the economic phase of occupation therapy, meaning adaptation of the work to making salable products of considerable value. In the Reconstruction Hospital the patient is taught to make articles, such, for example, as woven woolen blankets, garden baskets, scrap baskets and tea trays, which are disposed of at periodic sales, and the money received is given to the patient, only the cost of materials being deducted and a small percentage applied toward the salaries of the expert instructors. The complete system is as follows: The injured patient receives first aid treatment and undergoes any subsequent operation that may be necessary. While in bed his occupation therapy is begun, and he no longer regards stringing a bead necklace or belt as below his dignity when he learns that he can earn $10 or $15 by its sale toward the support of his family. When able to be out of bed he goes into the occupation therapy rooms where more advanced or heavier work is provided for him, always under the general supervision of one of the surgical staff and the direction of an expert teacher. When his physical rehabilitation is completed he is referred to the vocational training department, where he may be fitted for a permanent trade and the employment department endeavors to place him with an employer. In case the patient is an ambulant one not requiring hospital bed care, but living at home, a "follow-up" system is operated through cooperation with the social service department to see that he does not waste his time, for there is little use in expending so much effort unless the ultimate goal is reached, of *putting the injured man back on the job* with the least possible delay.

CONCLUSION

I would emphasize again the fact that if occupation therapy is to be of enduring service it must be prescribed and supervised with as much care by the physician and surgeon as that bestowed on any branch of physiotherapy. Where the service is sufficiently large to warrant it, it would be well to appoint a visiting psychiatrist to study the patient's mentality and personal equation toward the end of selecting for him such occupation as he may best be adapted for. This was done in some of the French reconstruction hospitals with decided advantage to all concerned.

Meanwhile, better cooperation should exist between the institutions concerned in providing occupation therapy toward the end of standardizing methods and making marketable products.

142 East Sixty-Second Street.

Book Notices

Epidemic Respiratory Disease. The Pneumonias and Other Infections of the Respiratory Tract Accompanying Influenza and Measles. By Eugene L. Opie, M.D., Colonel, M. R. C., U. S. Army, Professor of Pathology, Washington University School of Medicine; Francis G. Blake, M.D., Major, M. R. C., U. S. Army, Associate Member of the Rockefeller Institute for Medical Research; James C. Small, M.D., Bacteriologist, Philadelphia General Hospital, and Thomas M. Rivers, M.D., Associate in Bacteriology, Johns Hopkins University. Cloth. Price, $6.50. Pp. 402, with 33 illustrations. St. Louis: C. V. Mosby Company, 1921.

This book deals with the bacteriology and pathologic anatomy of the respiratory infections, especially pneumonia, accompanying influenza and measles. It is based on observations made by the authors while in the army and assigned to the study of the pneumonias prevalent in Camp Funston and Camp Pike, and on studies of the lesions later in the pathologic laboratory of Washington University School of Medicine. There are seven chapters and an appendix. In Chapter 1, Blake, Rivers, and Small discuss the etiology of influenza, and they conclude that "consideration of all the evidence available makes it seem highly probable that *B. influenzae* is the specific etiologic agent of epidemic influenza," a conclusion that has not received any support by subsequent investigations. Chapter 2 (Blake and Rivers) deals with clinical features of influenza and the bacteriology of the associated bronchitis and pneumonia, and in Chapter 3 the four authors discuss secondary infection in the ward treatment of influenza and pneumonia. Chapter 4 (Opie, Blake and Rivers) takes up the pathologic anatomy (the authors have it "pathology," which is using the word in a narrower sense than it should have) and bacteriology of pneumonia after influenza. Chapters 5 and 6 are devoted to secondary infection in the ward treatment of measles and to the pathologic anatomy and bacteriology of pneumonia following measles. Chapter 7, by Opie, gives a summary of the work and conclusions. The appendix contains an account of the experimental inoculation of monkeys with influenza bacilli and other organisms. The work is of special interest to all students of acute respiratory infections of an epidemic nature; it emphasizes the value of postmortem examinations in the understanding of such diseases; and the compelling necessity of isolation and special care to prevent the spread of infection in the treatment of streptococcus and other forms of pneumonia. Special provisions must be made in military and similar hospitals to avoid overcrowding, and the physicians in charge should have special instruction and training in the organization and conduct of wards for pneumonia of all forms. Finally, it may be pointed out that there is still much to learn concerning the clinical manifestations of the different kinds of pneumonia, and that there is abundant room, and even demand, for the time-honored method of comparing the clinical course

of the disease with the changes found at necropsies, supplemented by bacteriologic studies and other forms of investigation during life as well as after death.

ÄERZTE-BRIEFE AUS VIER JAHRHUNDERTEN. Herausgegeben von Dr. Med. Erich Ebstein. Paper. Price, 14 marks. Pp. 204, with illustrations. Berlin: Julius Springer, 1920.

Among the many hobbies to which physicians devote themselves and their spare time is that of collecting. Some collect large fees, more collect bad debts, many collect low golf scores, and a few collect items of medical historical interest, such as first editions of rare medical books, and pictures. Dr. Ebstein collects autographs and original letters of famous physicians. In his preface he calls attention to the fact that Prof. Dr. Ludwig Darmstaedter collected a large number of important letters which he presented to the library in Berlin, and that this collection now totals from 50,000 to 60,000 letters, the catalogue alone occupying 997 pages. From various sources, Dr. Ebstein has gathered the interesting letters occupying this volume. They are presented in the language in which they were originally written, most of them in German, but many, such as those by William Harvey, Edward Jenner, Charles Bell, William Beaumont and Joseph Lister, in English. There are also a number of important French and Italian names among the letters presented. The book opens with a statement by Paracelsus in Latin dated about 1563. There follows a letter from Vesalius to Gasser on the subject of aneurysm. Falloppia writes in 1548 to Cosimo accepting an appointment at Pisa. William Harvey writes to Lord Fielding in 1636 and to a physician of Haarlem in 1657, a year before his death:

An Dr. J. Vlackveld, Arzt in Haarlem

Learned Sir,—Your much esteemed letter reached me safely, in which you not only exhibit your kind consideration of me, but display a singular zeal in the cultivation of our art.

It is even so. Nature is nowhere accustomed more openly to display her secret mysteries than in cases where she shows traces of her workings apart from the beaten path; nor is there any better way to advance the proper practice of medicine than to give our minds to the discovery of the usual law of nature, by careful investigation of cases of rarer forms of disease. For it has been found in almost all things, that what they contain of useful or of applicable, is hardly perceived unless we are deprived of them, or they become deranged in some way. The case of the plasterer to which you refer is indeed a curious one and might supply a text for a lengthened commentary by way of illustration. But it is in vain that you apply the spur to urge me, at my present age, not mature merely but declining, to gird myself for any new investigation; for I now consider myself entitled to my discharge from duty. It will, however, always be a pleasant sight to see distinguished men like yourself engaged in this honourable arena. Farewell, most learned sir, and whatever you do, still love

Yours, most respectfully,

London, April 24, 1657. WILLIAM HARVEY.

The only American letter—although there is one from Paul Ehrlich to Christian Herter—is the following example by William Beaumont:

United States of America,
City of New York, 17th April, 1833.

Stockholm, Sweden.

Prof. Jacob Berzelius,

Sir: I do myself the honour, at the suggestion of your worthy and scientific friend and correspondent, Prof. Silliman, of transmitting for your consideration the accompanying papers and a quantity of pure gastric juice taken from the Stomach of a man in perfect health and vigor, and doubt not the importance of the subject and the interest it may excite will be sufficient apology for thus obtruding upon your notice. Profr. Silliman's communication will suggest to you the general nature and importance of the subject.

From the accompanying number of the Medical Recorder, Page 14th and sequel, you may learn the origin and early history of the case, and in the following pages of this sheet I shall endeavour to give you a concise view of what has been seen and done by way of experiments and observation on the Gastric fluid and functions of Digestion. [Describes the accident and the nature of the wound.]

The Gastric juice I sent you is also extracted this way through an appropriate caoutchouc tube; not in free and abundant quantities, but by slow distillations from the very minute papillae of the surface of the villous membrane—requiring much time, patience and address to obtain it in small quantity. Not more than 1½ or 2 oz. can be extracted after lasting for any period, and even this quantity requires 25, 30 or more minutes for its extraction. Numerous experiments and observations have been made in this case within the last two or three years upon the process of digestion and the chymefication of different kinds of aliments, both in the Stomach and out of it. The relative solubility in this Gastric fluid of many kinds of alimentary substances, both animal and vegetable, have been fairly tested, the comparative time and different facility of chymefication ascertained, and the natural and varying temperature of the system determined by accurate observations of the Thermometer, placed in the cavity of the Stomach, during abstinence and repletion. Various kinds of alimentary substances have been submitted to the action of this fluid, and it is found capable of completely dissolving them all, out of the stomach, when contained in a glass phial and placed upon a sand bath of the temperature of the Stomach—100 Fahr. Even solid bone, cartilage, tendon down to the softest textured aliments are completely chymefied and dissolved when submitted to the Gastric juice in bottles and kept agitated in a temperature equal to the natural warmth of the stomach; varying however, in rapidity and perfection in proportion to the healthfulness of the secretion, purity of the gastric fluid, and the solidity, quality and peculiar nature of the aliment. Thus artificial chymefication of many kinds of food in this peculiar fluid has been fairly demonstrated, its powerfully solvent and antiseptic properties clearly ascertained and proven. But its accurate chemical analysis has not yet been accomplished, though several quantities have been submitted to some of the most eminent practical chemists of the United States. None have yet been able to obtain complete and satisfactory results.—Profr. Robley Dunglison, of the University of Virginia, is the only one who has fairly approximated or made returns of anything useful and important on this subject. Profr. Silliman has now, for the first time, a quantity under examination, from the investigation of which highly important results are anticipated.

For the 5 or 6 month last past I have been prosecuting a series of experiments and observations on the subject of Digestion by this Gastric fluid under the patronage of the Medical Departments of the Government, the results of which are now preparing, and will probably be published in the course of the ensuing autumn or winter, or so soon as an accurate and satisfactory analysis of this fluid, if it be practicable, can be obtained.

Should the subject be worthy of your notice, and the accompanying fluids and documents merit your attention, and you be so happy as to succeed in obtaining satisfactory analysis of it, I do most earnestly and respectfully desire and shall be greatly obliged to you to communicate the results of your investigations, soon as convenient, either to Profr. Silliman at New Haven, Ct., or to me, in the City of New York, by doing which you will doubtless confer a signal benefit on the American Medical public, greatly promote the cause of science, and confer honour and enduring obligation upon,

Your most respectful and obedient servant,

WM. BEAUMONT.

P. S. The man will continue with me. Should more of the fluid be required to complete the investigation and analysis, it will be rapidly transmitted upon the earliest indication from you. Any suggestion you may please to make will be happily recd. and attended to.

Much of the correspondence concerns Albrecht Haller and his colleagues. As one turns the pages and obtains a glimpse into the lives and sentiments of these great men of the past, he can only wish that the collection of letters were larger. The presentation, giving a brief biography of the physician, and frequently a personal photograph or facsimile reproduction of the letter, is all that one could desire.

THE SYMPATHETIC NERVOUS SYSTEM IN DISEASE. By W. Langon Brown, M.A., M.D., F.R.C.P., Physician with Charge of Outpatients, St. Bartholomew's Hospital. Cloth. Price, $4.25. Pp. 161, with illustrations. New York: Oxford University Press, 1920.

For the average practitioner the sympathetic system probably is not only a *terra incognita* but also a territory which he has no intention of invading. And yet the relations of this system to many organs and functions are intimate and important. Further, its relations to many diseases and disorders are gradually being recognized and evaluated. This little book is an excellent, up-to-date résumé of these manifold relations, as regards both normal and abnormal processes, and every practitioner will find something of interest, and probably of value, bearing on his daily work. The relations of the sympathetic nervous system to the endocrines and their disorders, to glycosuria, to the alimentary canal, to gastric and esophageal spasm, to digestion, to reflex dyspepsia and hyperchlorhydria and, of course, to diseases of the circulatory system, are some of the topics covered. The author believes that vagotonia has not been shown to be a clinical entity and that surgical shock is not a vasomotor disorder.

THE ESSENTIALS OF HISTOLOGY, DESCRIPTIVE AND PRACTICAL. For the Use of Students. By Sir Edward Sharpey Schafer, F.R.S., Professor of Physiology in the University of Edinburgh. Eleventh edition. Cloth. Price, $4.50. Pp. 577, with 720 illustrations. Philadelphia: Lea & Febiger, 1920.

The study of histology is fundamental. In it is revealed the real nature of living tissue. In gross anatomy the student sees the large parts of a machine; in physiology he sees it work. But the working is usually a process of destruction. It is a decomposition of substance liberating energy. It is spectacular and catches the eye. But dead matter decomposes. Only synthesis is vital. Only living matter reforms the substances destroyed in work, stores them up and grows. This process is hidden, silent and slow; but it is the real vital process. He who would understand living matter, its working and its changes in disease must study this, and he studies it in histology and embryology. Therefore these are fundamental; they inform all biologic study. The teacher or

author who leads a student to see in the structure of tissues these processes imparts to them scientific life. He who does not defrauds them. The author of this book, who was formerly president of the British Association for the Advancement of Scicnce, takes the dynamic view. Throughout, he shows how the processes of growth and development go on. Perhaps that is one reason why the eleventh edition is demanded. This edition differs very little from the tenth: a few illustrations are replaced by others, some on cell structure, the elements in the blood, the pituitary gland, etc., and a few paragraphs have been added and some modified in accordance with recent research. It is twelve pages longer than the tenth edition. The book has always been limited to "essentials," but abundance of good illustrations are rightly regarded as essential. There are 720 of them in the 577 pages of text. There are constant references to fresh material with suggestions as to methods of study, to fresh material with encouraged to follow the easy road to reliable knowledge and learn by looking at the actual things. During many years the book has been of real service to students, and has evidently been appreciated.

Prophylaxe und Therapie der Kinderkrankheiten mit Besonderer Berücksichtigung der Ernährung, Pflege und Erziehung des Gesunden und Kranken Kindes Nebst Therapeutischer Technik, Arzneimittellehre und Heilstättenverzeichnis. Von Prof. Dr. F. Göppert, Direktor der Universitätskinderklinik in Göttingen und Prof. Dr. L. Langstein, Direcktor des Kaiserin Auguste Victoria Hauses zur Bekämpfung der Säuglingssterblichkeit im Deutschen Reiche in Berlin-Charlottenburg. Paper. Price, 36 marks. Pp. 607, with 37 illustrations. Berlin: Julius Springer, 920.

This book aims to show how the choice of treatment is influenced by various conditions. The authors state that they were guided particularly by personal views and experience. This is more or less evident on perusal of the text, which contains a sufficient number of rather apodictic statements which would be hard to support, as, for instance, the statement that it is always wrong to obtain obedience by reasoning. The book contains much that is good. It pays attention to the physical means necessary for the proper development of the child and for the correction of faults. The methods of treatment advocated in the various diseases are standard methods, and a fairly extensive armamentarium of drugs is given. In places, rather important methods are omitted. It is necessary to mention only a few examples: Oxygen is administered by a mask or funnel, or by tube into the stomach or rectum. It is much simpler and of greater advantage to introduce the delivery tube directly into the mouth. Furthermore, the methods of artificial respiration, introduced by Meltzer and others, should not be omitted. The treatment of pylorospasms by thick cereal feeding is too important to be disregarded. The administration of fluid by the intraperitoneal route should be given. Whether the methods employed in the treatment of patients with various diseases always meet the approval of the reader or not, the book is welcome, as it is devoted to treatment, and gives the methods which it advocates in a manner easily understood. A list of institutions devoted to the care of children is appended. It comprises Germany, Austria and Switzerland. This list is of not much use to the American physician, but there is urgent need of having such information easily accessible.

Vitamines: Essential Food Factors. By Benjamin Harrow, Ph.D., Associate in Physiological Chemistry, College of Physicians and Surgeons, Columbia University. Cloth. Price, $2.50 net. Pp. 219. New York: E. P. Dutton & Company, 1921.

This is a popular presentation of the subject of vitamins, which is now apparently attracting as much attention from the lay public as from the medical profession. The style is popular and should be easily understood by any reader intelligent enough to be interested in the subject. It contains a fair presentation of what is now known about vitamins and also a consideration of the other factors of diet, and is complete enough to be of value also to the physician. The author has avoided the usual temptation in popular works of this sort to be dramatic or to stretch the facts, and hence can be recommended to patients who ask for a source of information on this popular topic. For the physician, value is added by the insertion of a section on references, giving the sources of the latest literature.

Medicolegal

Relation Between Physicians and Roentgenologists

(Runyan et al. v. Goodrum (Ark.), Feb. 21, 1921)

The Supreme Court of Arkansas not only reverses a judgment for $25,000 damages that was rendered in favor of plaintiff Goodrum for roentgen-ray injuries, but it also dismisses the case. The court says that it was alleged that the defendants were partners in the general practice of medicine and surgery, and that they owned and operated a hospital which had a roentgen-ray department under the supervision of a roentgenologist who was a physician and was assisted by a Miss Green that he said was as competent as he was, although she was not a physician. The plaintiff was a patient of the defendants at the hospital, and was seriously burned in the operation of the roentgen-ray machine by Miss Green. This gave rise to the important question whether, in an action by a patient against physicians and surgeons to recover damages for their alleged malpractice, caused by the alleged negligence of a roentgenologist whom they had employed to assist them, such specialist stands in the same relation to the physicians who employed him as if he had been another physician employed to give the patient necessary attention in their absence. No case was cited, and the court itself found none, deciding that exact question. But the court concludes that, because the science of roentgenology is so interrelated with the sciences of medicine and surgery in the diagnosis and treatment of human diseases, it should be classed in the same category with those sciences, and the roentgenologist must be placed in the same class with the physician and surgeon because of the peculiar knowledge and technic that he must possess, and because in the practice of his profession such knowledge and technic are dedicated almost exclusively to the aid of the physician and surgeon in the diagnosis and treatment of diseases of the human body. Furthermore, the roentgenologist, like the physician and surgeon, unless he expressly contracts to produce certain results, has the right to, and must at all times, act according to his independent judgment and discretion in the exercise of his skill and learning in the treatment of human diseases. The very nature of his profession and the character of his contract of employment involves this right. Such being the case, it follows that the relation of master and servant cannot exist between physicians and surgeons who are not roentgen-ray specialists themselves and the roentgen-ray specialist, or roentgenologist, whom they employ to assist them in the diagnosis and treatment of diseases. The fact that the roentgen-ray specialist for whose negligence recovery of damages was sought was working at the defendants' hospital in the roentgen-ray department equipped by the defendants for such work did not affect the character of employment between the defendants and Miss Green so far as the performance of her work was concerned. For illustration, would the Mayos, in whose roentgen-ray department more than 50,000 patients were examined in one year, be liable to any of these patients in damages for injuries caused by the negligence of their roentgenologists, because of the fact that they were maintaining a roentgen-ray department at their institution fully equipped by themselves instead of committing that work to roentgen-ray specialists on the outside? The court is convinced that they would not be liable unless they had been negligent, that is, had failed to exercise ordinary care to employ competent roentgenologists, and to furnish the proper apparatus. The difference between the Mayos and the defendants in these respects was only in numbers. Wherefore, it being admitted that Miss Green was competent, although she was not a graduate of medicine, the court holds that the defendants were not liable for her alleged negligence.

The next questions were: Was the screen used by Miss Green for making fluoroscopic examinations of the plaintiff defective, and, if so, were the defendants negligent in failing to exercise ordinary care to furnish a perfect screen, and was such negligence, if any, the proximate cause of the injury? The principles of law applicable to the facts of the case are well established. Since the defendants maintained a roentgen-

ray department at the hospital, it was their duty to exercise ordinary care to see that this department was equipped with such apparatus as was generally approved by roentgenologists as best adapted for the proper diagnosis and treatment of diseases; also, to exercise such care to provide competent specialists to do the work in that department. Ordinary care for the successful management of such institution means a very high degree of care because it has to do with the lives and health of human beings. The roentgen-ray machine of the highest type and manipulated by a competent expert is of inestimable value to mankind, but otherwise it is an exceedingly dangerous agency. This duty of the defendants to exercise ordinary care to employ competent roentgenologists and provide safe apparatus for their roentgen-ray department could not be delegated to another. If, therefore, there was in use in the defendants' roentgen-ray department a defective screen, which the defendants or their chief roentgenologist knew to be defective, or by the exercise of ordinary care should have known to the defective, and if the use of such defective screen was the proximate cause of the injury to the plaintiff, then the defendants were liable to her in damages. The chief roentgenologist, so far as the duty of furnishing the necessary apparatus was concerned, was the agent of the defendants, and his knowledge was their knowledge. For this purpose he was at all times under the immediate control of the defendants and could not exercise his independent judgment and discretion. But he manifestly did not regard the screen unsafe or dangerous, even though it might cause additional exposures. The jury should not be allowed to speculate on probabilities in the face of the positive testimony of the witness that he did not consider the machine unsafe or dangerous. Moreover, the court is of the opinion that, whatever may have been the defect in the screen, it was not the proximate cause of the injury to the plaintiff.

Nor does the doctrine of *res ipsa loquitur,* or the matter speaks for itself, apply in such cases, because the testimony showed that on account of the idiosyncrasies of the roentgen-ray machine one person of a certain type and temperament would be susceptible to a burn while another person of a different type, under the same circumstances, would not be burned. Moreover, it was shown that burns do occasionally occur, in the ordinary course of the exposure, in spite of the highest diligence and skill to prevent them.

No doubt the jury believed, and it was justified in believing, that Miss Green became interested and absorbed in explaining the mysteries of her science and art to the mother and father of the plaintiff, and thus unconsciously let the time go by for thirty or forty minutes while, with disastrous effect, the rays were penetrating the back of the plaintiff; but, while the occurrence was most unfortunate and deplorable, it follows from what has been said that the defendants were not liable.

An Invalid Ordinance Relative to Vaccination

(Tones et al. v. Independent School District of Des Moines et al. (Iowa), 180 N. W. R. 157)

The Supreme Court of Iowa says that on Aug. 18, 1918, the city council of the city of Des Moines, under the title of "An ordinance requiring the vaccination of schoolchildren and providing for rules, regulations and penalties for its violation," enacted an ordinance which provided:

> SECTION 1. It shall be unlawful for any teacher or person in charge of any of the public or private schools of the city to admit therein any pupil until such pupil shall have proved to the satisfaction of the local board of health, or the person selected by it for that purpose, that such pupil has been successfully vaccinated within five years prior thereto, or within such time as the local board of health may designate.

Section 2 made it the duty of the officers of the local board of health to promulgate the necessary rules and regulations for carrying out the terms of said ordinance; and Section 3 made the violation thereof a misdemeanor punishable by a fine not exceeding $100 or imprisonment for a period not exceeding thirty days.

Section 681 of the Iowa Code of 1897 provides that "no ordinance shall contain more than one subject, which shall be clearly expressed in its title." A casual examination of Section 1 of this ordinance discloses that it contains no provision requiring the vaccination of schoolchildren, but that it makes it unlawful for any teacher or other person in charge thereof to permit schoolchildren to enter or attend the public schools who failed to produce a satisfactory certificate of successful vaccination within the period stated. Not only does the title fail to express clearly the subject of the ordinance, but it is wholly inconsistent therewith. The penalty of the ordinance may not be inflicted on schoolchildren refusing to submit to vaccination, but on teachers or others in charge of the schools who admit them without the required proof of successful vaccination. The failure of the title to express clearly the subject of the ordinance is fatal to its validity.

Counsel referred to the ordinance as having been enacted by the city council acting as a board of health. Manifestly, the city council sitting as a board of health has no power to enact or repeal ordinances. It is true that the Iowa statute provides that the mayor and city council in cities and towns shall constitute a local board of health, and that the city clerk shall be the clerk thereof; but their duties and functions are wholly separate and independent, and must be so exercised.

Doubtless the emergency which was believed to exist has long since passed, and no further proceedings are therefore necessary in this court or the court below to secure the admission of the plaintiffs to the public schools, and none will be ordered.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.

American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Proctologic Society, Boston, June 3-6.
American Psychopathological Association, Atlantic City, June 11.
American Radium Society, Boston, June 6-7.
American Surgical Association, Toronto, Canada, June 14-16.
Association for the Study of Internal Secretions, Boston, June 6.
Maine Medical Association, Bangor, June 28-29.
Montana, Medical Association of, Billings, July 13-14.
National Tuberculosis Association, New York, June 13-17.
Nevada State Medical Association, Elko, June 24-25.
Southern Minnesota Medical Association, Winona, June 27-28.
Tri-State Meeting (Oregon, Washington and Idaho), Portland, Ore., June 30-July 2.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifteenth Annual Meeting, held in Brooklyn, May 3-5, 1921

(Concluded from page 1528)

SECTION ON SURGERY

DR. LEDRA HEAZLIT, Auburn, in the Chair

Tumors of the Kidney

DR. THOMAS F. LAURIE, Syracuse: A great majority of these tumors are hypernephromas. Metastases are distributed through the blood stream. Recurrence is common. Three cardinal symptoms are hematuria, tumor and pain. Hematuria occurs in 38 per cent. of the cases. Often it is so profuse that it causes clot formation in the ureter, with resulting renal colic. It is difficult to determine the difference between tumor of the kidney and that of other viscera; also tumors may be so small that they may not be palpable. Pain occurs in 32 per cent. of the cases. Other symptoms may be dilatation of the superficial blood vessels, caused by pressure from the growth, and, perhaps, toxins. The diagnosis may be made possible by cystoscopy, roentgenoscopy, complete urinalysis, chemical and bacteriologic, and determination of kidney function. Treatment is by nephrectomy, provided there is enough kidney tissue on the other side to maintain the life of the patient, and when there are no metastases. Such removal may be supplemented by radium therapy or roentgenotherapy.

DR. JAMES N. VANDER VEER, Albany: Early disturbance of urination is often neglected. Even urinary disturbance of a few days, such as burning, heaviness, interruption in evacuation, pain, pus or sediment or microscopic blood, should be noted. The cystoscopist should be the operating surgeon, or at least his right hand man. Roentgenography is easier than cystoscopy for many physicians. The pathologic condition of the growth can be determined by frozen section, and that will decide the amount of surgical intervention required. No tumor should be operated on except in a very modern and fully equipped hospital. Intervention is now accompanied with roentgen-ray or radium irradiation. Some operators make use of diathermy. Radium therapy, while useful, has the disadvantage of being costly and not always available.

DISCUSSION

DR. J. B. CROSS, Buffalo: Bladder tumors are likely to metastasize slowly, owing to the small number of lymphocytes. The fulguration method gives good results in some cases. Those tumors that do not respond to fulguration are probably malignant. The difference between clinical and pathologic findings is frequently noticeable. One type clinically benign is reported by the pathologist as malignant. Other tumors reported benign, and seemingly benign, later prove to be malignant. A new form of treatment is by the injection of millicurie seeds into the tumor, through a hollow needle.

DR. JAMES N. VANDER VEER, Albany: A patient was under observation for pain in the right side of the abdomen which I thought was a gallbladder condition. There were no kidney symptoms. Somebody else performed a nephrectomy later. The surgeon found a hypernephroma the size of a hickory nut at the upper pole. The patient was allowed to go three months with a mass in the left side of the abdomen as big as a baby's head. The attending physician said it was a big kidney and that the patient probably had only one kidney. Then there was a hemorrhage and the patient came to me suffering intense pain. A nephrectomy was performed for kidney tumor. The patient was free from pain a year and a half; then he died suddenly. There are cases in which the hypernephroma involves the capsule not invading the pelvis. There is no hemorrhage, but operation is indicated.

DR. ABRAHAM HYMAN, New York: Cases are examined too little. The laity, and physicians also, are not alive to the seriousness of hematuria. The doctor tells the patient that the hematuria does not amount to much. Twenty five per cent. of these tumors are probably malignant. The high frequency current can be used in some cases, but not in fleshy growths or multiple papillomas. Dr. Beer has elaborated an operative technic directed to avoid implants of tumor on opening the bladder.

DR. THOMAS F. LAURIE, Albany: After all methods of examination have been used, exploratory operation is justifiable. If the tumor does not invade the pelvis, the pyelogram is worthless. In a normal kidney or ureter, a forcible manipulation might well provoke bleeding. If bleeding were found on both sides, it would prove nothing. In regard to the fulguration method, recurrences are seen sometimes. These patients should not be allowed to drift. When radium can be used, it should be. I have one patient alive after five years, with one third of the bladder removed.

Surgical Aspects of Disease of the Gallbladder and Biliary Passages

DR. ABRAHAM O. WILENSKY, New York: There is no method or process, at present, by which gallbladder disease can be ascertained at an early date. The history gives the most important data. The clinical types vary: (1) one or more attacks separated by healthy periods; (2) attacks accompanied by pain and ill health; (3) dyspepsia and gastric symptoms; (4) right sided abdominal pain suggestive of dislocated kidney, or chronic appendicitis; the presence or absence of biliary colic should be diagnostic; (5) single acute inflammatory condition with pain in the upper right quadrant, with nausea and vomiting, with tenderness near the gallbladder. These are the acute empyema cases, not necessarily associated with stones. The treatment in gallbladder disease is surgical. Medical treatment is simply palliative, and operation should be performed as soon as the diagnosis is established. Cholecystectomy should be performed whenever possible, and cholecystotomy only when nephritis or myocarditis or some similar complication precludes the added risk. Drainage is simply a palliative measure. In cases in which there is disturbance of cholesterin metabolism, bile drainage relieves the excess of cholesterin in the body, as in pernicious vomiting of pregnancy. In some cholelithiasis cases it is difficult to determine whether the stones account for the symptoms, and whether some recur, or are overlooked.

DISCUSSION

DR. J. B. CROSS, Buffalo: It is now known that cholecystitis and cholelithiasis are largely due to bacteria. Rosenow has shown that there is a selective action of certain bacteria. Gallbladder infections become systemic and are sometimes associated with pancreatic involvement. Cholecystectomy, instead of cholecystotomy, is safe and quicker. The common duct should not be ligated, and abnormalities of the cystic duct and arteries should be recognized. With early operation the mortality can be reduced to 2 per cent., and less damage will be rendered to other organs. Any drain is better than no drain.

DR. W. D. JOHNSON, Batavia: I advise draining the gallbladder. This cures the condition in forty-eight hours.

DR. J. E. SADLIER, Poughkeepsie: In cases of neglected gallbladder disease, there can be an excessive drainage through the common duct, producing dehydration which can become very serious to the patient, amounting to as much as 12 pints of fluid per day for three days.

DR. A. H. AARON, Buffalo: I made an anastomosis between the duodenum and the hepatic duct in a case of complete obstruction of the common duct in which bile had been suppressed entirely for three months. The patient had had nine operations already, and refused to have another. As a last resort, magnesium sulphate, dry, on the tongue, was tried, with enough water to wash it down. After four days bile began to flow and the patient was relieved.

DR. EDWIN BEER, New York: I have had the same experience in common duct surgery as Dr. Sadlier had. I have seen an enormous flow of clear bile which I took to be pancreatic secretion. Inadequate drainage of the common duct is wrong; there are good reasons for draining it for a considerable time. Secondary drainage has been overlooked, and intrahepatic stones can pass through the drainage tube.

DR. A. O. WILENSKY, New York: I have seen drainage of duodenal juice through the common duct from a fistula, with one stone coming from a paralyzed sphincter. The sphincter being incompetent, the duodenal juice leaks out. This is due to traumatism during operation with secondary necrosis. Patients will come back with symptoms after operation, but these can be controlled by simple attention to diet.

DR. MARSHALL CLINTON, Buffalo: In one case of pernicious vomiting of pregnancy, the patient could not even retain water. I said that draining the gallbladder should prove the facts. The gallbladder was filled with tarry bile; there were no stones; there was a great deal of trypsin. Forty-eight hours after drainage, vomiting stopped. In other patients it has been observed that trypsin is never found, except in those with nausea. The trypsin may be pushed back from the pancreas.

JOINT MEETING WITH SECTION ON NEUROLOGY AND PSYCHIATRY

DR. MICHAEL OSNATO, New York, in the Chair

The Accomplishments of Intracranial Surgery

DR. CHARLES H. FRAZIER, Philadelphia: Local anesthesia should be deprecated in cranial surgery, as it is too trying for the surgeon and the patient. In the war, cranial defects were common, and experience taught a return to the original technic of pericranial grafting. Otologists usually perform operation on brain abscess and often are responsible for their occurrence if middle ear infection is neglected. To detect these lesions early, two points are necessary: (1) intimate knowledge of the parts concerned and (2) intimate study of the literature as to verified point of origin. The Lemaitre technic is very useful. A fine exploratory needle is first

introduced; then gradually fine drainage tubes are inserted to take its place, ending with drainage tubes of larger caliber. Thus the meninges are protected and the subarachnoid space is lined with a wall of adhesions, and secondary meningitis does not occur. In pituitary body disturbance there are loss of vision, headache and pressure phenomena. The question is how best to restore or conserve vision. Often the patient does not come till too late, and vision is lost. One must determine how far the lesion has progressed, whether beyond the sella or not. Two routes are used: the transfrontal route and the sphenoidal route. The latter gives a lower mortality, but the former exposes the process better. The roentgen ray or radium, combined with decompression, gives the best results in pituitary lesions. In trigeminal neuralgia, the picture is usually clear cut, but there may be some atypical cases. One should be sure of the diagnosis before resorting to radical operation. Sometimes cocainization of the sphenopalatine ganglion by the Sluder technic is indicated. Some of these obscure neuralgias have their origin in the sympathetic system, which borders on the trigeminal. Either the motor or the sensory root can be sacrificed, as occasion demands. Brain tumors are of many kinds, and varied as to structure and location. The epitheliomas differ from gliomas, for instance, and location can be tentorial, subtentorial, cerebellar or in the acoustic roots. A technic has been tried of injection of air into the ventricles to see whether they are dilated or collapsed. Another plan is that of intravenous injection of saturated salt solution to relieve pressure by reducing brain volume. Two points are important; reduction of pressure and prevention of hemorrhage. Autotransfusion of 600 c.c. of citrated blood will often prevent untoward reaction after operation. The removal of this amount from a healthy person previous to operation makes little difference. and it can be kept in a refrigerator until needed. Closure of the defect can be done with thin scalelike layers of periosteum of the outer table.

DISCUSSION

Dr. A. W. Adson, Rochester, Minn.: The question of the transfrontal versus the transphenoidal operative route is a difficult one to answer. The transfrontal route has a higher mortality; the transsphenoidal route, combined with radium, offers more than any other type of surgery. Radium will have a definite future in brain surgery.

Dr. Charles A. Elsberg, New York: As years go on I have performed fewer decompression operations, and then only as part of the operation for removal of the tumor. Decompression never relieves a patient in stupor, it often makes him worse; in fact, he never wakes up from the operation. In the subtemporal decompressions, the patient will be left with a huge bump on the side of the head and will not thank the surgeon for it. In the infiltrating growths, decompression will not benefit eye symptoms, or relieve hemorrhage or hemiparesis. One can accomplish more by permanent drainage of the ventricles.

Dr. Charles H. Frazier, Philadelphia: I am glad that Dr. Adson advised radium in pituitary lesions. I think there is a future for that treatment. The pituitary differs from the thyroid, but with adjustment of technic, radiation can be used. Dr. Elsberg mentioned the limitations of cerebral decompression. It is of use when there is no growth, or in early cases; but in advanced cases, removal of the tumor is essential.

Spinal Cord Surgery

Dr. Charles A. Elsberg, New York: Pain in spinal cord disease is very significant, and leads to many diagnostic mistakes. The gastric crises of tabes have been mistaken for peptic ulcer, and many abdominal symptoms occurring in spinal cord disease are not correctly recognized. Patients are now being operated on earlier for spinal tumor, and brain tumors are recognized before the patient gets choked disks. Still diagnostic errors are made. A young girl, supposed to have appendicitis, was found to be suffering from cord pressure from an old Potts' disease. A woman had left iliac pain. The appendix was removed; the kidney was sewed up; the ureters were catheterized. As she still complained of pain, she was labeled "hysterical," and, by and by, found her way to a neurologist. Examination discovered exaggerated ankle reflexes, and slight disturbance of the plantar surface of the feet. Spinal cord tumor was suspected, and the patient operated on. A lower dorsal tumor was removed, and the patient got well. A woman with pain in the right hypochondrium, a suspected cholelithiasis case, was operated on and a few stones were removed, without benefit; appendix removed, without improvement, and right inguinal hernia treated without result. The woman was then considered "neurasthenic" and sent to a neurologist. Slight neurologic signs were found suggestive of spinal tumor, and at operation three small tumors were found lying on three nerve roots. Removal caused complete recovery. A patient with coccygeal and rectal pain, who underwent various operations on the rectum without result, proved to have a tumor of the roots of the cauda equina. These cases point to the necessity of thinking of the spinal cord in cases of pain of obscure origin, and of making at least a superficial spinal examination.

Surgical Treatment of Brachial Plexus Injuries

Dr. A. W. Adson, Rochester, Minn.: These lesions may vary from involvement of one muscle or all, and from slight compression of one nerve, to complete laceration of the entire group of the sheath and fasiculi, with evulsion of the nerves. The relation to long and difficult labor is definite. Of forty-five patients, twenty-seven were forceps deliveries, with three breech presentations, thus showing that there was traction on the head before birth. Other cases in adults are caused by war wounds, and stab wounds in the arm. The greatest amount of recovery takes place in young children under 2; these recover 56 per cent. of function. In older cases surgery holds out very little hope in brachial plexus cases.

DISCUSSION

Dr. Alfred S. Taylor, New York: My views differ from those of Dr. Adson. In one case of difficult labor, with the head not engaged, and a deformed pelvis, I was obliged to make traction on the shoulder, and I felt the right brachial plexus give way, and there was a birth palsy lesion. The child died two hours later, and we had the body for examination. After hardening in formaldehyd, examination was made and we found the typical lesions described by Park and Taylor, so that traction was felt to be one of the chief factors. The lesion is one of the sixth cervical in 30 per cent. of cases. In regard to age, most cases show improvement under 2 years. If it occurs after 5, it is due to neurogenesis. The posterior dislocation of the shoulder doubtless occurs later, as a consequence of the birth lesion. Of 30,000 cases at the Lying-In Hospital, Dr. Painter never has seen one of posterior shoulder dislocation. In adult cases the result of treatment is not as good as in children. The best results are obtained from putting the arm in as good a position as possible at the time of birth, giving the traumatized nerves opportunity for recovery.

Cervical Ribs

Dr. Alfred S. Taylor, New York: This deformity occurs in one in 300 cases; is usually bilateral, and varies in size from a fully developed rib to an exaggeration of the transverse process. The trouble is occasioned by pressure on the seventh and eighth cervical, and first dorsal nerves, passing over the bladelike edge of the rib. In round ribs there are not so many symptoms. The treatment is operative, but care must be taken not to do damage to the brachial plexus.

The Surgical Problem of Nerve Defects

Dr. Byron Stookey, New York: Nerve transposition, passing the nerve through a course shorter than normal, nerve stretching and nerve grafting are the accepted methods to be used in reuniting divided nerves. Each method has its limitations.

DISCUSSION

Dr. A. W. Adson, Rochester, Minn.: Overstretching of the nerve is dangerous. In trigeminal neuralgia, one relieves the pain by peripheral evulsion. I have not been successful with nerve grafting. One must not forget the value of orthopedic measures, such as tendon transference, and arthrodesis.

Dr. Alfred S. Taylor, New York: I agree with Dr. Adson that the results in peripheral nerve grafting are unfavorable.

Interpretation of the History in Surgical Affections of the Right Upper Quadrant

DR. CHARLES G. HEYD, New York: Of 100 people complaining of gastric distress, twenty will have symptoms due to organic disease; forty will have disease remote from the stomach; forty will have some pathologic process outside the abdomen. The differential diagnosis must be between carcinoma, appendicitis, pancreatitis, and lesions of the the kidney, gallbladder and colon. Correlation of the history with the symptomatology is an aid in diagnosis.

Physiologic Factors Underlying Operations on the Stomach and Duodenum

DR. W. WAYNE BABCOCK, Philadelphia: Surgeons often make gross physiologic errors. How many men have given meat broths, thus increasing acid after abdominal operations; have had the patient sit up in bed with ruptured varix of the leg; have raised the head in cerebral hemorrhage; have given strychnin or alcohol for shock; have given atropin in opium poisoning; morphin for the delirium of uremia; salt solution in renal embarrassment; a protein diet in thyrotoxicosis; have increased the difficulty in ether anesthesia by telling the patient to "take deep breaths"? These are only a few of the common mistakes. The physiology of the stomach is just beginning to be understood.

The Reflex Stomach from the Surgeon's Point of View

DR. GEORGE D. STEWART, New York: The stomach is the spokeman for many organs, and its language is either motor or secretory. The motility of the stomach is more important than the chemistry, because while gastric response by secretion is interesting, it does not tell where the stimulus is coming from. To understand reflex paths of the stomach we must understand the nerve supply by the autonomic or vegetative nervous system. While we should be better physiologists than we are, we can get into too much complication about the reflexes, and if we stick to the history we shall do better. The reflexes are so complicated and so interlaced in action that they may be produced at any level. There are many conditions causing the stomach reflex, outside the canal, such as disease of the generative organs in the female; mobility of the kidney; disease of the central nervous system; toxemias; tuberculosis; syphilis; cardiovascular-renal disease; and in the canal there may be duodenal ulcer; cholecystitis; Meckel's diverticulum; chronic ileocecal conditions; gallbladder disease, and appendicular lesions. Hypermotility is associated with gallstones in 68 per cent. of cases; with duodenal ulcer in 75 per cent.; with chronic appendicitis in 55 per cent. Study of the cases at Bellevue Hospital with gastric symptoms showed that all such cases gave clearly diagnostic histories, which should classify the case, so that while one should bear in mind the reflexes, one should not be confused by them. The term "reflex stomach" should be abolished from the literature, as it often is an excuse for laziness and inefficiency. A careful study of the history in intestinal, gallbladder and appendical cases will lead to correct diagnoses and avoid many reflex mistakes.

DISCUSSION

DR. PETERSON, New York: While history taking is an art, the interpretation of the history is a science. It behooves us to take as good a history as possible and to interpret it accurately, but not to neglect to take into consideration the reflex conditions that Dr. Stewart thinks so little of.

DR. W. D. JOHNSON, Batavia: Where does Dr. Babcock get all his physiology? It is not in the textbooks. Of 4,000 experiments quoted in one book, less than forty were productive, so that we want to go slowly in applying these experiments to human physiology.

DR. E. M. STANTON, Schenectady: The stomach reflexes are associated with many different conditions, and many patients have subjective symptoms referred to the gastro-intestinal tract, the chief of which is vomiting. Notwithstanding the enormous number of laboratory tests, and the availability of the roentgen ray, the important fundamental thing is the careful clinical history of the case. The successful interpretation of the history lies in the ability to pick out the relevant from the irrelevant. Some symptom in the clinical history points clearly to the diagnosis.

DR. F. W. LEE, New York: The history depends on the man who takes it. The question is, Are you going to let the patient tell you his story, or are you going to question him and let him say what he thinks you want him to say?

Treatment of Arthritis by Drugs

DR. SAMUEL W. LAMBERT, New York: Chronic arthritis (excluding tuberculosis, syphilis and gonorrhea) is usually of streptococcal origin, and is a chronic disease with acute exacerbation. There are general systemic reactions with the attack. The primary source of infection must be treated. Drugs useful for intestinal disinfection are phenol combinations with betanaphthol, salicylic acid, phenyl salicylate, bismuth subcarbonate or cereum oxalate. From three to six lemons a day, diluted in water, with sodium bicarbonate, are very valuable. Treatment of the joints is by acetylsalicylic acid, in 40 grain doses, or salicylates in 60 grain doses. The coal tar products relieve pain. Lead acetate dressings are helpful. Diet includes restriction of purins and carbohydrates, but otherwise maintaining nutrition. The efficacy of specific vaccines and serums is doubtful. Sterilized milk injections often give better results. The reaction to the foreign protein is nonspecific. There seems to be no reason for giving injections which produce a chemical typhoid fever or chemical intestinal toxemia, when the patient is already burdened with the toxins of arthritis.

Special Treatment of Arthritis

DR. CLARENCE E. COON, Syracuse: Sometimes treatment produces spectacular results in arthritis, sometimes very poor results, and in any case one must do what one can to relieve pain and prevent deformity. Thus, the wearing of a rigid corset in spondylitis, or an abdominal support in visceroptosis. The knees can be helped by preventing extremes of motion. The metatarsal arch can be supported. The lack of appreciation of deformities is often seen, and early treatment may mean much comfort to the patient and increased function in succeedinging years.

DISCUSSION

DR. R. GARFIELD SNYDER, New York: I have injected foreign proteins intravenously or subcutaneously. All proteins have specific and nonspecific reactions, the latter probably being the most important. The type of nonspecific protein I have used is typhoid, and I have never seen bad results from the toxicity. The term "focal infections" is misleading, as often these infections are not encapsulated, and they should be called local infections. In my experience not one case of arrested disease has followed removal of supposed foci. I believe many teeth and tonsils are needlessly removed.

DR. JOHN H. RICHARDS, New York: I have not seen any case permanently benefited by proteose, milk or typhoid bacilli. With specific vaccine treatment, the bactericidal power of the blood is increased, though frequently foreign protein injections will remove residual symptoms. Sometimes there may be bad effect, such as nephritis or persistent vomiting. I have been able to corroborate Pemberton's results as to low sugar tolerance in arthritis. I think that the benefit resulting from dieting in arthritis is from the change in intestinal flora. *Streptococcus viridans* does not grow well in a very acid or very alkaline medium. Children of arthritic families should be instructed.

DR. J. C. RUSHMORE, Brooklyn: I want to urge the importance of orthopedic measures in early stages of treatment. Relief of pain can be effected by fixation and traction, so as to prevent deformity. We can treat by massage and heat, and these methods will give much relief. You may not change the process in the joint, but you will clean up the periarticular tissue. A great part of the work is teaching these people to correct posture; we can put them in a better position.

Synergistic Analgesia

DR. JAMES T. GWATHMEY, New York: Magnesium sulphate, 25 per cent., chemically pure, combined with morphin, produces a very reliable synergistic analgesic. The perception of pain is dulled by doses that hardly affect ordinary sensibility. The mechanism is probably that the magnesium holds the morphin in contact with the central nervous system. The breathing is like natural but prolonged sleep. Nausea and

vomiting are reduced to a minimum; the waking is pleasant, and there are no gas pains. Appetite is better, and there is a shortening of convalescence.

Anesthesia with Nitroxygenized Ether Vapor

DR. ADOLPH F. ERDMAN, Brooklyn: In this method, nitrous oxid is used for carrying other agents. The oxygen is the corrector and ether the base. The machine runs itself, and the apparatus is portable; the dosage is automatically controlled. The closed method is not always used, and patients are often allowed to rebreathe. The relationship of oxygen and carbon dioxid is important. The patients receive a gradually increasing volume of straight gas, and oxygen is begun as needed, and ether turned on when necessary. The method is easy and direct and very useful in my hands.

DISCUSSION

DR. CHARLES H. SANFORD, New York: I have used this method for some years with great satisfaction. The closed method is to be preferred, because the dosage is more constant, and regular proportions of nitrous oxid and oxygen can be given.

DR. ADRIAN V. S. LAMBERT, New York: I am convinced that that combination gives a greater degree of relaxation for abdominal work than nitrous oxid alone. Less anesthetic is required for intra-abdominal operations. The administration lately has consisted of a 5 per cent. solution, 300 c.c. subcutaneously, which has procured uniform results.

DR. ALFRED GORDON, Philadelphia: One-half hour before operation we gave one-eighth grain of morphin and 25 drops of magnesium sulphate solution; fifteen minutes later, another dose, and fifteen minutes later, 1 ounce of ether with olive oil and paraldehyd by rectum. The blood pressure is not changed, and postoperative vomiting is absent.

Chemical Removal of Inoperable Cancer of Breast and Metastasized Axillary Lymph Nodes

DR. CHARLES W. STROBELL, New York: Zinc oxid, in concentrated solution and in paste form, is used, thickened with flour so that it can be spread on. The devitalized tissue can be removed easily and painlessly, until the whole breast is bared to the chest wall. Skin grafts are then made in the form of Thiersch grafts. No pain is felt if the chemical is confined to the carcinomatous areas. Such growths as cirrhous cancer, fibrocarcinoma, adenocarcinoma and carcinoma vera have been removed completely. Thirty-two patients have died in from two to eight years after removal, generally in coma.

ASSOCIATION OF AMERICAN PHYSICIANS

Thirty-Sixth Annual Meeting, held, May 10-11, 1921, at Atlantic City

(Concluded from page 1526)

Bactericidal Activity Against Bacillus Diphtheriae of the Whole Coagulable Blood of Immunized Animals

DRS. SOLOMON SOLIS-COHEN and MEYER SOLIS-COHEN, Philadelphia: Dr. Heist showed that there is in the blood of animals a property inimical to the growth of organisms to which the animal was immune. This substance is present in the whole coagulable blood of the immune animal; it is not demonstrable in serum, in defibrinated blood or in citrated blood. When injected to cause artificial immunization, the same property appeared in the immunized animal. In diphtheria the immunity is antitoxic, not antibacterial. Two points were discovered: (1) Bactericidal power against *B. diphtheriae* was found in the blood of the rat; (2) in human beings subjected to the Schick test, there was bactericidal power in some, but there was no correspondence between immunity by the Schick test and the bactericidal power.

DISCUSSION

DR. WILLIAM H. PARK, New York: It occurred to us that there might have been an error in thinking that antitoxin immunity caused a cure. We find children without antitoxin, and we found that antitoxin did not occur at all until weeks after the recovery, so that I think bactericidal immunity caused recovery. Bactericidal values for one thing are not the same as for another. There is no reason to fear that a single antitoxin will not apply to all types. It seems to fit all cases.

DR. SOLOMON SOLIS-COHEN, Philadelphia: We did not observe any differences in growth between the toxin and nontoxin producing varieties, but recently the Philadelphia Board of Health has found three types which can be distinguished. Perhaps the strains produced in New York should be called small toxin producers or nontoxin producers. Some Klebs-Loeffler bacilli were killed in a very short time by the blood, and other groups required a long time or were not killed at all.

Experimental Studies of the Pharmacology of Quinidin

DRS. A. E. COHN and R. L. LEVY, New York: One patient stated that his cardiac attacks (auricular fibrillation) were stopped by taking quinin. It was tried on other patients, with success in some cases. Other derivatives of the drug were studied in order to stop fibrillation. Quinidin, in doses of from 0.2 to 0.4 gm., gives success in 50 per cent. of cases. Experimental studies on dogs showed that contraction of the auricle became less, and that with faradization after quinidin dosage, one could not start fibrillation. Other effects noted were: increase of height of contraction; fall of blood pressure in the peripheral arteries. There were no constant results on the T wave or on the conduction time. The conclusions were that there seems to be an alteration in the muscle which makes it refractory to faradization as regards fibrillation, and there is a striking effect on contraction. These are artificial experiments, not likely to be carried into the clinic.

Objects and Method of Diet Adjustment in Diabetes

DR. R. T. WOODYATT, Chicago: In spite of the work of Allen and Joslin, there are many varied opinions as to diabetic diets. In some cases the strictly limited diets give good results. One characteristic of diabetes is the inability to use glucose in excess of a certain amount. The pancreatic secretion is altered in this respect. The quantity of food which may be normally oxidized by the body is determined by the quantity of glucose which is oxidized. Therefore, we must bring glucose within the limits of the body's power. In a fasting state, the body uses endogenous supplies for its nutrition; even on a maintenance diet, endogenous food is used. There are thousands of combinations of fat, protein and carbohydrate, but all carbohydrate must become glucose before it can be oxidized. One hundred gm. of protein will yield 5 per cent. of glucose, and 100 gm. of fat will yield 10 per cent of glucose; in giving these elements we must watch for the critical point at which acetone appears. We must adjust carbohydrate to the highest possible level, because it will carry more fat than protein will, and, therefore, spares protein. If we add protein, we must remember to subtract calories. The addition of fat reduces the quantity of glucose going into the metabolism. Cream is very useful in this respect, and spares protein.

DISCUSSION

DR. L. N. NEWBURG, Ann Arbor, Mich.: This is another step away from the forced starvation diet. From the clinical point of view, I believe we are wrong to subject the diabetic patient to prolonged effect of undernutrition. I tried to devise a diet which would not produce undernutrition, and would prevent glycosuria and acidosis. We found that we could do this with the addition of large amounts of fat to the diet. Dr. Woodyatt, working from another angle, has arrived at the same conclusion. He has worked out the optimal diet on the basis of the lines of metabolism, using the metabolic expression of the optimal diet as it should be fed to the diabetic. With this method, he has arrived at a diet high in fat. Treatment will be advanced as soon as it is proved that this method is of use in diet.

DR. E. P. JOSLIN, Boston: Before Allen's work with undernutrition was inaugurated, many children lived one year and are now dead. The next series, treated by the method since 1914, have lived more than two years, and now more than three years, whereas in adults before 1914, the average duration of life was three years; since that period, cases have

lasted for five years. One can give a seven years' prognosis for 100 diabetics coming for treatment. Therefore, as the result of the 1914 methods, an extension of life has actually taken place. What should be the attitude of the physician of today to this new idea? Should one go over to the new method of treatment and increase the quantitity of fat in the diet? Dr. Newburg's patients became sugar and acetone free. I have tried this treatment in the worst possible cases of diabetes. None became sugar free; none became free from acidosis. In one case, acidosis became so severe that coma threatened. The alveolar air had dropped to 14 mm. of mercury. That does not mean that Dr. Newburg's treatment should not be utilized. We can use it in selected cases.

Dr. F. M. Allen, New York: We must effect a balance of three factors: carbohydrate, fat and the organism. The total quantity of the diet is one factor, and the ratio affects this. Very thin, emaciated patients may never have an accidosis, no matter how much fat you give; but in a well nourished individual you run the risk of a serious acidosis. It is a question whether the ratio will hold. Undernourished people do handle carbohydrate of protein as if it were carbohydrate, and will remain ketone free. That does not hold on overnourished people. Perhaps it is not possible to overnourish without ketonuria. Even in normal individuals there are variations in fat tolerance. Age is another factor: an adult dog can pass to death without acetone, while a young puppy may show fatal acidosis. I tried to trace the cause. I obtained definite evidence of internal secretion influence. This is a serious matter, because fat added to the diet may make the diet excessive. Carbohydrate may be tolerated with little fat, but not with high fat. This has been proved by experimental clinical evidence. Two patients are alive today with unimpaired tolerance, and one has lowered tolerance because she stole the butter. One can give enough sugars in the form of food, liberal in proportion, but we must measure the total caloric intake. If one makes that too high, the patient will die. If one keeps the patient sufficiently undernourished, one will abolish downward progress. We have young patients undergoing this treatment, who go on without decline of tolerance, and progress better than on high diet, which is impossible in this type of diabetes.

Dr. Sidney Strauss, Chicago: There are two classes of patients with diabetes who do not respond to undernutrition: those who, despite rigid adherence to low diet, do not retain the balance, and the older, chronic diabetic patients, who, when they have sugar, do not feel well and are much more likely to develop symptoms. Patients often get along very well with a high fat diet. They do not follow diets strictly. That has to be met. There is a difference between malnutrition and a luxus diet. There is the moderate diet which contains more fat than we have been accustomed to using.

Familial Diabetes

Dr. H. R. M. Landis, Philadelphia: In the family studied there were ten children in the family, nine living. There were four blonds, free from symptoms, and five brunets, who all had glycosuria. This tendency seemed to have skipped one generation, and to have appeared in grandchildren. There seemed to have been a distinct hereditary and familial tendency in this case.

DISCUSSION

Dr. Solomon Solis-Cohen, Philadelphia: This confirms in some measure speculations on the subject of tuberculosis, carcinoma and diabetes and endocrine disturbance. I reported three clans, consisting of a number of families, in some to the fourth or fifth generation, in which we found distinct antagonism between tuberculosis and carcinoma, on the one hand, and diabetes on the other. Those who escaped tuberculosis and carcinoma usually showed marked endocrine disturbance with symptoms of diabetes. Among sixty-five diabetics, one showed tuberculosis.

Dr. J. M. Anders, Philadelphia: Familial diabetes is supposed to occur in obese subjects. My experience confirms this view. I have the definite impression that in cases of familial diabetes which occur in obese subjects, gout figures as the cause of the obesity. The manifestations occur in late life and are not severe; but if in early life, they are severe. Obestity and gout are hereditary, and in both there is marked tendency to glycosuria. This partly explains familial diabetes.

Dr. F. M. Allen, New York: We should make glucose tolerance tests of the nondiabetic members of these families to determine whether or not there is a diabetic tendency.

Blood Sugar Tolerance Test as an Aid in Diagnosis of Gastro-Intestinal Carcinoma

Drs. Julius Friedenwald and G. H. Grove, Baltimore: The curve of sugar tolerance makes possible differential diagnosis between carcinoma and other disease of the gastro-intestinal tract. Examination of curves showed: (1) the normal curve, which, two hours after 100 gm. of glucose, fell to normal; (2) the atypical normal curve (achylia gastrica), which fell slowly after two hours; (3) the intermediate curve, blood sugar high, associated with carcinoma of other parts of the body, and (4) gastric carcinoma curve, with high blood sugar. Cancer curves can be distinguished from cancer of other parts of the body. Tabes, nephritis, tuberculosis and thyroid conditions should be excluded, and hyperglycemia is often present in these conditions. The test has proved positive in seventy-two out of seventy-five cases studied, and is therefore a valuable diagnostic measure. It was positive in five nonmalignant cases.

Relation of Acromegaly to Thyroid Disease

Dr. James M. Anders, Philadelphia: We found five of sixteen cases with associated thyroid disturbance: We should apply the sugar tolerance tests and estimate the metabolic rate, which has not always been done. In 215 acromegalic cases, ninety-one had thyroid lesions. Glycosuria was present in 35 per cent. The pituitary disturbance appears to precede the thyroid disturbance by several years.

A Method for the Study of Early Arterial Changes

Dr. Harlow Brooks, New York: Examination of the conjunctival vessels is easy as these vessels represent the intracerebral circulation. They appear bluish white on the back ground. The eye must be near the lens, and the examination takes only a few minutes. The changes appear very early in hypertension, even when transitory. The vessels look like cords. There are often zones of obliteration and formation of small sacular aneurysms. These are very striking.

Blood in Tetrachlorethane Poisoning

Drs. George R. Minot and L. W. Smith, Boston: This chemical can produce serious or fatal hepatitis. The poison acts particularly on the blood and on the liver. The symptoms are very ill-defined. The person is fatigued, has slight gastro-intestinal symptoms, constipation, perhaps jaundice. The liver is palpable and tender. The onset is insidious. Of sixty-eight persons exposed, twenty-one had poisoning. There is a definite blood picture. Progressive increase of the large mononuclears, reaching as high as 40 per cent. There is a slight secondary anemia. The blood picture can be discovered before symptoms appear. Respiratory affections seem to lower the resistance of the workers. When there are blood changes and symptoms, this indicates removal from work. Recovery is gradual. Persons who have once been affected are more sensitive to the poison in the future.

Pituitary Extract and Water Balance

Drs. L. G. Rowntree, E. E. Larsen and J. F. Weis, Minneapolis: Water balance and water intoxication were studied in fifteen cases of diabetes insipidus. There is increase of thirst, polyuria and polydipsia. In some cases thirst preceded polyuria. Pilocarpin did not relieve the thirst, nor did cocainization of the mucous membrane. Pituitary extract had no effect on water excretion, nor had a spinal puncture. The blood showed increase in plasma volume and molecular constituents. We thought there was hydremic plethora with increased renal threshold. In dogs with water intoxication very violent symptoms are shown—convulsions, frothing—but the animal recovers in a few days. Simply forcing water leads to water intoxication. There was no evidence of edema of the brain.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

May, 1921, **21**, No. 5

*Concerning the Nature of "Protozoan-Like" Cells in Certain Lesions of Infancy. E. W. Goodpasture and F. B. Talbot, Boston.—p. 415.
*Case of Gaucher's Splenomegaly. N. C. Foot and W. E. Ladd, Boston. —p. 426.
*Case of Idiopathic Hemorrhagic Sarcoma of Kaposi. S. McLean, New York.—p. 437.
*Influenzal Meningitis. I. A. Abt and I. H. Tumpeer, Chicago.—p. 444.
Study of Breast Feeding in Minneapolis. J. P. Sedgwick, Minneapolis. —p. 455.
Toxic Symptoms in Infants and Children with Gastro-Intestinal Manifestations. H. Schwarz and J. L. Kohn, New York.—p. 465.
*Diphtheria Among Immunized Children. S. A. Blauner, New York.— p. 472.
*Eosinophilia Occurring in Chorea. H. C. Berger, Kansas City.—p. 477.
Sugar in Urine of New-Born Infants Before Intake of Food. F. Millikin, Chicago.—p. 484.
*Necropsy Findings in New-Born Infants. M. Warwick, St. Paul, Minn. —p. 488.
*Case of Meningococcus Meningitis with Obstructive Hydrocephalus. J. H. Root, Waterbury, Conn.—p. 500.

Protozoan-Like Cells in Infants' Tissues.—The so-called "protozoan-like" cells with which this paper is concerned were first described in 1904 by Jesionek and Kiolemenoglou, who found them in the kidneys, lungs and liver of an eight months fetus, in intimate association with lesions of hereditary syphilis. The case by Goodpasture and Talbot is of especial interest in that it furnishes definite evidence of the histogenous origin of these cells, shows their transportation through the blood stream, and indicates that this peculiar cellular change is a retrogressive one by which certain cells become independent of the body tissues and capable perhaps of wandering about exhibiting a certain similarity to protozoa. To identify the condition with a descriptive name, the authors suggest that it be called cytomegalia to emphasize the notable enlargement of the cells affected, and at the same time to distinguish the condition from those forms of cellular enlargement which at present are included under the general term giant cells.

Gaucher's Splenomegaly.—Twenty-one cases of this unusual disease are recorded in medical literature. The case cited by Foot and Ladd concerns a boy, aged 8 years, whose spleen was removed. This case fulfils the requirements as postulated by Mandelbaum and Brill. The large cells contain no lipoids, they do contain iron compounds showing the typical reaction to potassium ferrocyanid; both diffuse and granular. The various inclusions described are all present here, except that no iron-free pigment is demonstrable. Reticulum fibrils are found in the younger anastomosing Gaucher cells and the columnar arrangement described by Mandelbaum (in connection with lymph nodes) is found here in the spleen. The clinical symptoms were rare ones, rather than the more usual variety. There was no cutaneous discoloration, no tendency to bleed, little enlargement of the liver and no conjunctival symptoms. Enlarged spleen, pain in the abdomen and legs and profuse sweating were present. The blood counts were not particularly significant, and there was a long history of gastro-intestinal disturbances which might be referable to lesions in the lymphoid apparatus of that tract, but which must remain, for the present problematical. There seems to be no other case in the family. The child's spleen was first enlarged and palpable when he was 7 years old, the disease making, therefore, greater strides in the last twelve months than in the preceding three years, since a "fullness in the left flank" was noted. The immediate results of the splenectomy have been most encouraging.

Hemorrhagic Sarcoma of Kaposi.—McLean's patient, a boy, 5½ years of age, had spots all over his body, but the two largest were situated on either cheek. Death occurred twenty-four days after admission to the hospital about eight months after the onset of the disease, apparently from anemia with a terminal bronchopneumonia. Neither a necropsy nor removal of tissue sections was permitted.

Influenzal Meningitis.—In the case reported by Abt and Tumpeer the bacillus was isolated from the spinal fluid, blood, throat, nose and nasopharynx. Cultures were studied and animals inoculated. The spinal fluid yielded a four plus Wassermann and reduced colloidal gold suspensions in the syphilitic zone. Morphologically typical diphtheria bacilli were found in large numbers in a nasal culture. Death occurred ten days after the onset. A necropsy was not permitted.

Diphtheria Among Immunized Children.—Blauner is convinced that diphtheria can occur among children who possess either natural immunity or who have been immunized by the toxin-antitoxin procedure. An experience in a carefully supervised orphan asylum has taught us that diphtheria in epidemic form can occur among immunized children, at least to say now, that the value of a negative Schick reaction is not universal, and as a result further studies and clinical observations must be made before its exact value can be computed.

Eosinophilia in Chorea.—The blood of forty children was examined by Berger for the number of eosinophils. The highest count was 26 per cent., the lowest 0, with a general average of 7.6 per cent. The possible relationship between eosinophilia and chorea is discussed.

Necropsy Findings in New-Born.—Two hundred necropsies are analyzed by Warwick. Cerebral hemorrhage occurred in from 43 to 50 per cent. Hemorrhagic disease is often associated with cerebral hemorrhage. Malformations occurred in 15 per cent. of which only 4 per cent. were multiple. Of these, developmental defects of the heart were most common but those of the digestive tract were surprisingly numerous. Birth injuries were rare (0.7 per cent.) but when they occurred they were usually in the spinal column. Acute infections were rare; bronchopneumonia was the most frequent.

Meningococcus Meningitis.—Only one case of meningococcus meningitis with obstructive hydrocephalus developing during the acute stage of the disease was found in the literature by Root and now he adds one case. The symptoms are usually irregular and obscure. The most important ones are repeated convulsions, vomiting (not projectile), and after a week or more, bulging of the fontanel and rigidity of the neck.

American Journal of Physiology, Baltimore

April 1, 1921, **55**, No. 3

Physiology of Stomach. LV. Influence of Vagi on Gastric Tonus and Motility in Turtle. Z. Bercovitz and F. T. Rogers, Chicago.—p. 323.
*Vitamin Content of Honey and Honey Comb. P. B. Hawk, C. A. Smith and O. Bergeim, Philadelphia.—p. 339.
Sugar in Blood of Dogfish and of Sand Shark. E. L. Scott, New York.—p. 349.
Sugar in Blood of Common Frog. E. L. Scott and N. Kleitman, New York.—p. 355.
Sugar in Blood of Normal Pigeons. E. L. Scott and H. E. Honeywell, New York.—p. 362.
Studies on Visceral Sensory Nervous System. VII. Skeletal Reflexes Induced by Stimulation of Visceral Afferent Nerves in Frog and Turtle. A. J. Carlson and A. B. Luckhardt, Chicago.—p. 366.
An Electrocardiogram and an Electromyogram in an Elephant. A. Forbes, S. Cobb and M. Cattell, Boston.—p. 385.
*Physiology of Stomach. LVI. Gastric Secretion in Starvation. G. F. Sutherland, Chicago.—p. 390.
*Physiology of Stomach. LVII. Response of Stomach Glands to Gastrin Before and Shortly After Birth. G. F. Sutherland, Chicago.— p. 398.
*Duodenal Segment of Albino Rat as Standard Reagent for Study of Tissue Extracts and Other Substances. F. S. Hammett, Philadelphia. —p. 404.
*Intestinal Mechanism Primarily Stimulated by Sodium Carbonate (Albino Rat). F. S. Hammett, Philadelphia.—p. 414.
*Involution of Uterus Following Labor and Influence of Castration and Suckling on Process of Involution. C. Kuramitsu and L. Loeb, St. Louis.—p. 422.
Influence of Lactation on Sexual Cycle in Rat and Guinea-Pig. L. Loeb and C. Kuramitsu, St. Louis.—p. 443.
*Reversal of Depressor Action of Small Doses of Epinephrin. J. B. Collip, Edmonton, Alberta.—p. 450.
*Studies in Nutrition. V. Nutritive Value of Soy Bean Flour as a Supplement to Wheat Flour. C. O. Johns and A. J. Finks, Washington, D. C.—p. 455.
IV. Effect of Warming and Cooling Sino-Auricular Node in Mammalian Heart-Depth of Anesthesia; Tachycardia; Flutter; Sino-Auricular Heart Block. B. H. Schlomovitz, Milwaukee.—p. 462.
*V. Experimental Production of Ventricular Fibrillation by Localized Warming of Cardiac Tissue. B. H. Schlomovitz, Milwaukee.—p. 485.

Vitamin Content of Honey.—Strained honey was found, by experiments on albino rats, not to contain more than minimal amounts of the growth-promoting accessory substances, fat soluble A and water soluble B. Comb honey was found to contain the fat soluble vitamin in moderate amounts. Honey did not protect guinea-pigs against the development of scurvy. The addition of honey to bread did not appreciably delay its digestion in the human stomach.

Gastric Secretion in Starvation.—Sutherland states that in starvation, there is a continuous gastric secretion which shows apparently spontaneous periods of more rapid secretion. If the dog is given only water to drink during a starvation period, the amount of gastric secretion decreases in general day by day. If the dog is given 0.9 per cent. sodium chlorid to drink, the amount of gastric secretion remains about the same at the end as at the beginning of the starvation period.

Response of Stomach Glands to Gastrin.—In guinea-pigs Sutherland says there may be a "spontaneous" secretion of acid gastric juice during late intra-uterine life. In dogs and cats there appears to be no spontaneous gastric juice secretion in utero, but there is some secretory response to gastrin when the fetuses are within a few days of term. Fetuses of the same litter show individual variations in capacity to respond to gastrin. In the cat and the dog the gastric glands do not appear to be fully differentiated even at birth, as the secretory response to the gastrin injections increases with age, at least for the first few days.

Study of Isolated Duodenal Segment.—An apparatus and method are described by Hammett by which the isolated duodenal segment of the albino rat can be so prepared and standardized as to be available for quantitative use as a test organ in a wide range of biochemical, physiologic and pharmacologic investigations.

Stimulation of Intestinal Mechanism by Sodium Carbonate.—Evidence is presented by Hammett leading to the opinion that the intestinal mechanism primarily stimulated by sodium carbonate when applied to the isolated duodenal segment of the albino rat suspended in oxygenated Tyrode's solution at 39 C. is neural and not muscular; and that this stimulation of the segment from the normal, adult, unexcited, male animal is expressed through the mechanism ordinarily mediated by the vagus, while the stimulation of the segment from excited rats is effected through splanchnic endings or fibers. Since these two sets of nerves are conveniently differentiated from the neural mechanism concerned with the myenteric reflex by the term extrinsic it can be said that the carbonate stimulation is primarily transmitted through the mechanisms mediated by the extrinsic nerve supply to the intestine.

Effect of Nursing and Castration on Uterus.—Kuramitsu and Loeb claim that nursing accelerates the involution of the uterus; lack of nursing weakens involution in both rat and guinea-pig. Castration intensifies involution. The effects of nursing or the lack of it are in all probability exerted on the uterine tissues directly and not indirectly by way of the ovaries. Castration seems to alter the uterine tissues in such a way that they become less responsive to the effects caused by the lack of nursing.

Reversal of Depressor Action of Epinephrin.—Collip was able to convert the depressor effect of a small dose of epinephrin in an animal under light ether or chloroform anesthesia into a pure pressor effect by increasing the anesthetic. Decreasing the anesthetic restores the depressor effect. The depressor effect of a small dose of epinephrin in an animal under light but constant anesthesia may be converted into a pressor effect by decreasing the blood C_H by means of intravenous administration of sodium carbonate. The pressor effect of a moderate dose of epinephrin may be increased by decreasing the blood C_H. The pressor effect of a moderate dose of epinephrin may be decreased by raising the C_H of the blood as by intravenous injection of acid sodium phosphate. Atropin does not antagonize the above reactions nor does it effect the antagonism of the depressor action of small doses of epinephrin by tissues extracts.

Nutritive Value of Soy Bean Flour.—Bread made with a mixture of twenty-five parts of soy bean flour and seventy-five parts of wheat flour contained a protein mixture and water-soluble vitamins adequate for normal growth. A similar bread containing fifteen parts of soy bean flour and eighty-five parts of wheat flour likewise furnished adequate proteins and water-soluble vitamins for normal growth. These mixtures of the soy bean and wheat proteins were found by Johns and Finks to be two or three times more efficient than the proteins from wheat alone.

Localized Warming Initiates Ventricular Fibrillation.—A method is presented by Schlomovitz by which it is possible to obtain a heart in which localized warming will initiate ventricular fibrillation. This can be done repeatedly if the heart is previously digitalized and tested during the toxic stage when the ventricles are beating independently.

American Journal of Public Health, Chicago

May, 1921, **11**, No. 5

Municipal Administration of Health and Welfare Departments. G. H. Clark, Long Beach, Calif.—p. 401.
Sanitation in Bakeries. H. E. Barnard, Minneapolis.—p. 407.
Wassermann Test in Public Health Laboratory. R. L. Kahn, Lansing, Mich.—p. 410.
Factors that Influence Infant Mortality. S. G. Thompson, Jacksonville, Fla.—p. 415.
Public Health Education and Mental Hygiene. F. E. Williams, New York.—p. 420.
Relation of Psychiatry to Public Health. E. C. Reid, San Francisco. —p. 425.
Social Aspect of Mental Defect. H. W. Wright, San Francisco.—p. 431.
Food Inspection in Cleveland. R. G. Perkins, Cleveland.—p. 434.
Hookworm in California Gold Mines. R. W. Nauss.—p. 439.
Epidemiologic Rôle of Case of Cerebrospinal Meningitis. R. R. Simmons.—p. 452.

American Journal of Syphilis, St. Louis

April, 1921, **5**, No. 2

Responsibility of Intensive Treatment Method with Regard to Incidence of Early Neurosyphilis. A. R. Fraser.—p. 201.
Syphilis of Heart. H. Brooks, New York.—p. 217.
*Conjugal Syphilis of Nervous System. A. Gordon, Philadelphia.—p. 248.
*Syphilis of Nervous System in Children. E. L. Hunt, New York City.—p. 259.
Treatment of Syphilis. S. Feldman, New York.—p. 268.
*Wassermann Reaction in a Large Group of Supposedly Nonsyphilitic Individuals, Including Large Groups of Diabetics and Nephritics. J. R. Williams, Rochester, N. Y.—p. 285.
Studies in Standardization of Wassermann Reaction. J. A. Kolmer, Philadelphia.—p. 290.
Value of Ice Box Incubation and Cholesterin Antigen as Shown by 1,600 Comparative Tests. B. W. Rhamy, Fort Wayne, Ind.—p. 300.
Wassermann Reaction: Reasons for Discrepancies in Estimation of Clinical Value: Necessity for Uniformity and Standardization: Suggestions: Report of Series and Interpretation. H. M. Ray, Pittsburgh.—p. 320.

Conjugal Syphilis of Nervous System.—A study of thirty-two cases by Gordon shows that there were more positive Wassermann reactions of the spinal fluid in the second party, who developed nervous syphilis years after the beginning of conjugal life, than in the first party of the married couple (10 to 7). Conversely there were fewer positive reactions of the blood and spinal fluid combined in the first than in the second group (2 to 5). Moreover, in two cases in which there were no sexual relations, but merely cohabitation (sister and son, respectively), the Wassermann reaction was positive only in the spinal fluid. The conclusion drawn by Gordon is that conjugal syphilis is more common than it is generally believed, that it may be present not only in the wife after she has cohabitated with the man for a number of years, but also in every other individual (sisters or brothers) living in the same dwelling with the affected person after a number of years. In the latter case the question of hereditary syphilis was entirely eliminated.

Neurosyphilis in Children.—Hunt claims that this condition is common. The nervous system may be involved early. A lumbar puncture may be of great help and should be a routine part of the examination of every nervous child. Syphilis in children necessitates a blood and spinal fluid examination of the parents and vice versa. Treatment is not very promising. The stigmata are not necessary or even very frequent.

Wassermann Reaction in Nonsyphilitics.—A group of 912 individuals representing chiefly the great American middle class population were examined clinically and by the Wassermann test with reference to syphilis. None of these indi-

vidnals were known or supposed to have syphilis. Many of them were persons in good health, a large group were afflicted with diabetes, another large group with nephritis, while the remainder were ill with miscellaneous medical complaints. Approximately 4.4 per cent. showed a positive Wassermann. In a group of 337 diabetics, positive Wassermanns were obtained in sixteen individuals, or approximately 4.8 per cent. after one or more tests of each case. No specific treatment for syphilis was given these sixteen cases, nevertheless seven of them gave thirteen negative reactions and three others gave doubtful reactions. The bloods of these cases all had an increased lipoid content. In thirty-eight individuals, chiefly diabetics, whose serums were too anticomplementary, an increase in blood cholesterol was commonly noted. In a group of 110 nephritics, only one positive Wassermann reaction was obtained. In a group of 369 miscellaneous medical cases, there were twenty-three positive reactors, or approximately 6.2 per cent. Approximately 2 per cent. of the cases studied either had clinical or postmortem evidence of syphilis not revealed by the Wassermann test.

Annals of Otology, Rhinology and Laryngology, St. Louis

December, 1920, **29**, No. 4

Local Amyloid with Special Reference to So-Called Amyloid Tumors of Tongue. H. E. Robertson, Minneapolis.—p. 773.
Trifles That Count for Efficiency. B. A. Randall, Philadelphia.—p. 796.
Acute Abscess of Lateral Wall of Laryngopharynx. C. W. Richardson, Washington.—p. 804.
Chloroma with Special Reference to Ear, Nose and Throat Manifestations, with Report of Two Cases. W. W. Pearson, Des Moines, Ia.—p. 896.
Concerning Question of Jugular Ligation in Sinus Thrombosis. O. M. Rott, Spokane, Wash.—p. 820.
Lateral Sinus Thrombosis; Report of Seven Cases. F. T. Hill, Waterville, Me.—p. 829.
Education of Vestibular Sense. F. J. Martel and I. H. Jones, Los Angeles.—p. 859.
Neuro-otology. C. G. Crane, Brooklyn.—p. 879.
Barany Tests in Supratentorial Tumors Proved by Operation or Necropsy. H. R. Lyons, Rochester, Minn.—p. 898.
Primary Periostitis of Mastoid. S. Salinger, Chicago.—p. 943.

Archives of Neurology and Psychiatry, Chicago

May, 1921, **5**, No. 5

*Psychiatric Aspects of Epidemic Encephalitis. G. H. Kirby and T. K. Davis, New York.—p. 492.
*Histopathologic Findings in Case of Superior and Inferior Poliencephalitis; Remarks on Cerebrospinal Fluid. G. B. Hassin, Chicago.—p. 552.
*Mongolian Idiot. W. Timme, New York.—p. 568.
*Syphilis of Eighth Nerve. J. H. Lloyd, Philadelphia.—p. 572.
*Late Results in Epidemic Encephalitis. M. Grossman, New York.—p. 580.

Psychiatric Aspects of Epidemic Encephalitis.—An analysis was made by Kirby and Davis of the psychiatric aspect of eighteen cases of epidemic encephalitis. The psychic disturbances of epidemic encephalitis present the general characteristics of an acute organic type of mental reaction, corresponding more specifically to a toxic-infectious psychosis. In the acute stages of the disease, psychic torpor and delirium are the most frequently observed mental disturbances, although other clinical pictures may be encountered, as the Korsakoff syndrome or more complex mental disorders in which various affective and trend reactions give a special cast to the psychotic disturbance. Two types of sleep disturbance occur, hypersomnia and hyposomnia. The four gradations of the former are drowsiness, lethargy, stupor and coma. A great majority of patients with encephalitis show delirium at some stage. Transient delirious features during a stupor may easily be overlooked. In encephalitis, the content of the delirium tends to center about habitual trains of thought and occupational activities, but is sometimes determined by somatic sensations. Before the onset of lethargy or delirium, mood changes are usually not marked, although certain patients in retrospect have described a worried, anxious mood at this time; and in contrast, one patient at the onset, while insomnic and overactive, expressed grandiose ideas but was not apparently elated. After the passing of the lethargic or delirious phase, euphoria frequently arises and with it sometimes uncontrollable laughter with appropriate mood. Features of manic reaction are sometimes added to the euphoria and furnish a picture not distinguishable from a manicdepressive excitement. Depressive reactions in various grades of severity, not accompanied by retardation, although in one case with repeated suicidal attempts, have been seen following the stuporous or delirious stage. In the lethargic and stuporous states, there is apathy and apparent inaffectivity. In all of the unrecovered patients, there were signs of some definite alterations in character or mood. Psychic torpor and emotional apathy appear to be the most important mental factors in producing the stupor, while rigidity and certain other muscular symptoms, when present, seem rather to be the expression of a motor phenomenon of the sort seen in paralysis agitans. Ideas of a specific type are not found in encephalitis any more than in other organic-toxic-infectious mental disorders. In regard to the outcome of mental symptoms of epidemic encephalitis, Kirby and Davis have found much evidence of persisting emotional alteration with little evidence of organic mental defects or dementia.

Histopathology of Poliencephalitis.—Hassin claims that poliencephalitis superior (hemorrhagica) of Wernicke is not an inflammatory, but a partial manifestation of a general degenerative process of the central nervous system. It is analogous to other degenerative processes, such as amyotrophic lateral sclerosis, subacute combined cord degeneration, progressive bulbar paralysis and tabes dorsalis, from which it differs by the localization of the degenerative phenomena. It is essentially, though not exclusively, a mesencephalic lesion, resembling in its localization epidemic encephalitis which, however, is not a degenerative but an inflammatory process. The subarachnoid space is a receptacle of the tissue fluids which carry away the waste products of the brain. The function of the choroid plexus is probably to pick up from the cerebrospinal fluid harmful or other products and to render them, as well as the fluid, more absorbable.

Pituitary Changes in Mongolian Idiocy.—In twenty-three out of twenty-four nonselected cases of mongolian idiocy examined by Timme the roentgenogram of the skull showed a peculiar change from the normal in the anterior portion of the pituitary fossa. This change consisted in an excavation under the anterior clinoid processes and presumably under the olivary process and optic groove, and the excavation communicated directly with the anterior portion of the fossa itself. There were varying degrees of this excavation. From knowledge, more or less exact, of the influence of the anterior lobe of the pituitary on growth and genital development, Timme regards this roentgen-ray finding as of considerable interest. Especially is this true, when it is remembered that among the clinical signs of mongolian idiots there is invariably a combination of subnormal and disproportionate body growth, coupled with lack of genital development. The intimate relationship which in early life exists between the anterior hypophysial lobe and the pharyngeal glandular elements is also strikingly coincidental with the extreme pharyngeal mucous secretion seen in mongolian idiots. Furthermore, with such an excavation, involving at times the optic groove, eye symptoms should be and are of frequent occurrence. Theoretically, therefore, disturbance of the anterior portion of the pituitary might readily produce many of the symptoms shown clinically by mongolian idiots. It is therefore suggested that every necropsy examination in cases of mongolian idiocy should include a careful examination of the pituitary gland, notably in its anterior portion. Should such an examination eventuate in a corroboration of antemortem findings, perhaps a rational treatment might be forthcoming for these cases. On the theoretic basis of anterior lobe disturbance, Timme has inaugurated a therapy in several of his cases which has had some degree of success thus far. In one mongolian idiot the testicles have descended since treatment was begun, and there seems to be a measure of mental improvement likewise. This treatment includes the hypodermatic injections of anterior lobe extract (antuitrin), combined with whole gland feeding and thyroid administration in small doses.

Syphilis of Auditory Nerve.—In view of the fact that there is no affection of any cranial or spinal nerve that is more characteristic or more easily recognizable, and scarcely any other, unless it be invasion of the optic nerves, that is followed by more lamentable results, Lloyd regards it as rather remarkable that syphilitic disease of the eighth nerve has apparently attracted but little notice among American and English neurologists until comparatively recent years. His attention has been called anew to this subject by the recent occurrence of early and striking cases in hospital practice. Cases of deafness, tinnitus and vertigo, which formerly would probably have been promptly sent to the otologist, are now retained by the neurologist and scrutinized most closely. Few, if any, of these cases are strictly otologic. They are primarily nervous cases; the lesion is in the nervous system; and the involvement of the eighth nerve is nearly always associated with other well marked symptoms of nervous syphilis. The subject is discussed at some length by Lloyd, and cases illustrative of various types and degrees of deafness are cited.

Late Results of Epidemic Encephalitis.—A follow-up study was made by Grossman of eighty-nine patients who had had epidemic encephalitis. Psychic functions in some form or another were disturbed in 55 per cent. of these patients; insomnia was present in 55 per cent.; tremor and irregular involuntary movements in 58 per cent.; deep reflexes altered in 30 per cent.; muscle tonus disturbed in 18 per cent.; residual signs in cranial nerves in 64 per cent.; pupillary disturbances in 30 per cent. Five patients had Argyll Robertson pupils. About 8 per cent. of the patients gave signs of progression at the time they were examined. The mortality among 145 patients was 20 per cent.

California State Journal of Medicine, San Francisco

May, 1921, **19**, No. 5

Smallpox a Quarantinable Disease. W. J. Hanna, Sacramento.—p. 187.
*Poison Oak Dermatitis. H. E. Alderson and H. J. Pruett, San Francisco.—p. 188.
Results of Wassermann Test on 1,518 Men at San Quentin Prison. G. W. Nagel, San Quentin.—p. 193.
Ante-Operative and Postoperative Treatment. C. L. Lowman, Los Angeles.—p. 195.
*Ameba-Like Leukocytes in Normal Blood and in Pus. H. Gunn, San Francisco.—p. 198.
Plaster Cast Immobilization of Fractures Prior to Open Operation for Reduction of Same. N. T. Enloe, Chico.—p. 199.
Trauma: Relation to Nervous Diseases of Undetermined Pathology. J. Catton, San Francisco.—p. 202.
Essential in Reconstructive Surgery—"Atraumatic" Technic. S. Bunnell, San Francisco.—p. 204.
Acute Brain Injuries. T. O. Burger, San Diego.—p. 207.
Neurological Aspects of Visceroptosis. T. G. Inman, San Francisco.—p. 209.

Treatment of Poison Oak Dermatitis.—Alderson and Pruett report thirty-four cases in which treatment consisted of the injection of 1 c.c. poison oak extract into the gluteus or deltoid. Almost invariably one intramuscular injection is followed by great relief of the local symptoms; swelling and itching particularly begin to subside within twenty-four hours. There is not much local irritation as a rule, but at times where some of the fluid has worked its way along the track of the needle, a painful indurated nodule appears and is slow in subsiding. Some of the patients seem to have become immune.

Ameba-Like Leukocytes.—Gunn suggests that sluggishly motile leukocytes, assuming as they do at times, bizarre forms are accountable for some of the reports of amebas or ameboid bodies found in unusual locations.

Johns Hopkins Hospital Bulletin, Baltimore

May, 1921, **32**, No. 363

*Epidemic Encephalitis. A Clinical Study. W. M. Happ and V. R. Mason, Baltimore.—p. 137.
*Study on Experimental Rickets. III. Effect of Diets Low in Phosphorus and Fat Soluble A: Phosphate Ion in Its Prevention. P. G. Shipley and E. A. Park, E. V. McCollum and N. Simmonds, Baltimore.—p. 160.
*Giardia (Lamblia) Intestinalis. A Common Protozoan Parasite of Children. K. F. Maxcy, Baltimore.—p. 166.

Epidemic Encephalitis.—In a series of eighty-one cases Happ and Mason did not encounter a single instance in which more than one member of a family or household was affected, nor was it possible to determine the mode of infection. The important symptoms are discussed seratim and illustrated when possible by case reports.

Experimental Rickets.—Diets low in their content of fat soluble A and phosphorus produced in the majority of the young rats placed on them pathologic conditions of the skeleton having a fundamental resemblance to rickets, but not identical with that disease as it usually manifests itself in the human being. The chief difference consisted in the presence of scattered or irregular deposits of calcium salts in the cartilage and metaphysis. The picture bore a marked resemblance to those seen in rachitic children in whose bones incomplete healing has taken place. When the deficiency in phosphorus is compensated for by the addition of a complete salt mixture containing the phosphate ion, the deficiency in fat soluble A still existing, no pathologic changes of a rachitic nature developed. The addition of the phosphate ion to the diet had no effect, however, in preventing xerophthalmia, hence it seems permissible to infer that xerophthalmia and rickets do not have an identical etiology. These results do not in the author's opinion exclude the fat soluble A from consideration as an etiological factor in the production of rickets and kindred diseases, since the level of the blood phosphate is, in all probability, determined in part by the amount of the fat soluble A available for the needs of the organism.

Intestinal Parasites in Children.—Of eighty-nine children examined by Maxcy, eighteen or 20 per cent. were found to be harboring intestinal protozoa of some type. It is noteworthy that in a group of fifteen "feeding cases" under 1 year of age no infestations were found. The youngest positive case was a little girl, 17 months of age, whose stools showed large numbers of *Endamcba coli* cysts. From the second year on there was an increasing number of positive cases with advancing age, so that the group of children from 6 to 12 years old showed a decidedly higher percentage of infestations than the children between 1 and 5. *Giardia intestinalis* alone was found in ten cases; *Giardia* and *Endamcba coli* were found in one case; *Giardia* and *Blastocystis* in two cases; *Giardia, Hymcnolepsis nana* and *Oxyuris vermicularis* in one case; and *Endameba coli* alone in four cases.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

May, 1921, **17**, No. 4

*Comparative Toxicity of Thymol and Carvacrol (Isothymol). A. E. Livingston, Washington, D. C.—p. 262.
*Evidence for Presence in Digitalis of a Principle that is Eliminated Rapidly After Intravenous Injection into Cat. M. S. Dooley, New York.—p. 277.
*Relation Between Amount of Stainable Lipoid Material in Renal Epithelium and Susceptibility of Kidney to Toxic Effect of General Anesthetics. Wm. deB. MacNider, Chapel Hills, N. C.—p. 289.

Toxicity of Carvacrol.—Carvacrol is produced from spruce turpentine. The possibility of its use as a substitute for thymol was suggested in 1918 by Hixson and McKee when thymol could not be obtained from abroad. No data being found in the literature in regard to its toxicity, a comparative study of carvacrol with thymol was undertaken by Livingston. He used rabbits, paramecia and earthworms and found that the toxicity of thymol and of carvacrol on rabbits is essentially the same. The toxicity of thymol and of carvacrol is essentially the same. The toxicity of thymol and of carvacrol as tested on paramecia shows no striking difference. Tests on earthworms indicate that the relative anthelmintic values of thymols and carvacrol are practically the same.

New Digitalis Body.—Seven specimens of digitalis were examined by Dooley in order to determine the difference between the amounts required to cause death following the intravenous administration in the cat in short periods as contrasted with the amounts required in longer periods of administration. Evidence is submitted to show that the total amount of digitalis required in this way to cause death is less when this amount is injected within a few minutes than that required when the administration is prolonged over a

period of several hours. This is the opposite of the case with digitoxin of which more is required to cause death promptly than after the lapse of some hours. The results obtained are interpreted as indicating the presence in the leaf of a digitalis body having a shorter period of cardiac action in the cat than that of any true digitalis body hitherto studied in this way. This brief period of cardiac action is regarded as evidence for its "elimination" in the sense previously defined. There is some clinical evidence in support of the view here expressed.

Toxic Effect of Anesthetics on Kidney.—When normal animals of different age periods are anesthetized by either chloroform or ether, there is found to exist a definite relationship between the toxicity of the anesthetic for the renal epithelium and the age of the animal. These anesthetics are more toxic for the kidneys of old animals than they are for the kidneys of puppies and young animals. This variation in toxicity is expressed histologically by more extensive degenerative changes in the kidneys of old animals and by a more marked decrease in the functional response of the kidneys of such animals. Chloroform has been found to be more toxic for the kidneys of both old and young normal animals than ether. When kidney tissue of normal animals of different age periods that have been anesthetized by chloroform or ether is stained for lipoid material and studied histologically, there has been found to occur a greater accumulation of such material in the kidneys of the animals anesthetized by ether. On the whole, the results of MacNider's investigation indicate a definite relationship between the amount of stainable lipoid material in the renal epithelium of both normal and naturally nephropathic animals and the susceptibility of this epithelium to the toxic effect of both ether and chloroform.

Laryngoscope, St. Louis

April, 1921, **31**, No. 4

*Acoustic Neuromas. H. Cushing, Boston.—p. 209.
Cultivating Balance Sense: Prelude to Cloud Flying. R. J. Hunter, Philadelphia.—p. 229.
Open Safety Pin in Larynx, Six Months. H. B. Orton, Newark, N. J. —p. 233.
Peritonsillar Abscess and Its Radical Treatment. I. M. Heller, New York.—p. 236.
Vaccines in Treatment of Asthma. G. H. Sherman, Detroit.—p. 239.

Acoustic Neuromas.—Of 1,138 brain tumors of all regions seen by Cushing, of 354 posterior tumors, and of 117 tumors of the angle, in particular, the acoustic neuromas represent 7.3 per cent. of all verified tumors (47 in 639 cases); 24.5 per cent. of all verified posterior lesions (47 in 192 cases); 60.3 per cent. of all proven extracerebellar cases (47 in 78 cases); and far and away the larger percentage of all tumors with symptoms pointing unmistakably to the cerebellopontile angle (47 in 60 cases). When tumor symptoms, therefore, point to the recess and begin with deafness one may feel fairly certain of a diagnosis.

Michigan State Medical Society Journal, Grand Rapids

May, 1921, **20**, No. 5

Gonorrhea in Women. J. E. Davis, Detroit.—p. 153.
Congenital Malformations in Urinary System. M. C. Bergheim, Detroit. —p. 156.
Obligation of Medical Organizations in Public Health Education. F. C. Warnshuis, Grand Rapids.—p. 165.
Infantile Diarrhea. L. F. Foster, Bay City.—p. 168.
Compulsory Health Insurance and Allied Dangers. J. J. A. O'Reilly, Brooklyn.—p. 173.

Nebraska State Medical Journal, Norfolk

May, 1921, **6**, No. 5

*Cause of Failure After Operations for Club Feet. J. P. Lord, Omaha. —p. 129.
Heat in Treatment of Cancer. J. F. Percy, Galesburg, Ill.—p. 133.
Acute Manic-Depressive Psychoses and Their Early Treatment. W. B. Kern, Los Angeles.—p. 135.
Treatment of Eclampsia. C. R. Watson, Mitchell.—p. 138.
Dangers in Childbearing—A Plea for Better Obstetrics. E. C. Sage, Omaha.—p. 142.
Civilian Surgeon's Story of Great War. H. W. Orr, Lincoln.—p. 144.
Focal Infections in Mouth. F. W. Webster, Lincoln.—p. 147.
Removal of Open Safety Pin from Oesophagus of Infant B. M. Kully, Omaha.—p. 151.

Cause of Failure After Clubfoot Operations.—Lord mentions failure to overcorrect adequately as being the most common error. Also a common error is to graduate from casts too soon. When the feet have been fully overcorrected by operation, and casts to the number of three to six, worn for about six months, braces should be employed to maintain the correction for a period of several months, after which, walking without the casts may be permitted during the day, but braces or efficient supports should be worn at night to maintain the corrected or overcorrected position. This practice will insure against recurrence due to feet growing crooked again because of growth during sleep, when they are relaxed and in a position of equinus or equino varus. This factor is quite sufficient to bring about the recurrence within a period of from one to five years.

Neurological Bulletin, New York

April, 1921, **3**, No. 4

Social Development of Man and His Problems of Adjustment. L. Casamajor, New York City.—p. 125.
*Substantia Nigra: Comparative Anatomic Study. I. S. Wechsler, New York.—p. 130.
*Extra-Medullary Fibroneuroma Mainly Involving Posterior Columns of Cord. H. S. Howe, New York City.—p. 135.
Discrete Thermal Changes in Spinal Syphilis. C. A. McKendree, New York City.—p. 144.
*Diagnosis of Multiple Sclerosis in Absence of Triad of Charcot. J. Rosett, New York.—p. 148.
*Epidemic Encephalitis or Cerebral Syphilis. C. A. McKendree, New York.—p. 153.
*Epidemic Encephalitis of a Paralysis Agitans Type with Recrudescence One Year Later. G. A. Blakeslee, New York City.—p. 159.

Substantia Nigra.—Wechsler states that from a study of the serial sections of the substantia nigra in man, in seven simians and two other animals and from a review of the comparative anatomical studies of Bauer it appears that the structure is about the same in all mammals, although it is best developed in the human. It is not at all well defined and microscopically one cannot delimit it from the tegmentum, internal geniculate, the pontine nuclei or the hypothalamic region. In some of the animals it either goes down to a lower level or reaches a higher one than in others. The substantia nigra is found in all mammals but is said not to exist in lower vertebrates. No studies of it have been made in birds. The coordination of chewing and swallowing is only one of the numerous associational and coordinative functions of the substantia nigra.

Extramedullary Fibroneuroma.—The history in Howe's case is that of a gradually progressive lesion of the cord of two years' duration at approximately the level of the second lumbar segment. For the first year and a half the symptoms were those of a hemiparaplegia, and it is only during the past few months that evidences of involvement of both sides of the cord have developed. At present the motor symptoms are mainly confined to the left side and consist of weakness of the muscles of the thigh, calf and foot, hyperactive knee and ankle reflexes and a positive Babinski. The Babinski reflex is present also on the right side, though there is no definite muscular weakness demonstrable in this limb. The sensory disturbances are mainly confined to the posterior column. There is hypesthesia over the left leg below the center of the thigh, and of the right leg below the knee. The sensations of pain and temperature are not normal, the disturbances being more on the right side, but not confined to areas that make them of much localizing value. Determination of position and passive movement is defective in the left toes, ankle, knee and possibly the hip, and also, but to a less extent, in the right toes. Vibration sense is lost over both legs below the crests of the ilia, except on the upper and inner surfaces of the thighs. It is diminished below the groin. Posteriorly the loss is not as extensive, being only partial on the upper three-fourths of the right thigh and over the inner surface of the left thigh. However, there is a definite diminution everywhere below the spine of the second lumbar vertebra. On the vertebral spines and the soft tissues above, the vibrations are everywhere very distinct. At operation a tumor was found on the dorsal aspect of the cord at the level of the second and third lumbar segments. The appearance of this tumor was very similar to those arising from the acoustic nerve. It was a fibroneuroma.

Diagnosis of Multiple Sclerosis.—The symptomatology in Rosett's case indicates a multiplicity of lesions within the central nervous system, although none of the symptoms of the classical triad of Charcot is present. The patient presents neither scanning speech, intention tremor, nor nystagmus. On the other hand, dissemination of the pathologic process is manifested in many other clinical details.

Cerebral Syphilis (?).—The important symptoms and findings in McKendree's case were: acute onset, thirteen months ago with headache, low fever, vomiting, diarrhea, drowsiness and nervous symptoms; persistence of drowsiness, with insomnia of varying intensity; decided change in personality; poor memory for recent events; attacks of confusion; excitability; apathy; questionable inequality in deep reflexes of lower extremities; questionable Argyll Robertson pupils; loss of sexual desire; positive Wassermann reaction of blood serum; negative spinal fluid.

Epidemic Encephalitis with Recrudescence.—A boy in good health was suddenly taken ill with fever malaise and projectile vomiting. This was quickly followed by delirium, a distended bladder, with a loss of expulsive power and a hematuria. There was suboccipital pain, also pains in the left arm and leg. The symptoms gradually subsided and the patient was out of bed at the end of three weeks. He then first complained of diplopia and the parents noticed a constant tremor of the left hand and foot and an unsteadiness in gait. He was emotional. The boy's health improved, he was out of doors and played with other children, but there was a residual nonintention tremor and the associated movements of the left hand and foot were impaired. He has remained very emotional. At the end of one year, he developed a low-grade fever with projectile vomiting, distended bladder and increased tremor of the left hand and foot. There were also rather intense emotional reactions and headaches. The neurologic examination made by Blakeslee showed signs of a paralysis agitans syndrome and some pyramidal tract signs. With two weeks' rest the tremor has slightly diminished and the patient has gained 2 pounds in weight. The initial symptoms one year ago are interpreted as clinical manifestations of an acute inflammatory process with a moderately severe toxemia involving the cerebrum and basal ganglions. The process, or the pathologic changes following it, have never entirely subsided and one year later there is an exacerbation of the symptoms of the disease with gastro-intestinal and bladder disturbances and emotional reactions as in the primary attack.

New Jersey Medical Society Journal, Orange

May, 1921, **18**, No. 5

Early Diagnosis of Clinical Tuberculosis. B. S. Pollak, Secaucus.—p. 141.
Congenital Pyloric Stenosis. Two Cases. M. Danzis, Newark.—p. 145.
Certain Aspects of Treatment of Heart Disease. H. M. Ewing, Newark.—p. 149.
Value of Chemistry of Blood in Disease. R. Gilady.—p. 153.

New York Medical Journal

May 4, 1921, **113**, No. 13

Rôle of Prostate and Seminal Vesicles in Arthritis. O. S. Lowsley, New York.—p. 641.
Quartz Light Therapy in Obstinate Prostatic Affections. D. McCaskey, New York.—p. 647.
Suppression of Public Prostitution a Factor in Spread of Venereal Disease. A. L. Wolbarst, New York.—p. 648.
Origin of Word Syphilis. W. R. Riddell, Toronto, Can.—p. 650.
Undescended Testicle in Inguinal Canal. J. J. Gilbride, Philadelphia.—p. 656.
Roentgen-Ray Diagnosis of Lesions of Genito-Urinary Tract. L. Levyn, Buffalo.—p. 657.
Difficulties Encountered in Prostatectomy. J. A. Gardner, Buffalo.—p. 659.
Etiologic Factors of Chronic Prostatitis. A. Strachstein, New York.—p. 661.
Pitfalls in Prostatectomy. P. Martin, Buffalo.—p. 663.
Seminal Vesiculitis. M. Zigler, New York.—p. 666
Methods of Examining for Spermatozoa in Diagnosis and Treatment of Sterility. M. Huhner, New York.—p. 678.
Diseases of Genito-Urinary Tract. W. J. Ezickson, Philadelphia.—p. 684.
Important Classification of Albuminurias. E. G. Ballenger and O. F. Elder, Atlanta, Ga.—p. 686.
Vas Puncture, Injection of Vas with Argyrol and Seminal Vesiculotomy. A. S Sanders, New York.—p. 687.

Public Health Journal, Toronto

April, 1921, **12**, No. 4

Necessity of Publicity Campaign Against Cancer. J. W. S. McCullough, Toronto.—p. 145.
Mental Measurements as Applied to a Toronto School. E. J. Pratt, Toronto.—p. 148.
Relation of Canadian National Council for Combating Venereal Diseases to Program of Venereal Disease Control. G. Bates, Vancouver.—p. 156.
Victorian Order of Nurses. Public Health Nurse as an Organizer in Rural Community. J. Forshaw.—p. 163.

Southern Medical Journal, Birmingham

[illegible], 1921, **14**, No. 5

Etiology and Diagnosis of Nephritis. J. B. McElroy, Memphis.—p. 347.
Importance of Eye Examinations in Nephritis. A. O. Pfingst, Louisville.—p. 352.
Changes Induced in Kidney When an Acute Injury is Superimposed on a Chronic Glomerulonephropathy. W. DeB. MacNider, Chapel Hill, N. C.—p. 357.
Nephritis in Childhood. L. R. DeBuys, New Orleans.—p. 362.
Nephritis and General Surgery. M. L. Boyd, Atlanta.—p. 368.
Treatment of Chronic Nephritis. W. H. Witt, Nashville.—p. 372.
Clinical Features of Epidemic Encephalitis. L. M. Gaines, Atlanta.—p. 381.
*Erysipelas in Childhood. J. H. M. Knox, Jr., Baltimore.—p. 387.
*Intraperitoneal Use of Dextrose and Physiologic Sodium Chlorid Solution in Treatment of Marasmus and Severe Type of Malnutrition. H. L. Moore, Dallas, Tex.—p. 393.
Supervision of Pre-School Children and Physical Education. F. S. Bradley, Washington, D. C.—p. 395.
Acute Diffuse Septic Peritonitis. A. L. Blesh, Oklahoma City.—p. 402.
Management of Surgical Kidney. R. L. Sanders, Memphis.—p. 408.
Hemorrhage from Kidney. H. A. Fowler, Washington, D. C.—p. 414.
Necessity for Co-Operation of all Railway Surgeons' Associations. J. W. Palmer, Ailey, Ga.—p. 420.
*Primary Carcinoma of Trachea. E. B. Cayce, Nashville.—p. 422.
Case of Extradural Abscess Complicating an Acute Left Frontal Sinusitis. W. W. Perdue, Mobile.—p. 424.

Erysipelas in Childhood.—Fifty-three cases are analyzed by Knox. The children ranged from 1 month to 9 years in age. More than half the cases (twenty-nine) occurred in the first year, and two thirds of these (twenty) in the first six months. Sex seemed to have no bearing on incidence. Erysipelas is said to be a disease more prevalent in cold weather. There was fairly equal distribution throughout the year, with a smaller number of cases in July, August and September. Apparently, in early childhood the season has less influence in the incidence of the disease, which depends more on the nature of the injury than on climate or season. The nature of the initial lesion and mode or origin was most varied. In practically every case, a definite form of injury with subsequent skin infection could be determined. No part of the body is immune; the site is largely determined by the nature of the injury. The area of the body involved in the course of the disease was exceedingly variable and bore but little relationship to the severity of the infection. The time which elapsed between the initial injury and the beginning of symptoms was from two to twenty-eight days. Nearly all the cases showed considerable elevation of temperature and symptoms of intoxication. In one instance, the temperature reached 108 F. In but one case did the temperature remain below 100 F. In all the cases the temperature curve exhibited an irregular or intermittent character. There was a pronounced leukocytosis in nearly every instance. The highest count was 55,000 in a case complicated by otitis media. There were but two counts below 10,000, both of these in critically ill children, 1 month of age, who were overwhelmed by the infection. The length of illness could be determined in fifty-one cases and its average duration was 12.1 days. It would seem, therefore, that erysipelas in young children is a particularly acute illness in which the result is determined in a comparatively brief period. Cultures from the circulating blood were made in eighteen cases; streptococci isolated in six cases; in twelve the cultures were sterile. Involvement of other tissues than the skin were frequent and complications were found in many of the cases. The most frequent one was otitis media. Of the fifty-three cases, thirty-eight patients recovered and fifteen died, a mortality of 28.3 per cent. No drugs or external applications were found to be specific. Serum treatment with antistreptococcal serum and vaccine treatment were not employed.

Intraperitoneal Injection of Dextrose in Marasmus.—Moore reports good results in these cases by giving daily from 250

to 400 c.c. of a 5 per cent. dextrose in physiologic sodium chlorid solution intraperitoneally until there has been a steady gain in weight over a period of several days. Within a few hours following the first injection the vitality improves and by the third or fourth treatment the stools have become normal in number and appearance. Usually after the second day the loss of weight is checked and by the fourth day the infant begins to gain. After gaining steadily for a few days treatment is discontinued, and rarely needs repeating. Occasionally, the weight comes to a standstill after gaining steadily for a number of days. Under such conditions, if it remains stationary or a loss begins, treatment must against be instituted as before.

Primary Carcinoma of Trachea.—Cayce's patient, aged 64, had a negative family and personal history, except for frequent attacks of migraine, which nothing seemed to relieve. First trouble noticed was while out hunting. He became short of breath on slight exertion. He developed a cough or cold at this time. He complained of cough and soreness in the chest with attacks resembling asthma every few nights. He slept well except during these attacks. About January, 1920, he had great difficulty in breathing, the dyspnea being both inspiratory and expiratory. He had a slight discoloration of the skin toward the end of his illness. The roentgen ray showed a shadow at the bifurcation of the trachea, which was interpreted as a cavity. He gradually lost weight and strength in spite of the fact that his appetite was good and he ate the most nutritious foods. With the exception of dyspnea he suffered no pain. He died April 25. At the necropsy a tumor was found at the bifurcation of the trachea, with a large sessile base located on the posterior wall of the trachea and left bronchus. This tumor had extended down into the opening of the left bronchus and was sufficiently large to occlude completely the left bronchus. It also impinged on the lumen of the right bronchus, but did not occlude it. This tumor was firmly attached to the wall of the trachea and bronchus by a large base and was infiltrated into its walls. The gross appearance was that of a malignant epithelial tumor. There was no evidence of metastasis by continuity through the wall of the trachea or bronchus to other tissues. It proved to be an adenocarcinoma.

Texas State Journal of Medicine, Fort Worth

May, 1921, **17**, No. 1

Are Women Human? W. Wilson, Memphis.—p. 9.
Gynecologic Symptoms. E. Dunlap, Dallas.—p. 12.
Plea for Ovary and Its Conservation. J. Becton, Greenville.—p. 15.
Vaginal Route in Operating for Limited Number of Pelvic Conditions. J. M. Inge, Denton.—p. 16.
Relation of Medical Profession to Industrial Surgery. A. P. Howard, Houston.—p. 16.
Medical Reconstruction vs. Surgery as Well as an Adjunct to Surgery. E. V. DePew, San Antonio.—p. 18.
Methods of Diagnosis and Treatment of Some Interesting Cases with Rational Therapy. J. W. Torbett, Marlin.—p. 19.
Allergy. N. D. Buie, Marlin.—p. 23.
*Case of Progressive Muscular Dystrophy. L. Rice, Galveston.—p. 26.
Moist Heat as a Cure for Erysipelas. E. A. Cayo, San Antonio.—p. 28.
Since We Have the Vote, What Shall We Do With It? Mrs. E. H. Cary, Dallas.—p. 28.

Progressive Muscular Dystrophy of Long Duration.—Rice's case has thus far been of eighteen years' duration, when the patient first noticed that his ankles were becoming weak, and he was compelled to give up skating, a sport in which he was expert. During the following ten years five entries were made in his health record in the U. S. Navy, and in each of them mention was made of an apparent atrophy of the calf muscles, but a diagnosis is not recorded. The patient suffered no discomfort, and performed his duties (electrician, U. S. Navy) during this period with no difficulty, but he noticed that he worked more slowly, and toward the end of the period he sometimes stumbled while walking over decks at night. A year later, he noticed that his toes would drag while walking unless his feet were lifted higher than usual above the ground. A diagnosis of "progressive muscular dystrophy" was recorded. Four years ago the patient was given shore duty because his footing become insecure, and he often fell during rough weather at sea. June, 1917, he was sent to the electrical school at New York as an instructor. Rice saw the patient for the first time in September, 1918. The physical examination revealed a marked atrophy of all skeletal muscles. The arms and legs were small and had very little power. Double foot drop was present, and the anterior and peroneal muscles had practically disappeared. The abdominal muscles were thin and the shoulder girdle was so loose that the head was half hidden when the shoulders were raised. The trapezius on each side was prominent by comparison, and had suffered much less than the other muscles of the upper chest. The platysma was well developed and no atrophy of this muscle could be detected. The patient had lost 27 pounds during the past six years, and this loss had reached 33 pounds when he passed from under observation, June, 1920. The superficial and deep reflexes, though diminished, were all present, the sphincters were not affected, and no sensory disturbances of any kind could be found. The reaction of degeneration was not present. The Romberg was negative and the pupils were equal and normal, as were the fundi. The spinal fluid was clear, under no pressure, and contained four cells per cubic millimeter. The Wassermann was negative, Fehling's positive, and globulin was not increased. The patient was active mentally and no tremors were present. The blood Wassermann was negative. No abnormality could be found in roentgenograms of the head.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

April, 1921, No. 249

*Case of Idiopathic Multiple Pigmented Hemorrhagic Sarcoma. C. P. G. Wakeley and M. S. Thomson.—p. 339.
Cases of Gastro-Intestinal Diagnosis. W. Mitchell.—p. 343.
Action of Radium and Roentgen Rays on Malignant Cells. J. H. D. Webster.—p. 346.

Roentgen-Ray Treatment of Hemorrhagic Sarcoma.—In the case cited by Wakely and Thomson the disease involved the right lower leg and ankle. The diagnosis of multiple idiopathic hemorrhagic sarcoma was confirmed by the microscope. Roentgen-ray treatment was deemed advisable in view of the doubtful action of arsenic. For this purpose, the leg and ankle were divided into twenty-four areas, each 2½ inches square. Each section received a full pastille (Sabouraud) dose through a 3 mm. aluminum filter. A hard Coolidge tube was used, the distance from the target to the skin being ten inches. The total period over which this treatment extended was about one month. The ulceration quickly cleared up, the edema diminished and the discoloration disappeared, until on discharge from hospital there was very little difference in the two legs.

British Journal of Experimental Pathology, London

April, 1921, **2**, No. 2

Serologic Races of V. Cholerae and Relation of Some Other Vibrios to this Species. S. R. Douglas.—p. 49.
*Gastric and Respiratory Response to Meals. T. I. Bennett and E. C. Dodds.—p. 58.
*Distribution of Blood Groups in Patients Suffering from Malignant Disease. W. Alexander.—p. 66.
*Influence of Bile Salts on Gastric Function. C. A. Pannett and C. M. Wilson.—p. 70.
*Etiology of Rickets: An Experimental Investigation. D. N. Paton and A. Watson.—p. 75.
*Antiseptic Potency of Acriflavine, with Considerations on Variability of Results in Testing Antiseptics. C. H. Browning and R. Gulbransen.—p. 95.
*Picrocarmine. V. Jensen.—p. 103.

Gastric and Respiratory Response to Meals.—Studied by means of gastric analysis and by estimation of alveolar tension, normal men are found to fall into four distinct classes. The results obtained by the two methods are found to confirm one another. Cases showing achlorhydria during gastric analysis show a curve of alveolar carbon dioxid tension similar to that obtained in patients following gastrectomy. Such cases show a fall in alveolar carbon dioxid tension at a later period indicating normal secretion during the later processes in digestion. Cases of hyperchlorhydria in healthy men have sometimes been found to show changes in alveolar carbon dioxid tension following meals which exceed what have previously been considered physiologic limits. Some normal

cases occur in which the processes of upper alimentary digestion are so rapid as to be only demonstrable by observations taken at very short intervals. Cases which yield a high gastric acidity during digestion are usually found to show a relatively high tension of alveolar carbon dioxid even during the "resting" phases of the stomach; in cases of achlorhydria the reverse is seen.

Blood Grouping in Malignant Disease.—The blood group of fifty cases of malignant disease has been determined by Alexander and the incidence of each compared with that in 125 cases of other diseases and fifty normal persons. It is found that, while persons belonging to all four groups are liable to malignant disease, those in Groups I and III appear to be peculiarly susceptible, and the clinical type of disease is, generally speaking, more malignant.

Influence of Bile Salts on Gastric Function.—It is shown experimentally in cats and man that the addition of a small quantity of sodium taurocholate to a testmeal is followed by an abnormally rapid evacuation of the stomach contents.

Etiology of Rickets.—Paton and Watson state that in young dogs under ordinary laboratory conditions a liberal allowance of milk fat, up to even 14 gm. per kilo of body weight, neither prevents the onset of rickets nor cures it when it has developed. Pups kept largely in the open air may escape the development of rickets on an intake of less than 1 gm. milk fat per kilo of body weight. With scrupulous care as to cleanliness it is, at least sometimes, possible to rear pups free of rickets in the laboratory on an intake of only about 0.5 gm. milk fat per kilo of body weight, along with bread, provided that the diet affords an adequate supply of energy. The energy value of the diet, however supplied, quite apart from the presence of any hypothetic antirachitic factor in milk fat, would seem to play a part in controlling the development of rickets, but that it is only a contributory part is shown by the development of rickets in pups with a high energy intake if confined in the laboratory without scrupulous care as to cleanliness. Milk fat may be reduced to about 0.3 gm. per kilo of body weight, if its place is taken by an equal amount of lard, without the onset of rickets. The results of these observations do not support the conclusion of the Accessory Food Factors Committee of the Medical Research Council that rickets is a deficiency disease due to a lack of an antirachitic factor associated with milk fat.

Antiseptic Potency of Acriflavine.—Browning and Gulbransen state that the sterilizing concentrations of acriflavine (diaminoacridene methochlorid) in heated ox serum (56 C.) for *B. coli* and *Staphylococcus pyogenes aureus* are respectively 1 : 100,000 and 1 : 200,000, these being the modal values obtained in an extensive series of tests. These figures correspond with the values originally assigned. The sterilizing concentrations in dilute peptone water, with a reaction from p_H 7.2 to 7.8 (approximately), are found to be for *B. coli* 1 : 20,000 and for *Staphylococcus pyogenes aureus* 1 : 200,000 (modal values). These values represent a much higher activity than those originally given. Different commercial specimens of acriflavine could not be distinguished as regards their antiseptic potency, but there was evidence that certain specimens were more irritating to the conjunctiva than others; this property is likely to be important where the substance is employed in treating an infection of a delicate membrane, e. g., that of the urethra. Methods of testing the antiseptic power of acriflavine by repeated inoculation of a mixture of antiseptic and serum, and also by adding the antiseptic after the growth of organisms *(B. coli)* had occurred in the medium, have shown that rapid exhaustion or deterioration of the antiseptic in the medium does not occur.

Jensen describes his technic as follows: 1. Magnesium-carmine (P. Mayer): 1 gm. carmine and 0.1 gm. magnesium oxid are boiled in 50 c.c. distilled water for 5 minutes Cool and filter. Then 0.5 c.c. liquid phenol is added. 2. Magnesium picrate (P. Mayer): 50 c.c. 0.5 per cent. picric acid solution in distilled water boiled for some minutes with 0.25 gm. magnesium oxid. Cool and filter. 3. One per cent. picric acid in distilled water. Mix 1 and 2. Then add 10 c.c. of 3, shaking constantly. This gives an absolutely clear, deep red staining fluid, which on account of the phenol present remains unaltered for months, perhaps years. The stain applied for from three to five minutes to a celloidin or paraffin section produces a beautifully differentiated effect, and the nucleus, especially, is nicely stained, the best results being obtained after hardening in alcohol or mercuric chlorid.

British Journal of Tuberculosis, London

April, 1921, **15**, No. 2

Training in Tuberculosis. G. Woodhead.—p. 53.
Postgraduate Instruction in Tuberculosis. D. B. King.—p. 55.
Methods and Principles of Classification in Pulmonary Tuberculosis. F. R. Walters.—p. 57.
Insurance Against Sickness in Ex-Sanatorium Patients. J. Watt.—p. 61.
"In This Sign": Story of Tuberculosis Crusade of Double-Barred Cross in United States. P. J. Jacobs.—p. 63.
*Stability Reaction of Blood in Pulmonary Tuberculosis. A. Westergren.—p. 72.

Stability Reaction of Blood in Tuberculosis.—If blood is prevented from coagulating (e. g., with oxalate or citrate), the red blood corpuscles during gravidity and in most pathologic states sedimentate faster than in normal conditions. Westergren has investigated the suspension stability as it occurs in pulmonary tuberculosis. Altogether about 4,000 tests have been made. It is obvious that a reaction of the organism caused by the pathologic process (proceeding or just passed off) is reflected in the suspension stability of the blood. And, furthermore, the degree to which the stability is reduced corresponds surprisingly well to the extent of activity which the process, clinically interpreted, may be presumed to possess. On the whole, the figures are increased with increase of lesions of the lung tissue, but acute cases show the strongest reactions, chronic cases relatively lower figures, the size of which generally is correlative to the activity of the process. No single test of an active, or probably active, case has given a normal value, and no case which must be considered quite benign, and certainly shows no signs of activity, has given a high, even a middle-high figure. The stability frequently is reduced, even to a very high degree, though for a long time quite a normal temperature has been observed, and the stability reaction seems considerably more than the temperature to be a reliable measure of the activity of the process. When a series of probatory injections of tuberculin were made, and the patients were followed up with stability reaction tests every day or every second day, without exception a typical influence by the tuberculin on the stability has been discovered; in the first place, an obviously increased sedimentation appears, which may be noted earlier and always lasts for a longer time than the reaction of the organism which is manifested in the general state and by careful measurements of the temperature. Though reduction of the suspension stability is in no way a specific reaction, the stability reaction very likely can have a diagnostic value for tuberculosis. With normal stability, an active phthisis is most probably to be excluded.

British Medical Journal, London

April 30, 1921, **1**, No. 3148

*Posterior Rhizotomy for Relief of Pain. W. Thorburn.—p. 629.
*Symptomless Hematuria. J. B. Macalpine.—p. 631.
*Serologic Study of Hemolytic Streptococci. M. H. Gordon.—p. 632.
Postural or So-Called Static Deformities. A. S. B. Bankart.—p. 636.
Differential Staining of Carcinomata. A. G. Shera.—p. 639.
Operation for Retroflexion of Uterus. J. Craig.—p. 639.
Dislocation of Radius Forward at Inferior Radio-Ulnar Joint. L. Rogers.—p. 639.
Prevention of Intestinal Obstruction After Ventrofixation. R. Stewart.—p. 639.

Posterior Rhizotomy for Relief of Pain.—Thorburn has performed this operation for gastric crises in three cases; two of these date back to 1914. One presents complete immunity and the other relatively great improvement as regards the crises, which alone the operation was designed to meet. In the cases in which pain was limited to the left side, the operation was unilateral only; in Case 1, in which complete cure resulted, it involved the fourth to the eight thoracic roots; in Case 3, in which relief resulted, the fourth to the eleventh roots were cut. In Case 2, partially relieved, the operation was bilateral, and concerned only the fifth to the eighth roots. Apart from the main issue in the above cases, attention may be called to two points, namely, the complete-

ness and permanence of anesthesia, and the total absence of any indication of trophic changes in the affected parts; in both of which respects the operation conforms to the results produced by dividing the sensory root of the gasserian ganglion. Rhizotomy for painful affections of the limbs was performed by Thorburn twice. These two cases are sufficiently indicative of the uncertainty of relieving severe neuralgia by posterior rhizotomy, and one case shows very clearly how some painful affections of the limbs may be associated with changes extending into the central nervous system.

Symptomless Hematuria. — Macalpine suggests the term "unaccompanied hematuria" and urges that a careful search be made for the cause of the hemorrhage in these cases.

Serologic Study of Hemolytic Streptococci.—By the absorption of agglutinin test hemolytic streptococci have been differentiated by Gordon into three distinct groups or types. Of these Type I is the largest. To this serologic group belong the vast majority of specimens of hemolytic streptococci from localized or general streptococcal infections, from cases of puerperal sepsis, and from infections of the respiratory passages other than scarlet fever. Type I, in fact, represents *Streptococcus pyogenes*. Type II is rare: only two specimens of it have been obtained. Type III is chiefly to be found in the secretion on the tonsil and fauces in scarlet fever. Serologically this *Streptococcus scarlatinae* is quite distinct from *Streptococcus pyogenes*. The observations of Tunnicliff and Bliss to that effect are confirmed.

Medical Journal of Australia, Sydney

April 9, 1921, **1.** No. 15

Principles Governing Modern Midwifery Practice. M. McLorinan.—p. 283.
Team Work in Sanitation. W. A. Sawyer.—p. 285.
*Case of Hydatid of Heart. R. H. Marten and C. T. C. de Crespigny.—p. 287.

Hydatid of Heart.—In this case the diagnosis was made with the fluoroscope. The heart was seen on the fluorescent screen to be pushed over to the right of the sternum and a large, nonpulsatile, rounded opacity was noted in the left side of the thoracic cavity, coming from under the left border of the sternum, about as large as a fetal head at term. The diagnosis made was that of hydatid cyst, probably old, with its origin in the mediastinum, compressing the root of the left lung, dislocating the heart into the right side of the thorax and obstructing the left innominate vein. Under local anesthesia, the needle of an aspirator was thrust through the third interspace, about two inches (5 cm.) to the left of the middle line of the sternum and appeared to enter a cavity. No fluid came through to the vacuum, but the needle was plugged with a chocolate colored, pasty material, which proved to be made up of broken down blood cells, with much cholesterol, but no other evidences of hydatid. The patient stood the puncture very well; but the next day the dull area seemed to have a marked pulsation, but no expansion. The left pupil was then seen to be dilated for the first time. The patient died suddenly in collapse about two weeks later. At the postmortem examination a tough, fibrous cyst wall was found lying anterior to the heart and densely adherent to the thoracic wall. In separating the sternum and sternal ends of the costal cartilages the cyst was ruptured and large quantities of a brown, pasty material exuded. This was scooped out with the hands and amounted to about a liter. Further exploration showed a large cystic structure, with a fibrous and partly calcareous wall, occupying the lower half of the left side of the thorax. It bulged forward and inward almost to the midline, dislocating the left portion of the heart backward, so that only a vertical strip of heart, about 4 cm. in transverse measurement, was contiguous to the anterior chest wall. The cyst appeared to be attached to the apex of the heart and to bulge through the pericardium. It filled the lateral and posterior part of the lower left pleural cavity and was densely adherent to the thoracic cage and to the diaphragm, extending upward laterally as high as the sixth rib and posteriorly to the sixth or seventh rib, in the line drawn vertically through the angle of the scapula. The left lung was compressed and pushed upward, sitting, as it were, on the top of the cyst. Bulging to the right from the heart, arising from the lower external aspect of the right auricle, was a second spherical cyst about 5 cm. in diameter, with a firm, fibrous wall and containing a putty-like material and numerous small, degenerated daughter cysts.

South African Medical Record, Cape Town

April 9, 1921, **19.** No. 7

Problem of Venereal Disease. J. A. Mitchell.—p. 122.
*Some Infections Due to Fresh-Water Snails and Their Eradication. F. G. Cawston.—p. 125.
*Significance of Albumin in Sputum, Application to Early Diagnosis of Pulmonary Tuberculosis. A. C. Alport.—p. 127.
Scurvy. P. H. Walker.—p. 128.

Infections Due to Snails.—Several distinct parasites which closely resemble the cercariae of *Schistosomum haematobium* infest fresh-water snails in South Africa. Physopsis africana, a common snail of stagnant pools, is heavily infested with them. Cawston found them in 552 out of 1,896 specimens of this snail. Many are the typical cercariae which produce bilharziasis, and by feeding a number of guinea-pigs on green food containing them he has obtained the adult parasitic worm, *Schistosomum haematobium*. Others are almost twice the size of the bilharzia, measuring as much as 0.7 mm. in total length. These have developed into the typical bilharzia worm of cattle, *Schistosomum bovis*.

Albumin in Sputum Aid in Early Diagnosis of Pulmonary Tuberculosis. — Experience has convinced Alport that the qualitative and quantitative examination of the sputum for albumin is an easy and useful method of arriving at a diagnosis in the earlier stages of pulmonary tuberculosis, and might with advantage be employed not only by the specialist, but also by the busy general practitioner. The presence of albumin in the sputum is an indication of active disease of the lung tissue itself. If the bronchii alone are affected, the amount of albumin present, if any, will be negligible. If other inflammatory diseases of the lungs are excluded, all patients with 0.2 per cent. or more of albumin in the sputum may be regarded as suffering from active pulmonary tuberculosis. Used in conjunction with diagnostic subcutaneous injections of a reliable tuberculin, the albumin test is a means of distinguishing between active and inactive tuberculosis. If the reaction is positive, the disease is active; if negative, the condition is latent.

Bulletin Médical, Paris

April 30, 1921, **35.** No. 18

*Parkinsonian Epidemic Encephalitis. J. A. Barré and L. Reys.—p. 351.
Labyrinthic Form of Epidemic Encephalitis. Barré and Reys.—p. 356.
*The Eye in Epidemic Encephalitis. Duverger and J. A. Barré.—p. 361.
Cerebrospinal Fluid in Epidemic Encephalitis. Barré and Reys.—p. 366.

Postencephalitic Parkinsonian Syndrome.—Barré and Reys found atropin the most effectual treatment in the 20 per cent. presenting parkinsonian symptoms among their 101 cases of epidemic encephalitis. They gave this and scopolamin, each for five days in turn, or with shorter alternations, combining the scopolamin with morphin, and suspending for a few days after ten injections of each drug. Great relief follows, but it may be transient. The tremor is more rebellious than the stiffness. The effect of atropin, 1 or 2 cg. daily, fractioned, was more durable in the three cases thus treated. In the milder cases the scopolamin was given by the mouth—¼ mg. once or twice a day—for several weeks with improvement, sometimes durable.

The Ocular Symptoms in Epidemic Encephalitis.—Duverger and Barré describe the numerous ocular manifestations of this disease, especially in the parkinsonian form. Similar symptoms are found also in true paralysis agitans and in certain pathologic conditions in the labyrinth. They warn that the relics of these ocular manifestations of epidemic encephalitis will have to be reckoned with in examining the eyes for years to come, and they must not be mistaken for the ocular manifestations of neurosyphilis.

Bulletins de la Société Médicale des Hôpitaux, Paris

April 15, 1921, **45.** No. 12

*Small Repeated Doses of Arsenicals in Syphilis. Sicard.—p. 471.
*Thrombosis Under Arsenical Treatment. C. Oddo and P. Giraud.—p. 478.
*Gangrene from Gas Poisoning. Laignel-Lavastine and Alajouanine.—p. 484.

Serotherapy of Gonococcus Arthritis. Lemierre and Deschamps.—p.489.
*Fatal Liver Insufficiency in Pregnancy. M. Labbé and others.—p. 494.
Alveolar Tension in Diabetics. F. Rathery and F. Bordet.—p. 498.
Vaccine Therapy of Emphysema and Bronchial Catarrh. J. Minet.—p. 502. Idem, in Acute Pulmonary Disease. Idem.—p. 505.
*Physostigmin Test in Cardiology. A. Mougeot.—p. 512.
Necropsy in Case of Epidemic Hiccup. Clerc and others.—p. 522.

Small Repeated Doses of Arsenicals in Syphilis.—Sicard extols the excellent results that he is obtaining with small doses of neo-arsphenamin kept up until in time 8 or 10 gm. have been incorporated. All tendency to shock is avoided, he says, by preliminary injection of sodium carbonate, as already mentioned in these columns. Pinard and others in the discussion protest that small doses may "blanch" syphilitics, but do not cure them. They insist that the current large doses are no more dangerous than small, saying: "fatalities are as common after the small as after the large doses."

Gangrene from Thrombosis During Arsenical Treatment.—Oddo and Giraud report two cases of gangrene of the feet or hands from arterial thrombosis occurring in the course of neo-arsphenamin treatment. They know of only one similar case on record, and ascribe the disturbance to flocculation, similar to the "hemoclasic crisis." They add that disturbances of this kind might be warded off possibly by Sicard's preliminary injection of sodium carbonate.

Illuminating Gas Poisoning.—About three weeks after severe poisoning with illuminating gas, the man developed gangrene of the foot and phlegmasia alba dolens, with final recovery.

Acidosis with Pregnancy.—Labbé and his co-workers report a case of acute degeneration of the liver of unknown cause at the seventh month of a pregnancy, with death in acidosis.

Physostigmin Test in Cardiology.—Mougeot remarks that very little is known of the action of physostigmin in treatment of heart disease, but subcutaneous injection of 1 or 2 mg. of physostigmin salicylate, dissolved in water, retards the heart beat. This occurs under all conditions, unless the myocardium and the innervation are extremely abnormal. A positive response shows that the heart rhythm is under the influence of the supracardiac nerves; negative, it demonstrates that the rhythm is no longer obeying the supracardiac nervous system, testifying to intracardiac functional derangement. In treatment of heart disease, physostigmin seems promising, but its action is far from fully determined as yet.

Lyon Médical, Lyons

April 25, 1921, **130**, No. 8

*Obliteration of Inferior Vena Cava. J. Chalier and Longy.—p. 335.

Obliteration of the Inferior Vena Cava.—Chalier and Longy have encountered four cases of this kind in ten years, and describe the necropsy findings in three of them. If the process is slow and gradual, collateral circulation develops and wards off danger. Otherwise death is inevitable. Thrombosis, compression and involvement in malignant disease are the usual causes. In two of their four cases the obliteration was secondary to iliac phlebitis, of typhoid origin in one case and tuberculous in the other. In a third case a primary cancer of the liver had invaded the vena cava. The main symptoms are edema and complementary circulation; as the latter develops the edema subsides in some cases, but it may persist indefinitely. The diagnosis requires exclusion of edema from heart or kidney disease or cachexia. In their typhoid case the obliteration had evidently been of four years' standing. The man died from intercurrent pneumonia.

Médecine, Paris

April, 1921, **2**, No. 7

*Recent Progress in Obstetrics and Gynecology. L. Devraigne.—p. 501.
Retrodisplacement of Pregnant Uterus. A. Couvelaire.—p. 510.
Slitting the Cervix to Promote Delivery. A. Levant.—p. 515.
Obstetric Future after Cesarean Section. A. Morisson-Lacombe.—p. 521.
Extra-Uterine Pregnancy. H. Duclaux.—p. 523.
*Impairment of Vision During Pregnancy. C. Coutela.—p. 528.
*Intra-Uterine "Drowning" of the Fetus. Duvoir.—p. 534.
*Perineal Hysterectomy. B. Cunéo.—p. 539.
Primary Retroflexion of the Uterus. A. Siredey.—p. 546.
Tuberculosis of the Adnexa. A. Baumgartner and Bardon.—p. 551.
Radium Treatment of Uterus Fibromas. P. Descomps.—p. 554.
*Venesection in Treatment of Puerperal Eclampsia. J. L. Chirié.—p. 560.
Treatment of Syphilis During Pregnancy. G. Sauphar.—p. 569.

Recent Progress in Obstetrics and Gynecology.—In this survey of 1920, Devraigne warns against the tendency to too ready resort to cesarean section, and advises to keep the woman in bed the last month of pregnancies occurring after a cesarean section. He comments on the importance of the diastolic blood pressure with obstetric hemorrhages for estimation of the shock. Rouvier injected 0.10 gm. of morphin during the first hour of a grave eclampsia and followed with 0.14 gm. in four hours, saving both mother and child. Sclerous pulmonary tuberculosis, with pronounced skin reaction, seems to be uninfluenced by a pregnancy, but other forms are aggravated by the stress of the last month and delivery. He hails as great progress the Puericulture School of the medical department of the University of Paris, a Franco-American foundation, with Pinard the director, and the three services in charge of Couvelaire, Marfan and L. Bernard. The whole is open to physicians, students, midwives and social workers. This school is supplemented by a national motherhood asylum near Paris, an institution where nursing mothers can rest and recuperate. In gynecology, most of the interest during the year has centered in roentgen and radium ray therapy of tumors, but nothing definite seems to have been universally accepted, In conclusion, he recalls Daniel's recent warning that pain is common with cancer of the body of the uterus, even in the early stages.

Impairment of Vision During Pregnancy.—Coutela cites figures showing 19 deaths among 169 women with pregnancy retinitis, while 20 were left blind. In 63 cases in which the fate of the child is known, only 26 were born alive, and 14 died soon after birth—a total mortality of 51 in 63 cases. These figures, he says, "confirm the dictum of the Americans that the pregnancy must be interrupted in cases of albuminuric neuroretinitis." He adds that in the last months of the pregnancy it might be advisable to wait until vision drops below 1/6, in the hope of obtaining a living child.

Intra-Uterine "Drowning" of the Fetus.—Duvoir confirms that the fetal respiratory muscles may function, and amniotic fluid may be drawn down into the air passages when the fetus is suffering from defective circulation. Evidence of this intra-uterine "drowning" can be discovered in the lungs with the microscope, and may have both obstetric and forensic import.

Perineal Hysterectomy.—A similar article was summarized in The Journal, April 30, 1921, p. 1283.

Venesection in Treatment of Puerperal Eclampsia.—Chirié has found that withdrawal of 20 or 30 per cent. of the blood, that is, up to 1,500 gm., relieves the system in grave puerperal eclampsia of quantities of toxins, and the lowering of the blood pressure opens the faucets for the voiding of urine. In one case 5.5 liters of urine were voided the third day thereafter. He gives the woman at once 0.01 gm. of morphin; ascertains the blood pressure, and draws from 800 to 1,500 gm. of blood, giving at the same time a purge. If necessary, he gives it through a tube in the nose; this is followed by rinsing out the bowel with several liters of boiled water. He never interferes obstetrically, except possibly with forceps when spontaneous dilatation is complete. This may occur rapidly in the eclamptic. A flannel chemise is put on the patient and she is kept in a dark room and forced to take every hour 100 gm. of a 40 per cent. solution of lactose, watching over the blood pressure, with a small venesection if it runs up again, and giving 0.01 gm. morphin again if the convulsions persist. He never gives chloroform or chloral. In his last seven cases the women recovered under this treatment, and only one died in his total 25 cases. His mortality was thus 4 per cent. and he thinks that a prompter use of morphin might have saved even this one woman.

Paris Médical

April 23, 1921, **11**, No. 17

*Pleural Adhesion after Pneumothorax. R. Burnand.—p. 321.
Treatment of Gonorrhea. Cattier.—p. 326.
Intratracheal Treatment of Asthma. A. Balvay.—p. 329.

Adhesion of Layers of Pleura After Pneumothorax.—Burnand says that we can count on a complicating pleuritis in from 50 to 80 per cent. of all cases of induced pneumothorax.

Any tendency to pleuritis entails inevitably adhesion of the sheets of the pleura. In seven cases without known pleuritis, the sheets were found completely grown together in three of the cases when examined a few weeks or months after suspension of the pneumothorax. In seven others, complicated with pleuritis, in five the synechia was complete in a few months; in the sixth, it proved possible to induce the pneumothorax again after a two month interval, and in the seventh case it developed spontaneously anew a few years later. Whether insufflation of a little air will ward off synechia is an important question for study at present. At necropsy of persons who have died at Leysin during or after artificial pneumothorax treatment, he found deposits of fibrin in the pleura. These evidently aid in soldering the sheets together when they come in contact anew. This adhesion may be broken up, a plane of cleavage found, and the pneumothorax induced anew if not more than a month has elapsed since the layers were in contact.

Presse Médicale, Paris

April 13, 1921, **29**, No. 30

*Reflexes of the Genito-Urinary Apparatus. J. M. Bartrina.—p. 293.
*Blocking the Brachial Plexus. Reding.—p. 294.
Tint of Erythrocytes in Culture Mediums. P. P. Lévy.—p. 296.

Reflexes of the Genito-Urinary Apparatus.—Bartrina expatiates on the light thrown on numerous morbid conditions in the abdomen by the recent discovery at Barcelona of a central ganglion connected with all the viscera. It explains the interlocking reflexes, as in a case described in a physician of 34 with recurring kidney colics and uremic autointoxication. Two operations had failed to locate the kidney stones, and the Ambard constant was high, the diuresis extremely reduced and the uremia progressing. The kidney with the calculus in the pelvis was then removed, and by the third day the total output of urea had jumped from 1 to 68 gm. and progressive improvement followed. This paradoxic effect from reducing the total of kidney substance can be explained only by the suppression of some nervous inhibiting influence. The case suggests that simple nephrolysis or even merely denuding the vessels in the kidney pedicle might arrest anuria or neuralgia in the kidney region, as we know that causalgia and trophic lesions can be influenced by peripheral sympathectomy, resecting the network of sympathetic fibers on a segment of the artery involved.

Blocking the Brachial Plexus.—Reding declares that the drawbacks of Kulenkampff's supraclavicular technic and of other methods can be avoided by injecting the anesthetic at a point 2 cm. below the intersection of the humeral artery and a line parallel to the midaxillary line. The finger feels the lengthwise groove containing the artery and the trunk nerves. The groove is well defined by large muscles, and the group of six nerves is always found in the same place, but this technic does not reach the collateral branches of the brachial plexus.

Progrès Médical, Paris

April 2, 1921, **36**, No. 14

*Eclampsia. H. Vignes.—p. 145.
Fracture of Neck of Femur. Potherat.—p. 149.
Physiotherapy of Tremor. R. Dubois.—p. 151.

Eclampsia.—Vignes remarks that, in addition to albuminuria, edema and high blood pressure, headache, dyspnea and sharp pain in the stomach are premonitory signs of eclampsia. The urine should be examined for albumin every day if the woman has ever had eclampsia and, in any event, once every two weeks. When albuminuria is found, strict repose should be enforced, and she should be guarded against chilling. She should wear flannel and the room should be kept warm (about 68 F.) and nothing but milk allowed for food, remembering Tarnier's dictum that a woman on a strict milk diet for eight days need not fear eclamptic convulsions. At most there may be one or two mild convulsions at the onset of labor. If convulsions seem imminent, even milk should not be allowed, and only lactosed water given in large amounts. Copious enemas and a drastic purge are important adjuvants. Venesection and lumbar puncture may be indicated, but delivery should not be induced if the woman is not in labor, and it is wiser not to attempt to hasten the dilatation. The most that should be done is to hasten delivery with forceps when it is under way.

Revue Franç. de Gynécologie et d'Obstét., Paris

February, 1921, **16**, No. 2

*Resection of Sacrovertebral Angle with Contracted Pelvis. V. Cathala and B. Perrot.—p. 65.
Calcification of Uterine Fibromyomas. H. Lorin.—p. 79.
Cold Abscess in Broad Ligament. G. de Rouville.—p. 85.
Irrigation of Pelvis after Operative Treatment of Salpingitis. M. Péraire.—p. 87.
Technic for Premature Artificial Delivery. P. Balard.—p. 90.

Resection of Promontory with Contracted Pelvis.—Cathala and Perrot have compiled twenty-four cases in which this operation has been done; 4 of the women died, and 4 had grave infection. This mortality of 16.5 per cent. is higher than with even repeated cesarean section. Only one of the women had another pregnancy later, so that the operation proved superfluous in all the others. The pelvis was found enlarged only by 2 and 5 mm. in 2 of 6 women reexamined a year later. In the others the measurements were the same as before the operation in 3 and in one the diameter was 5 mm. smaller.

Schweizerische medizinische Wochenschrift, Basel

April 21, 1921, **51**, No. 16

*Lingual Goiter. E. Köhl.—p. 361.
Diphtheria of the Skin. M. Winkler.—p. 374.

Goiter at Base of Tongue.—Köhl describes in detail the removal of a lingual goiter in a young woman and compares with this all the cases he has been able to find in the literature—a total of 119 communications on the subject and 56 additional works on the pathogenesis. In the 93 cases, all were in women except 10. In 74 cases the goiter was at the base of the tongue; in 5 at the root of the tongue, and in 9 it involved both the root and the base. In his case there were 2 lingual goiters, one in the root of the tongue. Exploratory puncture is liable to entail uncontrollable hemorrhage. The goiter can be removed by seven different methods, but he advocates lateral pharyngostomy to reach the root of the tongue. The best access to the base of the tongue is by temporary division of the side of the jaw in the more serious cases. Two operations were required in his case. Only one instance of tetany is known after a removal of a lingual goiter, but there have been several cases of postoperative myxedema, and the surgeon must be sure to leave enough functional thyroid tissue to prevent hypothyroidism. This is sometimes a difficult matter, as lingual goiter is liable to return if any of the tissue is left, the remainder proliferating. On the other hand, in Asch's case, the parathyroid bodies had been included in the tumor at the base of the tongue, and their loss entailed tetany.

Annali d'Igiene, Rome

December, 1920, **30**, No. 12

*Peculiar Bodies Found in Typhus. G. Ficai.—p. 733.
Typhoid in Italy and the Water Supply. V. Puntoni.—p. 741.
*Tetanus Bacilli in Intestines of Rabbits and Guinea-Pigs. C. Ninni.—p. 756.
The Proteus in Relation to Cholera Infantum. G. Pupilli.—p. 763.

Bodies Found in Typhus.—Three colored plates show a large number of round bodies found in the brain cells of typhus cadavers and also in the epithelial cells of the stomach of lice infected with typhus virus. These corpuscles were found constantly and exactly similar in these various sources, and never in controls. They resemble the cellular or corpuscular inclusion bodies in other diseases with a filtrable virus, such as the Negri bodies, the Prowazek inclusions, etc. The bodies found in typhus are of two forms, small, of homogeneous structure, and a large form, with from one to five secondary corpuscles, or a single central body or nucleus.

Tetanus Bacilli in Intestines of Animals.—Ninni was able to cultivate the tetanus bacillus from various portions of the digestive tract in rabbits and guinea-pigs, and the bacilli were almost always toxic although the toxicity was variable. The findings were constant in the forty-two animals, the material taken from eight different portions of the stomach and intestine. Further research on soil from mountainous

regions and elsewhere free from the dejecta of domestic animals apparently confirms that the tetanus bacillus is not a saprophyte of the soil but of the intestines of animals, and it reaches the soil through the dejecta. Ninni's experiments with the tetanus bacillus grown in culture mediums with the colon bacillus, streptococcus and other germs, seem to indicate that the biologic activity of the tetanus bacilli may be modified by antagonistic germs and thus its virulence be reduced. The lactic acid and the Bulgarian bacilli displayed the strongest action in this line of attenuation of toxicity, the staphylococcus and enterococcus least.

Archivio Italiano di Chirurgia, Bologna

April 10, 1921, **3**, No. 3

*Interruption of the Spermatic Passages. G. Bolognesi.—p. 207.
*Postoperative Ileus. L. Losio.—p. 249.
Ileus from Strangulated Properitoneal Hernia. F. Niosi.—p. 260.
The Gall-Bladder after Experimental Ligation of Bile Duct. G. Forni —p. 275.
*A Sphincter Gastrostomy. F. D'Agostino.—p. 285.
Ligation of Vessels in Back of Hand. G. B. Macaggi.—p. 293.
*Rupture of Kidney D. Fieschi.—p. 305.

Interruption of the Spermatic Passages.—Bolognesi found that the effect on human subjects was very much less than in dogs and other animals after surgical removal of the epididymis and of the vas deferens, and the effect of removal of the testes on the epididymis. He gives three pages of bibliography (but without citing Steinach), and describes several clinical cases.

Postoperative Ileus.—Losio states that after evacuation of an intramesenteric abscess of appendicitic origin, ileus developed requiring an artificial anus. Above this, peristalsis was normal but the alimentary enemas were all forced rapidly out through the fistula, and the ileus gave way to uncontrollable diarrhea, speedily fatal.

Improved Gastrostomy.—An illustrated description is given of a method of forming a sphincter for an opening into the stomach, and D'Agostino reports its successful application in a man of 74 with a diverticulum in the esophagus preventing proper feeding. The opening into the stomach was continent from the first, and has given perfect satisfaction since. The stomach is reached through a median incision. He seizes the anterior wall near the cardia. This peak is drawn through a tunnel made for it in a narrow strip of the rectus muscle, to the right of the median incision. The peak is then drawn farther on toward the right, through a second tunnel 2 cm. beyond the first, the whole slanting upward and outward, and the tip of the peak is fastened in the upper portion of the last one of the three incisions in the skin. The stomach is fastened to the rectus muscle close to the first incision, and also to the strips of rectus muscles bridging it as the peak is drawn up toward the right to hold the whole in place. The protruding peak can be opened at once or later; the two small incisions are sutured at once. There is no danger of the sphincter thus made becoming displaced or twisted, and the fistula is continent whatever position the subject assumes. Solid food, finely chopped and passed through a sieve, can be given almost from the first. It might be possible to have the subject chew his food and then expel it into the funnel, passing it directly into the opening into the stomach. This might keep up the appetite better.

Rupture of the Kidney.—In the case described, the laceration of the right kidney caused pains only in the left kidney. Fieschi had to expose both kidneys to discover the injured one, which was then removed, with smooth recovery. The kidney had been lacerated in over a dozen directions and contained a number of calculi. The nephrectomy relieved the patient of all pains.

Policlinico, Rome

April 23, 1921, **28**, No. 17

*Changes in Character and Mind after Epidemic Encephalitis. C. Francioni.—p. 575.
Artificial Pneumothorax with Bilateral Tuberculosis. U. Cassinis.—p. 582.
Pain in the Feet. G. Dragotti.—p. 585.
Italian Physicians in France in Former Centuries. I. di Pace.—p. 590.

Changes in Character and Mind After Epidemic Encephalitis.—Francioni was impressed with the change in character, the agitation and other mental disturbances, and inversion of the rhythm of sleep in twenty children after an attack of epidemic encephalitis. One child of 6 seemed nearly normal during the day but as night approached displayed psychic and motor agitation of such intensity that it could be compared only with a neurotic convulsion. In this and some other cases the motor phenomena were restricted to one side of the body, and they reappeared every night in the same form. In the intervals the body stiffened and curved backward, with stertorous breathing. These disturbances kept up all night. The child was conscious throughout, but babbled incoherently. The motor phenomena were not so pronounced when the child was kept sitting up or on his feet, but no distraction was able to ward off the development of the attacks at the same hour each night. He cites others who have reported similar experiences in children and adults. He notes that in all the cases, when the subject finally falls asleep the slumber is natural and profound. The anomaly seems to be connected with the phase of falling to sleep. There is always a period of yawning before the drop into natural sleep. The psychic disturbances seem to be at a minimum during the daytime and reach their maximum as the subject retires at night. The influence of change of environment and suggestion shows that there are certain neurotic factors in the clinical picture, superposed on the organic changes in the brain. In one unilateral case the movements were accompanied by pains, and the muscles responded abnormally to electric tests on that side. He had only three instances of probable direct contagion; two brothers developed the disease at the same time as their schoolteacher. No necropsy findings have been reported as yet, but there is much to sustain the assumption that a disturbance in circulation may be an important factor. These psychic disturbances usually followed mild attacks of encephalitis, and a preceding neuropathic taint could be traced in almost all. The syndrome described displayed a marked chronic tendency, with very slow and gradual change for the better. In his cases great improvement, if not a complete cure, has been realized in a few of the cases. Sedatives and tonics with change of environment seem to be the main reliance.

Riforma Medica, Naples

April 9, 1921, **37**, No. 15

*Nitrogen Metabolism and Liver Functioning. G. Pezzali.—p. 338.
*Frontal Sinusitis. R. Caminiti.—p. 341.
Coagulation of Spinal Fluid in Tuberculous Meningitis. A. Graziani. —p. 344.
Therapeutic Anaphylactic Shock. A. Muggia.—p. 345.
Intestinal Spirochetosis. I. Jacono.—p. 346.
Limits of Surgical Treatment for Intestinal Stasis. E. Aievoli.—p. 346.

Nitrogen Metabolism in Relation to Liver Function.—Pezzali describes extensive research, clinical and experimental, to determine the metabolism of nitrogen from the blood above and below the portal system in various conditions of feeding. He was unable to discover any technic that would enable this differentiation. His research included both normal and diseased livers. The tabulated findings confirm that to date no reliable conclusions can be drawn in regard to liver disease from the urea and ammonia in blood and urine.

Frontal Sinusitis.—Caminiti describes some cases which illustrate the difficulty of differential diagnosis in certain cases. In one the sinusitis had induced a large mucocele in the brow and in another case in the orbit. Ample resection of the anterior wall of the sinus was followed by a complete cure.

Tumori, Rome

Jan. 18, 1921, **7**, No. 4

*Etiology of Goiter. G. Zanoni.—p. 277.
*Tumor of the Corpus Callosum. O. Tenani.—p. 332.
*Primary Tumor in the Aponeurosis. G. Bolognesi.—p. 353.
*Surgery of the Kidneys. G. Angioni.—p. 362.

Etiology of Goiter.—Zanoni gives a full summary of what has been accomplished in the line of experimental goiter production to date, including the attempts to induce goiter with water from regions where goiter is endemic, and to ward off goiter in endemic regions by importation of water—all with negative results. He then describes extensive research on white rats which has demonstrated that white rats from a region where goiter is not endemic when

brought into the endemic district show an almost constant increase in size and structural changes in the thyroid. He found, however, that wild rats living in liberty in endemic goiter regions gave constantly negative findings. He remarks that in the present status of our knowledge of the origin of goiter only two things seem to be absolutely established, and both are the deductions of Italian workers. One is the constant slight enlargement of the thyroid in all persons living in regions where goiter is endemic. This enlargement of the thyroid must be considered as the physiologic reaction of the gland to a functional need created by the environment, although this is not goiter. The second fact is the absolute independence of the thyroid enlargement from the drinking water, and the fact that goiter is not transmissible directly or indirectly (Grassi and Munaron).

Tumor of the Corpus Callosum.—Tenani compares with a case described the few similar cases on record, scarcely more than 100 in all. In his case the young man's symptoms suggested merely a cerebellar tumor, but the gliosarcoma, as large as a hen's egg, was found in the center of the reflected part of the corpus callosum. The data cited show that our knowledge of the physiology of the corpus callosum is still very vague. Lumbar puncture in his case, releasing 5 c.c. of fluid under high pressure, showed merely moderate lymphocytosis. The seat of the headache, the vomiting, the amblyopia, abducent paralysis, and paralysis of the left seventh nerve, tendency to deviate to the side, contracture of the muscles of the back of the neck, ataxic gait, Romberg's sign and vertigo pointed to a cerebellar site.

Primary Tumor in the Aponeurosis.—Bolognesi reports a case in a young man in which three years after a fall from a horse, causing severe contusion of the upper third of the thigh, a small tumor had developed in this region. It proved to be a small-cell sarcoma, developing from the intermuscular aponeurosis; it measured 15 by 13 cm. but the gait had not been modified. Recovery was complete after exarticulation of the hip joint. The tumor had not invaded the tissues around.

Surgery of the Kidneys.—Angioni reports from Fichera's service three instructive cases of operative kidney disease with complete recovery after nephrectomy. In the first case a boy of 8 had a tumor in the right kidney but the urine was normal. The region had been injured and for the last ten months there had been pains in the right flank. The tumor was an adenocarcinoma and weighed 1,430 gm. Angioni compares with this the cases on record of kidney tumors in children, and emphasizes the lack of hematuria and pain which are so prominent with kidney tumors in adults. In the majority there was nothing but the tumor to attract attention. The child is in the best of health at present, nearly a year after the operation. In a second case the tumor had developed in the region of the right kidney, consecutive to trauma in childhood, with very slow course and intense destruction of the parenchyma with attacks of pain and pyuria—all cured by nephrectomy at 36. In a third case the symptoms had developed after nephropexy. The kidney had evidently suffered too much from the traumatism of the handling, and hydronephrosis had developed gradually during the seven years since. The urine at times was blood stained and the amount of urine grew less as the tumor increased in size. The general health had suffered severely from this recurring hydronephrosis, but nothing was found to suggest kinking of the ureter. This case suggests the necessity for excising the adipose capsule instead of turning it down toward the hilum, as this is liable to induce cicatricial retraction and adhesions. Both had occurred in this case.

Gaceta Médica de Caracas, Venezuela

Feb. 28, 1921, **28**, No. 4

The Modern Functional Tests for the Kidneys. A. J. Castillo.—p. 41.
Idem. L. Razetti.—p. 45.

Repertorio de Medicina y Cirugía, Bogota

January, 1921, **12**, No. 4

Prophylaxis of Gonorrhea. R. Zapata.—p. 173.
Chenopodium in Therapeutics. A. Peña Chavarría.—p. 206.
Indications for and Complications of Gastro-Enterostomy. A. Torres Martínez.—p. 211. Cont'd.

Semana Médica, Buenos Aires

March 17, 1921, **28**, No. 11

*Case of Purtscher's Disease. E. de la Vega.—p. 305.
*Hematometra and Appendicitis. A. Gutiérrez.—p. 308.
Prophylaxis of Tuberculosis in the Army. T. Padilla.—p. 310.
*Normal Beef Serum in Anthrax. R. Kraus and P. Beltrami.—p. 311.
Otitis Simulating Mastoiditis. R. Becco.—p. 314.
D'Herelle's Coccobacillus Acridiorum.—R. L. Dios.—p. 316.
*Edema of the Arm. Alejandro Pavlovsky.—p. 317.

Case of Purtscher's Disease.—Vega adds another case to the nine he has found on record of traumatic angiopathy in the retina with lymphorrhagia. There was no hemorrhage in his case, no fracture of the skull.

Hematometra and Appendicitis.—Gutiérrez found atresia of the vagina responsible for the filling of the uterus with blood in the young girl. There was concomitant appendicitis, and the blood had forced its way down into the labia. He made an opening from the vagina into the uterus after evacuating the blood in the labium, and menstruation proceeded normally thereafter.

Normal Beef Serum in Anthrax.—Kraus and Beltrami here report a supplementary series of experiments on guinea-pigs which apparently confirm their previous statements in regard to the efficacy of normal beef serum in treatment of anthrax. Compare with editorial, Sept. 29, 1917, p. 1085.

Acute Edema of the Arm.—Pavlovsky has analyzed twenty-one cases of acute or subacute edema of the arm after overexertion, pointing out the rapid development, the predominance of the right arm, the absence of general symptoms, and the painful thrombosis which can usually be detected in the axilla. A number of small veins open into the basilic vein at this point. The blood from these veins flows in different directions when reaching the principal vein, and the play of the muscles accentuates this opposite direction, while the large vein is kinked during abduction—all of which favors development of thrombosis. Three cases are described in detail with illustrations. The course was benign in all with apparently complete recovery.

Siglo Médico, Madrid

March 19, 1921, **68**, No. 3510

Reform in Spanish Insane Asylums. E. Fernández Sánz.—p. 261.
Pericarditis. F. Huertas.—p. 265.
The Eyes in Epidemic Encephalitis. M. M. Amat.—p. 266.
Vaccine Treatment of Typhoid. A. Diaz y Gil.—p. 271.

March 26, 1921, **68**, No. 3511

*Dangers of Intraspinal Treatment. R. del Valle y Aldabalde.—p. 285.
*Heat Stroke and Sun Stroke. L. Figueras Ballester.—p. 286. Conc'n in No. 3512, p. 315.
Hydrogen Ions as Gage of Acidity. T. Morató.—p. 290.

April 2, 1921, **68**, No. 3512

Reform in Insane Asylums. J. Sanchis y Banús.—p. 309.
Vitamins in Culture Mediums. J. Jiménez.—p. 310. Cont'd.
Localized Tetanus. E. Chauvin.—p. 316. Cont'd.

April 23, 1921, **68**, No. 3515

Tuberculosis of the Pharynx. J. M. Barajas y de Vilches.—p. 381. Cont'd.
Sanitary Equipment for Rural Medical Inspection. V. M. Cortezo,—p. 384. Conc'n in No. 3515.

Dangers of Intraspinal Treatment.—In del Valle's case four intraspinal injections had been given in the course of a month. Mercury was used for the first two, and neo-arsphenamin for the last two. The latter were followed by complete paralysis of the legs, and incontinence of urine and stools. The treatment had been given for old syphilis which had been inducing pains at various points, especially in the head, for four or five years, with weakness of the legs. No benefit was realized with revulsion to the spine, or strychnin, but the paralysis improved under daily ten minute applications of galvanic electricity.

Immunity of Negroes to Heat Stroke and Sun Stroke.—Figueras argues that the pigmentation of the skin in the negro allows the utilization of the heat from without to such an extent that the organism does not need so many calories as the white man, while they can stand exposure to heat very much better. He found that the negroes in Guinea thrived and kept in metabolic balance on a diet of rice, fish and butter representing only 1,843 calories, although at severe manual

labor. Whites under the same circumstances—even when not working—required twice this amount of calories to keep them in good condition. Figueras' research tends to show that this difference is due to the dark skin which acts something like the chlorophyl of plants in transforming the heat absorbed, and thus enabling it to be utilized directly for the necessities of the organism.

Deutsche medizinische Wochenschrift, Berlin

March 31, 1921, **47**, No. 13

Effect of Steinach Operation on Metabolism. Loewy and Zondek.—p. 349. Idem on the Testes. H. Tiedje.—p. 352.
Investigation of Secretory Function of Testes. Lipschütz.—p. 350.
Further Reports on Transplantation of Testis. Mühsam.—p. 354.
Vaccine Treatment of Suppurative Cerebrospinal Meningitis. B. Hartmann.—p. 357.
Increase in Phagedenic Affections. A. Buschke.—p. 358.
Abortive Treatment of Syphilis. Blanck.—p. 358.
Osmosis in Relation to Balneotherapy. Günzburger.—p. 358.
The Pathogenesis of Malignant Tumors. G. Herxheimer.—p. 358.
Practical Hints in Regard to the Newborn. L. Langstein.—p. 360.

Deutsche Zeitschrift für Chirurgie, Leipzig

March, 1921, **161**, No. 6

*Peptic Ulcer. P. Müller.—p. 361.
*Neurologic Research on Kinematized Stumps. O. Veraguth.—p. 406.

Peptic Ulcer.—Müller discusses peptic jejunal ulcers in general and in particular a case in which the peptic ulceration recurred three times at intervals after gastro-enterostomy. Circular resection of the stomach finally cured the man, and he has been in good health during the four years since. This case teaches anew the superiority of radical resection over gastro-enterostomy when the gastric juice is particularly strong. This can be ascertained beforehand, perhaps, by testing in vitro the digesting power of the undiluted juice. In his instructive case, at the fourth operation, two thirds of the secreting mucous membrane of the stomach were resected, with the attached anastomized loop of bowel. We can regard ulceration in the stomach as the result of a set of factors, the most important of which are removed by reducing the secreting surface, with the resulting change in the chemistry of the stomach, and the paralyzing of the pylorus by the severing of the nerves, while the removal of the ulcer also arrests the tendency to spasm. The years of martyrdom of his patient might have been avoided if the radical operation had been done first instead of last. Some of the statistics he cites show that intervals from a few days up to twelve years may elapse before the peptic ulcer develops, but the majority occur within the first two years, and men form from 80 to 91 per cent. of the peptic ulcer group.

Neurologic Research on Kinematized Stumps.—Veraguth gives here the findings in six cases in which a large number of different functional tests were applied to the muscles and nerves in the tunnels through the stump. He says that the findings open new prospects for training coordinated muscular action, utilizing new synergisms and antagonisms.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

October, 1920, **52**, No. 4

Centennial of Extraperitoneal Cesarean Section. Fuhrmann.—p. 225.
Premature Separation of Normally Located Placenta. Albeck.—p. 231.
*Organ Extracts as Oxytocics. R. Köhler.—p. 240.
Multiple Congenital Cavernomas. H. Gänssbauer.—p. 247.
*Osteomalacia. H Koltonski—p 253
Laceration of Umbilical Cord Vein, F. Kermauner.—p. 263.

Organ Extracts as Oxytocics.—Köhler's experimental research has apparently demonstrated that extracts of all the ductless glands and of the placenta have a pronounced effect in promoting contraction of the uterus.

Osteomalacia.—In Koltonski's case no treatment, not even castration, produced any lasting effect until the multipara of 38 was given epinephrin. Marked improvement followed the third subcutaneous injection of 1 c.c. of synthetic epinephrin. The pains subsided and the patient was soon able to be up and about. Cod liver oil and phosphorus were given at the same time. As the woman improved, she became intolerant of the epinephrin. He advises to begin treatment with organotherapy, relying on castration as the last resort. His figures show that castration cures in about 87 per cent. of the cases.

Therapeutische Halbmonatshefte, Berlin

April 1, 1921, **35**, No. 7

*Prophylaxis and Treatment of Jejunal Ulcer. Haberer.—p. 193.
*After-Treatment in Gastro-Enterostomy. C. von Noorden.—p. 196.
Synthetic Capacity of Human and Animal Cells. Weitzel.—p. 200.
Theobromin Preparations in Epilepsy. C. Pototsky.—p. 207.
Intravenous Treatment of Syphilis with Neo-Arsphenamin plus Mercuric Chlorid by the Linser Method. C. Tollens.—p. 212.

Prophylaxis and Treatment of Jejunal Peptic Ulcer.—Haberer discusses the etiologic factors of peptic ulcer. In the last analysis, patients may be said, the same as is the case with gastric and duodenal ulcer, to have a predisposition in which the chemical composition of the gastric juice, vascular changes, and nervous disturbances probably play a part. He emphasizes that the appearance of postoperative jejunal peptic ulcer has depended, in his experience, quite materially on the type of operation employed in the surgical treatment of gastric and duodenal ulcer. He found from his own 663 cases that after resection of the portion of the stomach or duodenum on which the ulcer was seated, he did not need to fear the appearance of a postoperative peptic ulcer, although he admits that they may occur in very rare instances. On the contrary, out of 71 cases of unilateral exclusion of the pylorus, he saw 14 postoperative jejunal ulcers arise. Following gastro-enterostomy, peptic jejunal ulcers developed in 3 of his 265 cases. They are exceedingly resistant to internal treatment, and he therefore advises radical operation, ample resection of the diseased portions, if necessary, including the colon. Haberer has performed this operation 18 times, which resulted in 14 cures, the transverse colon having been resected in 2 instances, in addition to extensive resection of the stomach and jejunum. There were 3 deaths nothwithstanding that the resection had been successful. The remote results have been favorable.

After-Treatment in Gastro-Enterostomy.—Von Noorden says that formerly internal treatment after gastro-enterostomy was difficult to carry out, as not infrequently the surgeons themselves regarded it as superfluous. He has seen cases in which within ten days after the operation patients were allowed to eat anything they liked. Many cases of jejunal ulcer and of severe and debilitating intestinal dyspepsia are traceable to such ill considered advice. If postoperative jejunal ulcer occurs, the basis for it is usually laid during the first few weeks or months following gastro-enterostomy. Both theory and experience demand at first a diet that does not incite the secretion of hydrochloric acid. Light and more frequent meals than normally are indicated, so that a keen appetite with a marked flow of gastric juice cannot develop. This will also prevent the intestine becoming suddenly overloaded with chyme. In other respects the diet should be regulated as in cases of gastric hypersecretion. Von Noorden emphasizes the marked acid-combining capacity of casein, and the inhibitory effect of fats on gastric secretion. Cottage cheese, thoroughly mixed with milk or cream or softened and loosened up by stirring in beaten whites of eggs, with sugar, he advises using plentifully, beginning a few days after the gastro-enterostomy, on the same principle that this is a most valuable article of diet in hyperchlorhydria. Of the fats, the fat of boiled beef, fresh and melted butter or, still better, vegetable oils (from 1 to 2 tablespoonfuls after eating) are indicated. The antiacid effect of oils is more marked if taken separately than if mixed with the food. For the first three weeks after the operation, von Noorden recommends a diet consisting of boiled milk, fresh cottage cheese, two or three soft boiled eggs, fine wheat bread, butter, gruels and plain rice dishes. Alcoholic beverages, even in small quantities, are liable to cause damage. At the end of about three or four weeks the patient may gradually be allowed more variety. Mild cheese, mashed potatoes, vegetables (passed through a sieve), and cooked fruits may be added. This diet should be adhered to for from six to eight weeks, all meat or raw vegetables being excluded. It is always better if the patient can be kept in the hospital for three or four weeks after the operation to insure proper after-treatment. The dishes that he "relishes" particularly should be scrupulously avoided, also appetizing odors, etc., to ward off the so-called psychic gastric secretion.

Wiener klinische Wochenschrift, Vienna

March 31, 1921, **34**, No. 13

Twenty-Five Years of Roentgenography; Its Relation to Physics. E. Lecher.—p. 141.
Early Operation on Hermaphroditic Children for the Definite Determination of Sex. K. Meixner.—p. 142.
Surgery of Gastro-Intestinal Ulcer. J. Schnitzler.—p. 144.
Pathologic Anatomy of Gastric Ulcer. C. Sternberg.—p. 146.
Intravenous Therapy. K. Stejskal.—p. 146.
Narcolepsy. W. Somer.—p. 147. Begun in No. 12, p. 132. Conc'n.

April 7, 1921, **34**, No. 14

Negative and Positive Phase of Susceptibility to Tuberculin. F. Hamburger and K. Peyrer.—p. 157.
Deposition of Amyloid in Dermatoses. H. Königstein.—p. 157.
Nasal Lavage with Recurrent Flow. J. Fein.—p. 158.
Pathologic Anatomy of Mycloses and Lymphomatoses. Sternberg.—p. 158.
*Diagnosis of Gastric and Duodenal Ulcer. M. Haudek.—p. 159.
*Traction Diverticulum of the Esophagus. J. Palugyay.—p. 161.
*Treatment of Pellagra with Own Blood Serum. Strassberg.—p. 162.

Roentgenologic Diagnosis of Gastric and Duodenal Ulcer.—Haudek refers to the great increase in the number of cases of gastric and duodenal ulcer during the past ten years, the main reason for which is better diagnosis due to the introduction of the roentgen ray. The changes in the form of the roentgenographic shadows of the stomach and the duodenum are a faithful reproduction of the anatomic changes in the walls brought about by the ulcer. The changes are accentuated by local spastic contractions, and thus reveal very early stages of wall lesions not diagnosticable clinically. Besides the filling defect, Haudek's niche, ulcerous scar tissue in the walls is reflected in a whole series of anomalies in the shadow of the gastric and duodenal lumen; in the notching of the greater curvature; in inward protrusion of the stomach wall with ulcer of the lesser curvature; in ectasia with pyloric ulcer, and in the various types of deformities of the duodenum with duodenal ulcer. On the gastric serosa the ulcer causes first acute, and then chronic, circumscribed peritonitis, both of which find their expression in the roentgenogram. The muscular and secretory excitation phenomena commonly associated with ulcer influence markedly the tonus and the peristalsis of the muscularis propria, as may be clearly seen in the roentgenogram, as also the hypermotility or retention. The roentgen procedure also reveals the size of the ulcer, its probable hardness, the amount of penetration; the complication with stenosis of an organic or spastic nature near the cardia, on the body of the stomach, at the pyloric orifice or in the duodenum; furthermore, adhesions with neighboring organs, especially the liver, the pancreas, gallbladder, transverse colon and the anterior abdominal wall. A plus outline of the shadow (niche) speaks for ulcer; a minus, for cancer. Conclusions as regards prognosis, indications for operation, and the management of operated cases are discussed.

Value of Roentgenologic Examination, with Elevated Pelvis, in Traction Diverticulum of the Esophagus.—Palugyay recommends that in all cases in which a traction diverticulum of the esophagus is suspected, or pulmonary processes point to a perforation between a diverticulum and a bronchus, a roentgenologic examination of the patient with elevated pelvis be made in order to show up the diverticulum and clarify the diagnosis.

Treatment of Pellagra with Own Blood Serum.—Strassberg reports the results of his trials of injections of the patient's own blood serum in the treatment of 16 frank cases of pellagra. From the brachial vein he drew from 20 to 40 c.c. of blood into freshly sterilized test tubes. The blood was allowed to stand from three to four hours at room temperature. The clotted blood was then removed from the sides of the tube with a flamed platinum needle, and the blood was put in the icebox over night. The next morning the separated serum (from 10 to 17 c.c.) was injected into the pellagra patient—for the most part intragluteally; a smaller portion, subcutaneously. After three or four days the injections were repeated. The patients received from three to six injections, ordinarily; one was given eight injections. During this treatment the patients did not change their diet or mode of living. They all presented the typical symptoms of pellagra, the characteristic dermatitis on hands and feet (sometimes also on the face and neck), heart burn, a burning sensation in the esophagus, dizziness and headache. In 8 of the 16 cases thus treated, all skin manifestations and subjective symptoms disappeared in from eight to twenty-six days; 4 patients had improved after from eight to thirty-six days; 2 patients after an observation period of from eight to twenty-six days showed little or no improvement, and 2 patients did not finish the course of treatment, having had only two injections. Strassberg states that pellagra if untreated usually requires several months to clear up. Whether the symptoms ever returned he is not able to state, as the camp in Roumania where the trials were made was broken up.

Zeitschrift für Kinderheilkunde, Berlin

March 21, 1921, **28**, No. 2-4

*Phosphates in Spasmophilia. J. Jeppsson and K. O. af Klercker.—p. 71.
*Resisting Powers of the Prematurely Born. R. Kyrklund.—p. 168.
The Fat Acids in Infant Feeding. Rietschel.—p. 183.
Butter-Flour Mixture in Infant Feeding. Rietschel.—p. 201.
*Serodiagnosis in Scarlet Fever. E. Thomas and K. Pesch.—p. 208.
Syphilitic Chancre on Lip of Infant. I. M. Handovsky.—p. 216
Action of Lobelin on Respiration. A. Eckstein and others.—p. 218.
*Pulmonary and Glandular Tuberculosis in Negroes. G. B. Gruber.—p. 243.

The Alkaline Phosphates as Factor in Spasmophilia.—Af Klercker relates that his attention was called to this subject by the invariable development of tetany with carpopedal spasm in a child of 7 whenever it was given sodium phosphate by the mouth. It showed no tendency thereto at other times. This confirms the view that the spasmogenic substance in milk is the whey, and that only the salts in the whey, and probably only the alkaline phosphates, are responsible for the symptoms we call spasmophilia. His assistant, Jeppsson, devoted years of research to the subject, and this long report of his results was ready for publication when he succumbed to a necropsy infection. His research demonstrated that children with latent spasmophilia were not affected by whey which had been deprived of its phosphates. His research testified further that all the children displaying a tendency to spasmophilia had been getting an excess of alkaline phosphates. Necropsies showed an abnormally large proportion of phosphorus in the brain, muscles and bones. The property of the alkaline phosphates to reduce the calcium content of the tissues is a further element in their injurious action.

The Resisting Power of the Prematurely Born.—Kyrklund devotes ten pages to the tabulated data in respect to sixty prematurely born infants. They confirm that the bactericidal properties are as well developed in the prematurely born, weighing 2,500 gm. or less, as in other infants. Various diseases have no effect on the bactericidal powers except acute digestive disturbance; this has a more pronounced effect than in normal children.

Serodiagnosis in Scarlet Fever.—Thomas and Pesch examined 150 specimens of serum from fifty children with scarlet fever, applying the Wassermann test and the Meinicke, and tabulate the parallel findings. The latter was invariably negative while the Wassermann reaction was positive in thirty-six and dubious in fifteen.

Pulmonary Tuberculosis in Negroes.—Gruber found at necropsy of twenty-five Senegal African soldiers who had succumbed to pulmonary tuberculosis, that the pathologic findings were like those in European children. They testify to unpreparedness, the defenselessness of those exposed to infection for the first time, and confirm that tuberculosis in adults is in the fullest sense of the word a children's disease.

Zentralblatt für Chirurgie, Leipzig

Dec. 25, 1920, **47**, No. 52

*Technic of Skin Grafting. W. Braun.—p. 1555.
*Ligation of Artery in Roentgen Irradiation. J. Wieting.—p. 1556.
Resection of Nerve Roots in Gastric Crises. W. Lehmann.—p. 1558.
*Exposure of Articulation of the Jaw. P. Bockenheimer.—p. 1560.
Urine Test for Gravity of Autointoxication as Indication for Operation in Ileus. M. Flesch-Thebesius.—p. 1562.

April 2, 1921, **48**, No. 13

Drip Irrigation of Bladder in Prostatectomy. Roedelius.—p. 442.
Whitlow with Gangrene at End of Finger. K. Hanusa.—p. 445. Idem. F. J. Kaiser.—p. 447.
Untoward Symptoms After Lumbar Puncture. O. Bumke.—p. 449.
Note on Splanchnicus Anesthesia. A. Rebula.—p. 450.

The Technic of Skin Grafting.—Braun describes his method of skin grafting, in which the transplant is actually embedded

—as we plant sets or shoots—in the depths of the granulation mass. The defect to be covered is cleansed from all necrotic tissue and treated for a time with moist compresses and douches; a small Thiersch flap is then cut up with scissors into pieces 4 or 5 mm. square. With tweezers or a needle these square pieces are inserted on a slant in rows in the depths (3 to 4 mm.) of the granulations, so that the young cells close over the sets entirely. The granulated surface of the defect is covered over with overlapping strips of oiled tissue, first for three, then for two days; after-treatment with moist compresses, douches and ointments. In four or five days the first epithelial islands appear, and in three or four weeks the last. Epidermization proceeds concentrically. If it stops, then the remaining area must be "planted" with more sets.

Ligation of Artery Before Roentgen Irradiation.—Wieting recommends that before applying deep roentgen irradiation to tumors, the artery furnishing the blood supply be ligated, as the effect of the rays on the neoplastic tissue is thereby much enhanced. The more exclusively the tumor is supplied with blood from a single principal trunk, the more effective will be the ligation. In how far the same procedure may be applicable to other diseases amenable to roentgenotherapy remains to be seen.

Exposure of the Articulation of the Jaws Without Visible Scar.—Bockenheimer describes his method with which the facial nerve and the parotid gland are absolutely protected from injury; no visible scars on the face are produced; the incision leaves ample room for resections and plastic operations, and the healing process is prompt and uneventful. He first makes a curved incision down to the bone, back of the ear, not carried high enough to sever blood vessels needed for the blood supply to the ear, nor low enough to injure the facial nerve 2 cm. below. The ear is drawn forward and then, keeping close to the bone, the cartilaginous part of the auditory meatus is cut across. This enables him to draw the ear so far forward as to bring into view the articulation of the jaw directly in front of the auditory meatus. Working from behind, the articulation is denuded of its soft tissues, which, by means of a blunt retractor, are drawn forward and outward. Thus all injury to the parotid gland and the facial nerve is obviated. With some difficulty in the case of bilateral ankylosis described, the articulation and a portion of the ascending ramus were chiseled off, leaving a gap about 2 cm. wide at the site of the articulation. In place of resection with the chisel, it might be better to employ a Doyen fraise, as the surrounding soft parts are less likely to be injured. After hemostasis is completed, a flap of fat and fascia taken from the thigh is inserted at the site of the resected joint to prevent the bone surfaces growing together again. The ear is returned to place and held firm by the suturing of the skin incision. To promote more rapid healing of the cartilaginous meatus, a rubber tube is inserted in the passage and held in place with iodoform gauze.

Zentralblatt für Gynäkologie, Leipzig

April 2, 1921, **45**, No. 13

Laceration of the Tentorium Cerebelli. W. Zangemeister.—p. 457.
Temporary Sterilization. T. H. Van de Velde.—p. 459.
Sterility Induced by Ligation of Tubes. J. Schiffmann.—p. 464. Idem, by Tying Knot in Tubes. W. S. Flatau.—p. 467.
Untenability of Placental Theory of Eclampsia W. Gessner.—p. 469.
*Stereoroentgenographic Obstetric Measurements. L. Drüner.—p. 472.

Stereoroentgenographic Measurement of the Female Pelvis and the Fetal Head Immediately Preceding and During Childbirth.—Drüner considers the main question in obstetrics to be, Can this child pass through this birth canal without injury? He has found the stereoroentgenogram the best and only satisfactory means of solving the question. Since the publication of a previous article in 1919 in which several examples and illustrations were given, he has not changed his procedure, and it has since then proved reliable in nineteen further cases both during and immediately preceding childbirth. He thinks that the value of the procedure is absolutely established. The exposure is made with the patient seated, the promontory and the symphysis in a plane parallel to the plate.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

March 5, 1921, **1**, No. 10

Amyloid Deposits in Lung. T. C. Lobel and P. A. ten Thije.—p. 1234.
*Alkaptonuria. K. A. Rombach.—p. 1240.
*Present Status of Exophthalmic Goiter. J. E. Schulte.—p. 1243
*Oil from Corpse, 1658. J. R. Jansma.—p. 1252.
*Inoculation of Smallpox, 1755. J. van der Hoeven.—p. 1258.
*Portraits of Physicians in Antiquity. J. G. de Lint.—p. 1262.

Alkaptonuria.—In examining a candidate for life insurance, Rombach discovered alkaptonuria in the man of 26. There is no ochronosis. He is inclined to regard the alkaptonuria as an entirely harmless anomaly of the metabolism except that osteo-arthritis deformans is liable to develop later in life.

Present Status of Exophthalmic Goiter.—Schulte's review of the literature of the last few years on this subject shows that the thyroid is no longer regarded as exclusively responsible for this disease. It is the most important link in the chain, but other ductless glands may be involved. The latter, however, usually return to normal functioning when the influence of the thyroid is removed. Operative reduction of the thyroid has gained ground in recent years. The improvement realized is prompt and more permanent than with internal measures, while the mortality does not seem any greater than with the latter. He says of roentgen-ray treatment, that it renders operative measures more difficult if they finally have to be applied, and that fatalities have been reported, as also the transformation of an exophthalmic goiter into myxedema. He ascribes the success with operative measures in America in large part to the fact that people here are more accustomed to operations in the early stages of disease. The diagnostic import of the blood count is still disputed. The danger of tetany from ligation of all the four arteries of the thyroid has rendered surgeons wary with this as it seems to cut off the nourishment from the parathyroids. Schulte adds that he had a case of transient tetany himself from this cause.

History of Medicine.—These three articles reproduce documents of historic interest, one describing a "miraculous" flow of oil from a corpse, and one the letters that passed between two doctors in 1755 in regard to tentative inoculation against smallpox. The third article reproduces busts of Asclepias and others, and a coin depicting Xenophon of Coos. The people of Coos seem to have placed his image on the coin in gratitude for his services. De Lint relates some further historical data about this Xenophon who was body physician to the emperor Claudius.

Hospitalstidende, Copenhagen

Feb. 23, 1921, **64**, No. 8

*Case of Milky Ascites. T. Guldmann.—p. 113.
Radium Treatment in Various Countries. C. D. Bartels.—p. 117.

Milky Ascites.—Guldmann reports a case of traumatic chyloperitoneum in a boy of 14. The tear in the mesocolon, through which the milky fluid was oozing, was sutured with catgut, and recovery was soon complete. He knows of only one similar case. This was in a boy with rupture of the thoracic duct. Feeding by the rectum for a time arrested the chylorrhea, and the rupture healed. In connection with this case he describes a case of chylothorax, evidently the work of a tuberculous gland. The pleura was cleared out and the boy of 4 recovered.

Ugeskrift for Læger, Copenhagen

March 31, 1921, **83**, No. 13

Spontaneous Fluctuations in Wassermann Reaction. Thaysen.—p. 447.
*Pneumothorax in Treatment of Hemoptysis. T. Begtrup-Hansen.—p. 457.

Artificial Pneumothorax in Treatment of Hemoptysis.—Begtrup-Hansen relates that in ten of his eleven cases the hemoptysis was merely an additional indication for the "collapse therapy" of the unilateral destructive tuberculous process. The tendency to hemorrhage from the lungs was arrested at once, and it never returned in the six cases of complete pneumothorax. In the others, further measures to compress the lung were required later. In an eleventh case it proved impossible to induce the pneumothorax, and death ensued, from pneumonia. Necropsy revealed that the bleeding had been from the supposedly sound lung, although nothing had suggested this during life; not even roentgenoscopy. No roentgenogram had been made.

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SOME MEDICAL PROBLEMS

PRESIDENTIAL ADDRESS *

HUBERT WORK, M.D.
President of the American Medical Association
PUEBLO, COLO.

At this time, before this splendid audience of earnest members of the American medical profession and those intelligently interested in their work, there is no common meeting ground except that of service.

There is no point of view from which we may together look out on the future except that of a united interest.

Community necessities, touched by a spiritual vision, fused the beacon light of the Pilgrims who founded this nation. Community interest has developed every pioneer town since they landed on this historic site. It has built our public schools, preserved the unity of our states, and, recently, saved our nation to us. It is this primitive spirit, inherited from those heroes of want, easy to coordinate and effective beyond resistance, that is still the moving motive of this nation.

These people perfected the higher human attributes through physical hardships to which we are strangers. Under spiritual guidance they were refined. They made us what we are by transmitting to us the spirit of hope and the imagery of conquest.

The blood of these forebears has spread from the eastern to the western ocean, much as a storm passes into a gale, softens to a breeze and becomes a zephyr, as it widens and warms and tempers the seasons. Time has touched a racial temperament. Its protesting, unyielding features have been quieted, but not lost. We may yet speak with the descendants of those pioneers, on their last frontier, in the language of the Puritans from the Pilgrims' Rock, that cradle of a nation's soul.

They, and their kinsmen coming after them, were the hereditary legatees of independent thought and high aspiration. Self-governed by their religious traditions, they lived from within outward; worshipped the spirit-man, and anchored themselves to eternal principles. They designed a seal for a new nation. Although it was engraved without lines or substance or words, we can yet interpret it. It was the sign of the covenant, consecrating their descendants to found a new nation; to win its wars; to insure its peace and to perpetuate religion, without thought that immediate material opportunity could set apart or divorce that spiritual setting which they braved death to perpetuate and recognized as the source of every good work. They fought for peace; thrived on privation; triumphed over self and lived for each other, until each for himself set out on the lost trail alone and unafraid.

As a scroll unfolded returns upon itself, descendants of these people have now come back to the Pilgrim's Rock, as though each would make report of his service, much as a man who has wandered far returns to the old church yard, with reverence for the teachings of his parents, to whisper, "I have preserved your ideals."

We return not in sorrow or with apology, but we come with pride to the home of Dr. Turner, the first licensed American physician, bringing with us men whose fame is international, whose teachings have been translated into many tongues, whose names will endure with the language of medicine.

THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association is a body representing more than 80,000 trained medical men. It is the Plymouth Rock of American medicine, and we may look back through its history, and therein trace the evolution of the healing art. It is our national health service, and the common meeting ground of its members. Its special societies refine and polish its parts, which are here assembled into a working whole of contributed, coordinated, scientific, practical medicine. Its official journal is the recognized authoritative recourse for medical and for lay minds alike.

The governing purpose of this association is to collect and disseminate the truth in medicine, to perfect the science, to expose pretense, and to elevate medical men, to encourage and associate individual efforts, and to bind medicine to the government, its armies and its municipalities. And it hopes that the church and public charities, through the common tie of human sympathy—the hall mark of a Christian civilization—may also join with it for the greatest good to the greatest number.

THE PHYSICIAN HIMSELF

The physician has a duty to those who call him. As a citizen he has a community obligation, and, through organization, an opportunity to serve, second only to that of the national government. But he must first identify himself with the interests of his community, living with his people rather than on them, that he may know their minds and sense their necessities.

Only recently, when civilization's superstructure was being rocked by war, the world had its first opportunity to evaluate, in a crisis, the quality of physicians. One half of the medical men of the United States were promptly in uniform, in community war service or

* President's address before the American Medical Association at the Seventy-Second Annual Session, Boston, June, 1921.

pledged to war's exigencies. The other half staggered, but stood up, under multiplied burdens at home.

The World War has become history. There is now no insignia of rank for physicians—only the service medal of soldiers. But there was no armistice signed with disease. No attempt was made to league physicians for future emergency. Their sense of professional obligation proved to be stronger than a contract, and their service creed more binding than an oath.

A CHANGED NATION

Our nation will not again follow its prewar social, professional or business customs exactly. New opportunities have presented themselves, requiring different methods of approach. Thoughtful men believe that a crisis threatens established principles, and that physicians must now earnestly address themselves to the cause and the prevention of disease and disability as the primary concept of medicine, safeguarding its principles, lest the profession lose its esprit de corps, and its place in public esteem. If its members become piece workers, it may fail of public appreciation as an essential economic factor in the preservation of the national wealth, because of a depreciating national health. Our medical outlook must then be based on public welfare; and the function of the physician should be not only to treat, but also to prevent disease in the families under his care, and in the community of which he is a part.

The history of medicine in England during the last fifty years indicates that the science has advanced in large measure at the pace sanctioned by public opinion. Within recent years our lay press has indicated a welcome interest in matters pertaining to public health

Our people regard it in a new light, as a virile, organized force, quite independent of the sick chamber or hospital environment. They see in the practice of medicine the possible application of civil morals by those skilled in healing—and more. They now urge that it must include the larger field of civic service for those who are well; for social morals should protect against disease, as well as cure it, and business thrift has come to recognize medicine as an essential in public policy.

When pestilence invades our ports from abroad, the first appeal of a terrified people is to the United States Public Health Service. When an army is to be mobilized "over night," the Medical Corps of that army must reject the unfit, isolate those infected before induction, and vaccinate against diseases of contact, while the Medical Corps of the Navy protects those at sea.

No one now believes that medical practice is limited to prescribing drugs. The art and science of medicine is comprehensive and rational. It can never be dogmatized or restricted, for it comprehends a knowledge of every art and science which may contribute to it, for the single purpose of obviating the tendency to death.

No one now believes that the physician should husband his special knowledge and sell it to individuals only; medicine is recognized as a public service, and we must contribute our quota to the public welfare because we are citizens set apart as servants of health.

There is uncertainty in the minds of thoughtless people as to the difference between physicians and pretenders, a confusion due to the fact that many diseases are self-limited regardless of treatment applied. Many that are sick recover quite independently of the kind of treatment, or in the absence of medical advice.

When recovery occurs under the ministrations of those ignorant of anatomy, physiology or pathology, it is regarded as a phenomenon. If under the care of a trained physician, it is regarded as the logical result. The attitude of a physician toward disease is to prevent it if possible; or, failing this, to aid Nature in the contest against it, by simple measures if he can, or by radical means if he must. The most intelligent, educated effort is necessary to either. The attitude of the quack is not to prevent disease but to invent it; to entertain the patient with promises of a cure he cannot give for a disease he cannot diagnose.

Physicians are indifferent to quackery as a competitor in all its phases. Their only interest in medical licensure is to prevent appropriation of the title Doctor of Medicine for the purposes of deception. The organized medical profession does not attempt to control, nor does it care what a practitioner prescribes, provided he has learned what the human body is, through his knowledge of anatomy; what it does right in health, through his study of physiology; and what it does wrong in disease, through his training in pathology.

Charlatans have no place in rational medicine. They are adventurers, supported by people who court deception for the excitement of it, and who are lured by the mysteries of ignorance.

THE YOUNG MAN IN MEDICINE

Our young men are being graduated, standardized and classified scientifically, much as the finest steel is fashioned. What may be done to develop their interest in the province of medicine, and to insure their identification with the demands of their respective communities, is an immediate responsibility of the organized profession.

The young man in medicine may be assured that its future offers to him something no other vocation has to give: the always open door to recurring opportunity. But he must not enter the domain of medicine with the commercial instinct, or he will not learn to interpret it. He may master its words and quote its forms of speech, but the language of medicine is the signal of the human heart for help, which only the true physician can interpret.

Years ago the general practitioner conceived his duty to be that of a healer only. He regarded disease as inevitable, if not indeed providential. Later he advised his clientele how to avoid it. Both of these functions he continues to exercise; but a new field presents itself; medical men must now combat disease in the mass; and disease includes wear as well as infection and its sequelae.

Neither individual preventive nor curative service is minimized by this new perspective, but rather each is intensified.

Those trained as bacteriologists, protozoologists, biochemists and physicists are rapidly increasing in numbers. They are men who may never see the patient, but whose services are necessary for the timely recognition of a disease before it gets out of hand.

The public has demanded that medical education be extended, until it now requires for its intelligent application scientists who are familiar with its most abstruse problems, having the vision of statesmen, the tact of

politicians, a mastery of the sciences, and technical training. These qualities are obtainable only through the collaboration of many minds.

All this means greatly diversified duties, and calls for more specially trained men, meanwhile amplifying opportunities for younger men in medicine and compelling their dependence on one another. This situation has developed the need among medical men for a type of practitioner who can group and weigh all symptoms essential to a diagnosis: only a new description, perhaps, of the family physician, but one tremendously broader which we fondly hope the internist may fill.

I sometimes fear that we regard ourselves as dictators in medical matters, when in reality we merely meet the demands of the public. We should remember that numerically we are as one in 800 among the people, and that our calling has already been granted many privileges, some of which are being betrayed. The prostitution of a professional confidence is often outside possible prosecution. The promiscuous prescriber of alcohol licensed as a physician, but whose ethical sense would degrade a bartender, the perfunctory prescriber for a fee, the vender of habit-forming drugs—all are educated criminals, a social menace, but posing as physicians, and tolerated by the public because of the integrity, efficiency and self-abnegation of a majority of medical men so great that these derelicts almost escape notice.

THE FUTURE.

The needs of mankind have created and developed the physician, but we now have progressed in the curative art as applied to the relief of a single organ as far as we may safely go without advancing a philosophy of medicine applicable to a nation. But we cannot apply a philosophy by mandate. We may, however, develop it in community units, which in the aggregate constitute a nation.

Medicine has not become too technical; but its application to the material man is absorbing, and has of late been tremendously stimulated by the postw... slogan of vocational training for productive education.

There is so much more to a human being than a test tube or a cadaver or an animal can disclose that we dare not neglect his distinctive attributes. If food and clothing were the only human needs, our young men might well be taught to obtain these in the most direct and primitive way. If the things of the spirit, which the cultivated crave, are to be nurtured, we cannot separate or subdivide medical education into segments, restrict its limits, ignore the refinements of science, detach a specialty from the body of its parent, or divorce medicine from other sciences and arts, and expect it to stand in its proper place.

The practice of medicine dominates some men to the exclusion of many things that broaden and sweeten life. To boast of no knowledge outside a specialty, to smother interest in cultural arts or collateral sciences, to ignore the spiritual distinction between men and animals, is to invite professional deterioration and exclusion from the highest concepts of the profession.

There is no science, art or material substance which cannot be made to touch, contribute to, or blend into the substructure of this vital science of human life. Medicine may be likened to a tree. The sciences are its roots, organization is its trunk, its practitioners are its branches, and the people are its leaves. The leaves must fall when their season wanes, but the roots are indestructible. The trunk is sturdy, but the branches must be pruned to insure maturity for the human foliage.

There is a tendency among medical men to limit themselves to diagnosis, to the neglect of preventive and therapeutic measures. Nothing gives so much reassurance in sickness as a prompt diagnosis, for it is the first essential to treatment; but immediately a prognosis, adequate therapeutics and protection against recurrence of the ailment are sought.

No thought is entertained of minimizing the importance of individual or isolated achievements. I wish, rather, to deprecate the tendency to attract attention to them to the neglect of the larger things in medicine, so necessary to retain public confidence in our profession, and to secure cooperation of physicians instead of their dissociation, now threatened, largely through special societies, which is tending to obscure medicine as a national asset.

The time has passed when a physician can stand alone in the profession and subsist on what his patrons can pay him for an inadequate, antiquated type of practice. The physician may no longer devote nine tenths of his time to travel, and the remainder to his profession. It is an economic travesty, and subversive of scientific service.

The larger things in medicine have assumed tremendous proportions, and are being weighed and studied by sociologists and socialists, often impatient with suggestions from medical men. They are not interested in specialized, perfected technic; indeed, their problems have far greater scope. These are semisociologic and can be measured only by medical men, who bring to meet them moral and scientific equipment. These problems involve every human interest, from stabilizing the moral fabric and conserving the man-power essential to our great industries and the production of our food, to the development rights of the child in the kindergarten.

GRADUATE TEACHING

Continuance of the present high plane of medicine is contingent upon the development of graduate work. The profession has been delayed for want of it, and it is being hindered by some proprietary graduate schools, precisely as the profession was depreciated by inferior, faculty-owned, undergraduate schools, now practically past.

Graduate training of physicians should mean more than the teaching of methods of diagnosis or operative maneuver by a specialist, however eminent. It should include the problems of living; the physician's relations to his environment; his duty to it and responsibilities for it; his contact with practitioners of similar attainments and common interest—a medical exchange or a professional clearing house: for nothing dulls the edge of competitive suspicion as does association for a common purpose, and nothing of importance can be accomplished by us comparable to the teaching of the practitioner in order that the public may be taught.

The first and last hope of scientific medicine lies in the medical colleges, and with the local medical societies. Between these acquiring and applying processes of medicine are the daily requirements of 100,000,000 people. Nothing needs to be done for teaching centers by this association other than has already been done, except to encourage the highest standard possible to each one. What should be done at the terminal distributing points of medical training is

everything. If each component county medical society would strive to learn how much it could give to the profession rather than how much it could extract through it, with the unwholesome competition that this attitude compels, then the agitation for compulsory health insurance would pass, common centers for community service would arrive, charlatans perish, incomes be augmented, and professional security be advanced.

Colleges have learned to look longingly to the great foundations organized for higher medical education and for research in establishing scientific facts heretofore elusive, or at most conjectural. No one should criticize such appropriation and expenditure in itself; but, having in mind the medical discoveries and inventions of the last century made by physicians in villages, working alone, we may well wonder whether the ends in view would not be better served by application of the great incomes from these endowments to the encouragement of physicians in little villages, working from below upward for the relief of what is known, rather than in a search for what may not exist or possibly will prove of negligible value, if found.

The foundations of medicine were, in part, laid by the country doctor of the last century. His clientele today are not the helpless, homeless, abject poor; but they are, nevertheless, being deprived of the advanced medical care to which all are entitled.

Suggestions that the standard of medical qualifications be lowered to men willing to practice in the country are unworthy. Offer a chance for professional advancement to the physician already there. Take to him the graduate opportunities he craves, and he will remain and serve well. Let the great foundations, the schools, and the American Medical Association unite to send teachers to physicians at their work, which they cannot leave. Ask the county medical societies to cooperate; then the public will recognize organized medicine as a going concern and will support its attempted philanthropies.

RURAL COMMUNITIES

Rural economists are disturbed because our cities and towns have absorbed so many country people that a minority now live in the country. The consumers have at last outnumbered the producers in the United States. The cry of "Back to the farm" has been raised to help solve our food problem.

A migration back to the farm will not occur, but a stay on the farm policy may be developed. The city-ward movement is fostered by the farmer's wife, who is wearied by toil and benumbed by monotony, with inadequate rest, and scant protection from birth accidents. Her young are born and reared far from good school privileges and the protection of sanitation. The city now rears the healthiest children, and schools them better, offering conveniences and attractions not to be found on the farm. Consolidated community schools have already come, and with them must come readily available protection to the health of rural dwellers, or we shall very soon be compelled to pay famine prices for our food, and the source of virile men shall fail. These are academic questions, far from the clouds so attractive to live among; but the earth finally solves all problems.

Medicine cannot be dissociated from economics without inviting the deterioration which has come to older civilizations whose histories have been written. Our scheme of governmental administration provides for a secretary of labor to guard wage rights; a secretary of agriculture to study animal husbandry; a public health service under a lay secretary of the treasury, but there is no one charged with conserving the physical ability of men to do a day's work.

An economist of health, with governmental prerogatives, is an acute need for this nation, for the primitive, purpose of producing our own food and fabricating our materials for trade exchange. Cities have come to provide for sick emergencies of a sort, made possible solely through the gratuitous service of physicians. The small towns and country places of the United States appeal for, and are equally entitled to, the same opportunity to protect themselves against poor health.

HEALTH CENTERS

There is need in every locality for health assurance, through improved health service. Health centers are in operation, for which communities tax themselves, in order that their indigent sick may be treated. Other communities propose to institute like service, asking the state to share the expense. They may aid the physician tremendously in caring for the sick, by conserving his time, and supplying laboratories and aids not otherwise available. Such centers should lessen expense to the ailing and stimulate medical accuracy, because under the supervision of several medical men.

There is an opportunity through them for physicians to assume their rightful place as an organized influence for health betterment in every locality. This will be rather simple of accomplishment. We have constructed, and in place, the machinery to develop these things: the county medical society, under our national center. The plan of organization is perfect. All that is needed is to revivify the county medical society, to stimulate it through the state societies, and to enlist the public in our efforts to prevent disease and shorten sickness.

Clearly the state, or some unit of government, should contribute to install at convenient points the housing and apparatus necessary to medical precision, making it available to the poorest; but beyond that an organized government should not go. The intimate relation between physician and patient must be preserved where it exists, and restored where lost, if we would give our best aid, and avoid a whole time state service, with its attendant commercializing of the profession of medicine, and the stressing of trade features.

State governments, through their teaching universities, may not justly, for a fee, attract patients for medical treatment. It is the function of a teaching college to train physicians, and scatter them for public use, and to instruct, develop and protect them as alumni in their several places.

The duty of a medical college to its graduates does not end with commencement day; and certainly it is no part of that duty to divert patients from the graduates whom it has sent out with its seal, approving their qualifications for similar service. Instead, its duty is to assist them further in qualifying for their work.

It cannot draw the sick to a common center for pay, in order to augment the salaries of its teachers, without breeding distrust, relieving citizens of their proper sense of responsibility to their neighbors, and incurring the just antagonism of its alumi.

The state must administer its assistance in public health matters, if at all, locally, through the taxpayers immediately interested. Physicians want neither personal help nor interference; but they do want the differ-

ent units of government, under which they live, to do their plain duty in the contest the medical profession has waged against disease, since the time of Galen.

HOSPITALIZATION

Hospitalization is now the first thought for the sick, partly for professional, chiefly for economic reasons.

The public regards the hospital as a public beneficence. The surgeon demands that the hospital shall be a suitable place in which to operate. The physician regards it as a necessary adjunct to the whole scheme of health. We would have the laity taught to see the future hospital as a sociologic institution, a place of refuge accessible to the well for prophylactic advice, and to the sick for their unrestricted use, instead of a retreat accessible only to those able to pay, operated primarily for profit, and not available to all.

By the same token, public hospitals must arise for those without accumulated means, who are not paupers, and the church should assume after-care, in the effective dispensation of coordinated charities as sociologic institutions, with medicine as their adjunct. Modernized hospitals can no longer be maintained by fees alone, nor can a university, and for the same reasons.

If the state may properly support universities for training the student, and maintain hospitals for the custodial care of its insane poor, or a county may levy a tax for the maintenance of its county farms, logically the state or county may assess itself in order to treat its ambulatory sick, and to provide equipment to keep in earning health its essential human economic factors.

It is only an abundance of cheap food that insures the supremacy of a nation. It is the physician's function to maintain the strength of his people that they may obtain this food. The poor need uninterrupted good health and, logically, should have first aid to preserve it.

STANDARDIZATION

The standardization of medical colleges upward has been accomplished largely by stimulating pride of occupation among physicians. The elevation of hospital service, to which the impossible term "standardization" has also been applied, is engaging the best minds in medicine. Both of these movements have been actuated by a desire to protect the life of those made helpless by sickness. The one begins with qualifying physicians; the other undertakes to obtain for them a safe environment in which to do their work. Neither one, however, has assumed to protect the patient from the unqualified or the commercially graduated surgeon, the dishonest internist, or the criminal who operates for a fee, or who brings his victim to a hospital to die as a result of their joint unlawful act.

The grading of medical colleges was a sinecure compared to the grading of hospitals.

In the standardization of medical colleges, our association dealt with educated professional men. Attempts at standardization of hospitals instantly were countered with the necessity for daily income, with lay vision, without medical prescience; having in mind the financial liabilities of their institutions, and the fear of losing the patronage of even the most unworthy practitioner.

Ideal hospital standardization is far from realization because it is impossible. Minimum requirements only can be fixed before a hospital may be approved by some committee representing organized medicine. Hospitals are now essentials in the general scheme, as are churches, schools and orphanages. Clearly they should not be of such scope that the supporting community cannot maintain them, or with features, demanded of all hospitals alike, but impossible to some.

Cleanliness and fire protection are the minimum requisites for a hospital, while its financial limitations dictate every other appurtenance, except the medical element.

In hospitals, precisely as among physicians, the warfare between the educated prompting of a professional conscience, and the commercial instincts calling for quick cash returns, is the patent menace to the best service.

Standardization of hospitals has heretofore meant setting up uniform rules, urging their adoption and, necessarily, leaving their application to those in charge, to be observed or not.

The elevation of the standard of surgeons who work in hospitals should have been coincident with these attempted betterments of facilities, for any hospital service is the shadow of those who work in it. Standardization of hospital staffs is simpler than that of either medical colleges or hospitals, and would in itself insure the latter. Permission to enter patients in a hospital should be notice to the world that physicians admitted there are qualified and trustworthy men. The courage of conviction, weighing human life in the balance with the qualifications of those seeking to be trusted with it, is the simple requirement for hospital staff standardization, and should control all hospital managers.

We complain that people exercise faulty judgment in selecting their physicians. How can they determine this question of life or death, or of chronic invalidism, if an authoritative profession fails to fix their seal of approval or disapproval on those from whom they must choose, and if hospital boards fail to discriminate between qualified and unqualified practitioners?

Hospital service should mean to the world that those admitted to it have been approved by an impersonal, national licensing board, similar to our national examining board, whose disapproval might not legally interdict access to hospitals, but whose approval would become an unqualified assurance of uprightness of purpose, at least, with a modicum of medical qualifications.

GROUP PRACTICE

The grouping of physicians for the private practice of medicine is an expression of community need, but it it easily directed to primarily selfish interests. It is a medical ideal for immediate intelligent service, protecting the interests of those served.

Eventually, where financial features are involved the division of earnings and the distribution of patients, with the hiring of fellow physicians as assistants, may suggest that these services have been commercialized and the way be opened for criticisms. Group practice means association of personnel, with segregated service. It conserves time and cultivates special skill. Apparently it is of scientific advantage to those engaged in it. It gives a broader service for a fixed fee than is possible from isolated practitioners. It does not insure great incomes to the members composing it; and it limits the development of initiative and the personal independence of the younger men attached to it.

Group division of practice, which does not preclude the patient's option of selecting a consultant to members of the group, but recognizes equal skill in physicians

not attached, and approves their employment, is ideal both from a professional and from a public point of view. Associated group practice, without a pooling of earnings, should receive public sanction; otherwise a danger pends, for money should come through medicine only from devotion to the vocation first, and from concern for its earnings afterward.

Independent, comprehensive judgment is the bulwark of medical eminence. It is not likely to be exercised by the piece worker in practice, and cannot be matured by distributing the essentials of it among others. Medicine cannot be brought within fixed limits. Skilled technicians in restricted fields are thus developed, but medicine in its fulness is independent thought's outstanding monument. The future of the group in practice will be determined by its attitude to other groups, and toward independent practitioners. If its governing purpose is altruistic, it will endure; if its first purpose is commercial, it will deservedly fail.

THE OCCULT

A curious cult which treats all illness as imaginary has arisen in this cultured city. It soothes the sick by denials, while nature effects a cure or the sufferer passes out, much as a mother assures her frightened child at night that its terrors are dreams and without substance, until realities readjust its disordered fancies.

Although this theory of the "three Graces" is not applied to food or clothing or housing, admits birth but denies death, denies disease and ignores its causes, it has been a lasting comfort to those who are well and finds prepared soil in distress, for "in the shadow of a great affliction, the soul is dumb."

The Christian religion has been taught 2,000 years without recognizing in practice the basic principle of its founder, read in the challenge, "Show me your faith without your works, and I will show you my faith by my works." The human touch of a spiritual man was the professional equipment of a physician the world has worshipped for twenty centuries. Yet His spiritual teachings have been passed to ministers of His gospel, and His miracles of healing have been emulated by doctors of medicine.

As a people, our faith in help through prayer has preserved the tottering reason of millions, until nature has benumbed bereavement or relieved racking pain.

All suffering is mental, whether from organic disease, functional derangement, or assaults on sentiment. The waning life of the tuberculous is cheered by the euthanasia of the disease; the ebbing life of the cancerous is mercifully shortened; but the tortures of neurasthenia kill slowly, often without diagnosis or sympathetic treatment, because grafted on a hidden sorrow, the prostitution of the soul, or a revolt against mental wounds. Consciousness is the sufferer in sickness. Pathology does not distress the unconscious.

LAY HEALING

This is a legitimate field for lay practice, directly within the province of the Christian church and its ordained ministry, but not to be entrusted for a fee, to the ignorant, who sit stolidly by a passing life repeating false assurances by rote.

We must learn to minister to a mind diseased: not alone to alienated faculties but also to sensitized emotions and outraged affections.

Ministers of religion and ministers of health must jointly associate the beneficence of faith with the beatitudes of works, that the whole man may be conserved, and their professions saved also.

The joining of interest, through common channels, by those who would guard public morals, assure public health, and rehabilitate the poor, is the most inviting question of the moment and logically falls to medical men, who should enlist with them the ordained ministry for this world's work.

THE COMMON CONSCIENCE

Those having minds sensitized to impressions from without believe that the public conscience is undergoing an agitation that is new to our generation; that this is indirectly due to reaction in our code of social ethics, and that we must now recognize the struggle between the forces of normal, stabilized mentality and those of the wavering deterioration of the subnormal.

The ethical sense is the last to develop and the first to fail. The multiplying offspring of those who mature in body but not in mind, and so are always children mentally, are making themselves felt in bulk as unstable young women, governed only by thoughts of sex attraction, creatures of a day, to perish through exposure; and in the criminal acts of youth, committed by boys incapable of earning a living by approved methods. These constitute the menace of the "half-man," present in every community. In this favored state the names and addresses of 12,000 feebleminded people are known. A great authority on this subject estimates the number to be ten times that. This city is said to have seventy-seven rooms in its public schools devoted exclusively to backward children. From such as these come the criminal, the prostitute and the insane —the socially impossible group of tomorrow. Their reproduction is unrestricted, and they are purveyors of disease; while in contrast, those higher in the social scale limit births, and struggle for health. Meanwhile the burden of the unfit grows heavier, and the moral plane of the nation is lowered.

The sex appeal to arrested mentality is out of all proportion to the wholesome balance of a normal mind. The moving picture featuring sex instincts appeals to increasing numbers, resulting in multiplied illegitimate production. Thus, schools are maintained by voluntary contribution for study, through suggestion in illicit sexual relations, and their congeners, crime and dependence.

Each state has the same problem, and it is our problem. The legal profession cannot cope with it. True to training, it will be found arrayed, one half prosecuting, one half defending. The church cannot meet it, because only those choosing uprightness go there. The schools have already despaired, because the child is "not all there." Only the physician is in touch with this thing, and he knows the simple remedy needed to restore, by elimination, the higher intellectual balance necessary to national integrity. He recognizes these contending forces in race development and decay. He has many times voiced warnings of a parting of the social fabric, but the decline of a nation's mentality goes on, unheeded and unrestricted.

Theoretically, we should expect our enfranchised women to rise against the moron rapist, or the possible introduction of the taint of feeblemindedness into their lines of descent. Practically, the sentimentality of women secretly protests against limiting the so-called privileges of percentage.

There are no rights of parenthood which should, through any process of reasoning, take precedence over

the right of the child to be well born. Certain religious sects, believing that the soul is independent of its physical abode, are unwilling to interfere with its transmission, even through tainted, vicious, weak or criminal channels.

It is not future wars between virile fighting men which we have to fear: it is the deterioration of mind, and the inevitable loss of respect for our individual rights, our traditions and our highest ideals, through a submerging mass-mentality.

We have long known that there may be no relation between education and intelligence, and we can now measure mentality. Why, then, should we permit the importation of millions of half-wits, they to reproduce their kind and soil the life stream of American children?

Community health, physical and mental, is the foundation stone of a nation. Etiology and prophylaxis should therefore engage medicine's first thought. We can no longer limit these terms to acute infectious diseases. They apply equally to the lengthening of the life span, to the upkeep of the man-power necessary to accomplish the world's work, and to the preservation of integrity of mind. There is a new freedom available to this country through medicine, a freedom from epidemic infections and acquired diseases, from the preying of the charlatan, and from the menace of feeblemindedness.

American medicine has its greatest achievements before it. It must go to the crossroads and villages for its vision of service, call in its troopers, and train from the outskirts, toward common centers.

It must prevent disease where possible, relieve it where it occurs, aid in the upkeep of earning power, and contribute its influence to maintaining the integrity of a nation's physical and moral fabric.

I would plead for that spirit of service which governed practitioners of the last century, who, knowing less of medicine, depended more on personal attention than we now do; for the spirit of William McClure, of fiction, confined for a life time to the highland limits of a day's ride; of our own General Gorgas, who converted a slough of death into a resort for health, and turned the traffic of a world; for that which prompted the self sacrifice of Walter Reed, who invited death that others might safely pass; the spirit of thousands of men who have preceded us, whose names were unknown or have long been forgotten, but of each of whom the recording angel wrote, "He went about doing good."

Neither hope of professional advantage nor desire for personal aggrandizement, through the highest office my profession has to give, moves me. But if service to it may strengthen the bond of human sympathy between our people, and the altruism and science of medicine, I shall be content. For, "Of all the work my hand hath wrought beneath the sky, save a place in kindly human thought, no gain have I."

True Diagnosis.—The newer knowledge of disease makes it necessary for the physician to know much more than the meaning of symptoms, or even the name of the chief disease. For purposes of statistics we have to give a single name to each disease, but true diagnosis from the standpoint of treatment consists in determining not only the possible diseases of all organs, but also, and even more, the physiological function of all, including those not actually diseases. This is expressed by saying we treat the patient, not the disease. There are no diseases, only people with diseases.—G. Dock, *J. Missouri M. A.* **18**:83, 1921.

EXERCISE TOLERANCE OF CHILDREN WITH HEART DISEASE

AS DETERMINED BY STANDARDIZED TEST EXERCISES*

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The importance of exercise in the development of a growing child is unquestioned. Recently, it has been conceded that the restriction of the activities of a child with only a systolic murmur is not only unjustified but harmful. Moreover, there is now a growing appreciation of the necessity for a wider latitude in the regulation of the life of a child with heart disease. There still remains, however, among the profession as well as the laity, an unwarranted fear of exercise for the child with chronic organic heart disease. This attitude may be explained in part by the previous conception that cardiac failure was due to a mechanical factor, per se, and to the emphasis, correctly given, to rest in the acute stage and in convalescence. In greater measure, however, it is doubtless due to difficulty in estimating the functional capacity of the heart.

As the value of exercise for children with chronic heart disease becomes more clearly emphasized, the need for normal standards of exercise tolerance becomes more evident. Before estimating the exercise tolerance for any type of exercise in a child with heart disease, it is essential to know the tolerance of a normal child for that particular exercise. A review of the literature does not show any comparative study of this kind.

In a previous study of the circulatory reactions after exercise in twenty normal children,[1] such a preliminary investigation was made, and it was concluded that the exercise tolerance of a normal child could be judged by the clinical symptoms and the type of systolic blood pressure curve following special test exercise.

In the present investigation of exercise tolerance of children with heart disease, the previous study on normal children was utilized as a basis for comparison, and amplified by including results obtained in forty-five additional normal children, thus making it more representative. The objects of the investigation were: (1) to formulate a working table of standardized test exercises from a further observation of clinical symptoms and circulatory reactions following test exercises in normal children; (2) to compare the circulatory reactions after test exercises in the cardiac group with those obtained in the normal group, and (3) to determine the exercise tolerance of children with heart disease to standardized test exercises.

TECHNIC

These investigations were conducted upon:

1. A group of average normal children from 6 to 15 years of age, thirty-three girls and twelve boys, supplementing the previous study on twenty normal children, making a total of sixty-five children, thirty-seven girls and twenty-six boys. The period of observation was from one to six weeks at intervals of from two to five

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* Read in part before the Association of Cardiac Clinics, New York Academy of Medicine, Jan. 26, 1921.

* From the New York Nursery and Child's Hospital, and the Department of Pediatrics, Cornell University Medical College.

1. Wilson, May G.: The Circulatory Reactions to Graduated Exercise in Normal Children, Am. J. Dis. Child. **20**: 188-198 (Sept.) 1920.

days, averaging from three to twelve tests for each child. A small group was observed monthly over a period of one year.

2. A group of 116 children with heart disease, from 6 to 15 years of age, eighty-four girls and thirty-two boys. The cardiac group included children with all manifestations of organic heart lesions, congenital and acquired, as well as possible and potential heart disease. The period of observation was from three months to one year, averaging from three to twelve tests. Obser-

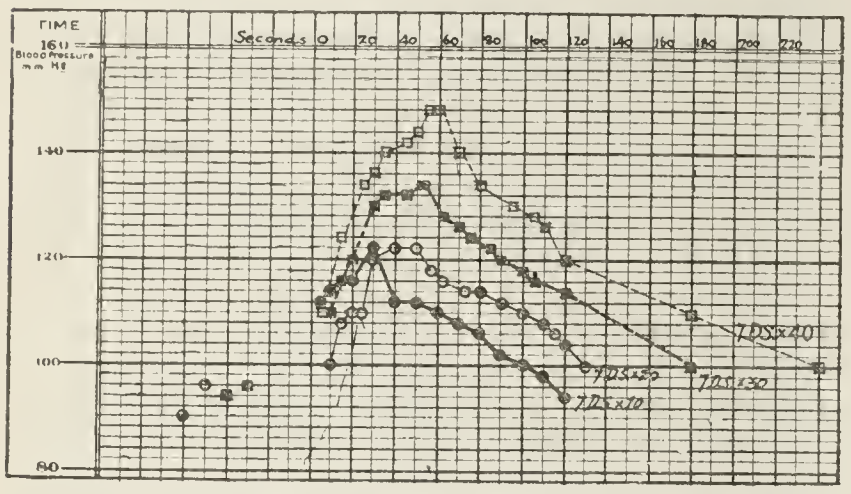


Chart 1.—Typical curves of systolic blood pressure reactions in an average normal child following series of increasing amounts of exercise, at a constant rate of two seconds per swing. Two 7-pound dumb-bells swung ten, twenty, thirty and forty times. (In this and in the succeeding charts, controls are noted to the left of the zero line, work to the right of curves; zero line represests the end of exercise.)

vations were made at intervals of from two to five days, and periodically.

Each child was given a complete physical examination, including fluoroscopic tracings of the cardiac silhouette. Careful routine histories and special notes of predisposing factors and exercise tolerance were recorded.

The technic described in detail in the previous study was adhered to. Repeated observations on the pulse rate, systolic blood pressure and clinical symptoms (color, dyspnea and fatigue) following the termination of each test exercise were recorded.

The test exercises utilized were:

1. Swinging two iron dumb-bells (2, 3, 4, 5, 7 and 10 pounds each) from the floor to the full stretch of the arms overhead and back again between the legs at a constant rate of two seconds for each swing. This movement was repeated from ten to forty times to increase the amount of work. Each child performed at each visit two or three of these exercises graded from moderate to severe, until the maximum effort was approached, as evidenced by marked breathlessness, flushed face and fatigue. In all there were forty-seven normal and 116 cardiac children, each receiving three to twenty tests.

2. Stair-climbing tests. Two and four flights of stairs (from twenty-five to sixty steps) with a total rise of 15 and 30 feet, respectively, taken in from twenty to forty seconds. Seventy-four children were tested, twenty-seven normal and forty-seven cardiac, each receiving two or three tests.

3. Jumping rope. Rope was jumped 100 times in 100 seconds. Thirteen children were tested, five normal and nine cardiac.

4. Setting-up exercises. There was a thirty minute drill daily for six weeks by twenty-five children from the cardiac group. Only the clinical symptoms following these exercises were noted.

CIRCULATORY REACTIONS IN THE NORMAL GROUP AFTER TEST EXERCISES

The circulatory reactions following these test exercises in the group of forty-five normal children confirmed in every way the results obtained in the previous investigation (Chart 1).

The circulatory reactions following the staircase test and the rope-jumping test were similar to those obtained in the dumb-bell test.

Of importance is the confirmation of the type of systolic blood pressure curve following test exercises in which the limit of effort is approached. This curve, showing a delayed rise and a prolonged fall, was present in the majority of experiments, and it is, I believe, an important objective sign in determining exercise tolerance. Unusual and bizarre reactions were infrequent, occurring as a rule in children showing a wide range of systolic blood pressure (from 10 to 30 mm.) at rest, or in cases of marked sinus arrhythmia. Occasionally, it was impossible to produce a delayed rise in children who were unable to perform a complete series of exercises because of muscular fatigue. This may have been due to the using of muscles that were poorly developed, or unaccustomed to heavy work.

CIRCULATORY REACTIONS IN THE CARDIAC GROUP AFTER TEST EXERCISES

The circulatory reactions in the group of 116 children with heart disease were similar to those obtained in the normal group, the only variant being the amount of work which produced the reaction in a certain proportion of the cases (Chart 2).

After-Effect on Pulse Rate.—Immediately after exercise the pulse rate showed a rise of from ten to eighty-four beats per minute. The rise seemed proportional to increase of work performed, and maximum rate accompanied maximum amount of work. In the majority of the tests following maximum effort, the pulse rate was normal or subnormal at the end of two

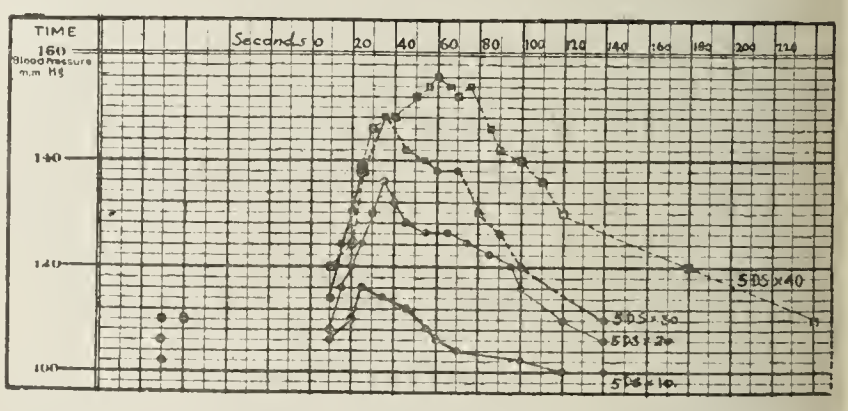


Chart 2.—Typical curves of systolic blood pressure reactions in a child with chronic valvular disease (mitral stenosis regurgitaiton) following series of increasing amounts of exercise at a constant rate of two seconds per swing. Two 5-pound dumb-bells swung ten, twenty, thirty and forty times. This child had a normal tolerance for standardized test exercises.

minutes, so that the rate at the end of two minutes could not be used as an index of exercise tolerance.

After-Effect on Systolic Blood Pressure.—Normal curves of systolic pressure following immediately after test exercises which were performed with ease, and without dyspnea or fatigue, show a steep rise a little above the resting level, reaching its maximum summit within from twenty to forty seconds, and falling quickly to the preexercise level within two minutes.

Abnormal curves of systolic blood pressure following immediately after test exercises in which the limit of effort is approached, judging from the degree of

dyspnea and fatigue, show an increased rise from a little below the resting level (or an initial fall) followed by a prolonged period of rising, or delayed rise or summit, reaching its maximum from fifty to 135 seconds, and falling slowly to the pre-exercise level within from three to five minutes (Chart 3). This type of curve was present after moderate test exercises in children with slight symptoms of insufficiency. This is similar to the type of curve obtained in adults with cardiac insufficiency, reported by Dr. Barringer.[2]

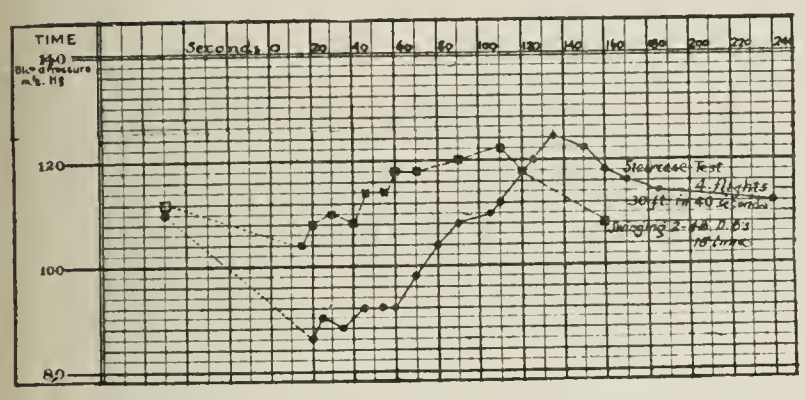


Chart 3.—Abnormal curves of systolic blood pressure reactions in a child with moderate cardiac insufficiency following the dumb-bell test and the staircase test. This child had a poor tolerance for standardized test exercises.

The rise of systolic blood pressure in the dumb-bell test varied from 8 to 60 mm., and was proportional to the increase of work performed. Similar test exercises were followed by similar curves with little variation from day to day.

The circulatory reactions following the staircase test and the rope-jumping test were similar to those obtained in the dumb-bell test. The average rise of systolic blood pressure following the stair-climbing test was from 10 to 34 mm. (Chart 4). The range of increase in the pulse rate was from thirty-four to fifty-two beats per minute. The average range of rise following the rope-jumping test was from 34 to 44 mm., and the increase in pulse rate from twenty-eight to fifty-six beats.

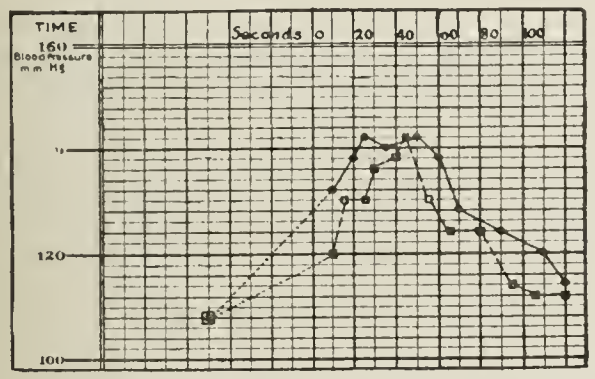


Chart 4.—Comparative normal curves of systolic blood pressure reactions in a child with chronic valvular disease (mitral regurgitation) following average test exercises (dumb-bell test and staircase test) This child had a normal tolerance for standardized test exercises. Solid line, staircase test, four flights, 30 feet, in forty seconds; broken line, line, dumb-bell test, 5 ds × 20.

WORKING TABLE OF STANDARDIZED TEST EXERCISES

A working table of standardized test exercises was formulated from such exercises as were followed by normal systolic blood pressure curves, not associated with clinical symptoms of dyspnea and fatigue. It was standardized according to age, weight and height, from the observations made on the normal group. The degree of distress and type of systolic blood pressure curve following these standardized test exercises were used as a gage in estimating the exercise tolerance.

Any table of this character naturally must be limited, and its interpretation elastic. However, this table of normal standardized test exercises would seem to be applicable for grading the physical fitness of any group of children. Its primary object was to determine the exercise tolerance of convalescents and ambulatory cardiac patients.

Children with acute carditis are unsuitable for these tests; at least two weeks should elapse after the termination of symptoms before test exercises may be given. The mild test exercise should always be the first test given. A child tolerating the average, or severe test, may be considered to have a normal tolerance (this being the normal range). The dumb-bell test exercise is more practical for office and clinic use. The staircase test is best suited for schools. The type of systolic blood pressure curve is a valuable objective sign in determining exercise tolerance, and is a useful check on personal observation.

STANDARDIZED TEST EXERCISES

Test Exercises	Age in Years for Standard Weight and Height	Simple or Mild: No. of D.-B.	Simple or Mild: Weight, Lbs.	Simple or Mild: Swings, Times	Normal Range — Average: No. of D.-B.	Average: Weight, Lbs.	Average: Swings, Times	Normal Range — Severe or Strenuous: No. of D.-B.	Severe or Strenuous: Weight, Lbs.	Severe or Strenuous: Swings, Times
Dumb-Bell Test:										
Swinging two iron dumb-bells from the floor to full stretch of arms overhead and back again between the legs at a constant rate of two seconds for each swing	6-8	2	3	10	2	3	20	2	3	30
		2	4	10	2	4	20	2	4	30
	8-12	2	4	10	2	4	20	2	4	30
		2	5	10	2	5	20	2	5	30
	12-15	2	5	10	2	5	20	2	5	30
		2	7	10	2	7	20	2	7	30
		2	10	10	2	10	20	2	10	30

Staircase Test: Stairs taken at a steady climb without rest	Age, Yrs.	No. of Flights	Rise, Ft.	Time, Sec.	No. of Flights	Rise, Ft.	Time, Sec.	No. of Flights	Rise, Ft	Time, Sec.
	6–14	2	15	40	4	30	40	4	30	2

	Reaction of Average Normal Children Following Test Exercises: To the Mild Test Exercise	To the Average Test Exercise	To the Severe Test Exercise
Color of face (flushed)	.....	+	++
Degree of dyspnea	.....	+	++
Degree of fatigue	.....	.....	+
Rise of systolic blood pressure	10-15 mm.	20-30 mm.	30-40 mm.
Type of systolic curve	Normal	Normal	Normal

OBSERVATIONS OF EXERCISE TOLERANCE IN CHILDREN WITH HEART DISEASE

Any classification of these observations necessarily must be arbitrary. The terms "normal," "fair" and "poor" were used for purposes of convenience.

Twelve of the thirteen children with congenital malformations of the heart had a normal tolerance for standardized test exercises. The one case in which there was a poor tolerance was also a case of hypertension (Case 1).

Of the fifty-eight patients with chronic valvular disease, thirty-six had mitral insufficiency; of these, twenty-three had a normal tolerance and thirteen had a fair tolerance for standardized test exercises.

Of twenty with mitral stenosis and insufficiency, twelve had a normal tolerance, and eight a fair tolerance for standardized test exercises.

Of two with aortic regurgitation and mitral stenosis, both had a normal tolerance.

2. Barringer, T. B.: The Circulatory Reactions to Graduated Work in Normal People and in Those with Cardiac Insufficiency, Am. J. M. Sc. **155**: 864 (June) 1918.

Six patients with chronic valvular disease had moderate symptoms of insufficiency; all of these showed a poor tolerance which improved from week to week, as the clinical symptoms of cardiac insufficiency diminished (Case 5).

Of the nineteen patients with possible heart disease with apical systolic murmurs, one had a poor tolerance, the remaining having normal tolerance (Case 4).

Of the twenty potential cardiac patients, all had a normal tolerance.

Children having a normal tolerance for dumb-bell test exercise also had a normal tolerance for four flights of stairs and jumping rope a hundred times. Twenty-five children of the cardiac group having normal and fair tolerance for the dumb-bell test and for the staircase test were able to tolerate thirty minute setting-up exercises daily for a period of six weeks.[3]

Of the seventy-one children having definite organic heart disease, without symptoms of cardiac insufficiency, 69 per cent. had a normal tolerance for standardized test exercises, 29 per cent. had a fair tolerance, and 2 per cent. had a poor tolerance. Of the entire cardiac group of 116 children, only 8 per cent. were found to have poor tolerance.

As long as the clinical picture remained constant, the exercise tolerance remained the same. Clinical improvement was accompanied by increased tolerance, and the occurrence of infection by diminished tolerance. Children who had been unduly restricted showed diminished tolerance, which quickly increased on being permitted free play. The type of lesion, the valve involved, or the size of the heart did not seem to bear any definite relation to the exercise tolerance in these experiments. In many instances children with heart disease of long duration, accompanied by marked hypertrophy, had a greater tolerance than children with heart defects, or heart lesions of shorter duration with less hypertrophy. Children having a normal or fair tolerance attended school and were allowed free play, as long as they remained well and kept within their reserve. In no instance, in these experiments, could cardiac failure be attributed to overexertion.

Of a total of 116 cases there were three fatalities during the period of observation. One was due to a complicating tuberculosis, and two to further rheumatic carditis following tonsillitis. This would seem to coincide with the statement made by Poynton and Paine[4] in 1914 that "when failure of compensation occurs in cardiac disease, it is rarely due to mechanical overstrain, but to relapsing rheumatism." Lewis[5] likewise states that "infection has more to do with cardiac failure than has strain, or a mechanical defect in the heart itself."

Peabody[6] and others have demonstrated in adults with heart disease that the vital capacity may be considered as a quantitative index of the state of cardiac efficiency. In view of this it seemed of interest to ascertain whether these findings would obtain in children with heart disease, and if so, whether they would corroborate the observations made in this investigation. To that end a separate study was undertaken. It is of interest to record that the children of this group showing a normal exercise tolerance were found to have also a normal vital capacity. This study will be reported in detail in another paper.

3. These children were observed at the Summer Model Ethical Culture Play School.

4. Poynton and Paine: Researches on Rheumatism, London, J. Churchill, 1913, p. 64.

5. Lewis, Thomas: The Soldier's Heart and the Effort Syndrome, New York, Paul B. Hoeber, 1919, p. 37.

6. Peabody and Wentworth: Vital Capacity of the Lungs and Its Relation to Dyspnoea, Am. J. M. Sc. **156**: 108 (Jan.) 1918.

ANALYSIS OF CASE HISTORIES

An analysis of the case histories of the cardiac group shows that in 90 per cent. the children were excused from school exercises. In 83 per cent. free play had been interdicted by either physician or parent, but nevertheless 62 per cent. admitted ability to tolerate stairs and games equally well with playmates. A history may give important information as to ability to tolerate exercise. However, as indicated above, such information may be misleading, particularly in children, and should be verified.

The following five cases are illustrative:

Case 1.—A girl, aged 9 years, weight 50 pounds, height 54 inches, had a congenital cardiac malformation. Fluoroscopic examination revealed a moderate transverse enlargement, Pa plus. She had been excused from school exercises, but allowed free play, and, according to her statement, could tolerate four flights of stairs and all games equally well with playmates.

Exercise tolerance tests showed her to have a normal tolerance for average test exercises (5 ds × 20, four flights of stairs, and setting-up exercises).

Case 2.—A girl, aged 13 years, weight 80 pounds, height 58 inches, with chronic valvular disease (mitral regurgitation), gave a definite rheumatic history, with a cardiac involvement of nine years' standing. Fluoroscopic examination revealed a first degree enlargement, left plus, muscle plus. She had been excused from school exercise and forbidden free play, but admitted to tolerating games equally well with playmates, as well as two flights of stairs.

Exercise tolerance tests showed her to have a normal tolerance for strenuous test exercises (5 ds × 30, four flights of stairs, rope 100 times, and setting-up exercises).

Case 3.—A girl, aged 11 years, weight 56 pounds, height 51 inches, gave a definite rheumatic history, with cardiac involvement of five years' duration, mitral stenosis and regurgitation. Fluoroscopic examination revealed a second degree enlargement, left two plus, right one plus, muscle three plus. She had been excused from school exercise, and forbidden free play, but admitted to tolerating games equally well with playmates, and four flights of stairs.

Exercise tolerance tests showed her to have a normal tolerance for severe test exercises (5 ds × 30, four flights of stairs, rope 100 times, and setting-up exercises).

Case 4.—A girl, aged 12 years, weight 70 pounds, height 50 inches, was referred by the school nurse as a cardiac. Although she gave no definite rheumatic history, she had had influenza the previous winter. Examination revealed a systolic murmur at the apex not transmitted, with no evidence of cardiac enlargement. Fluoroscopic examination disclosed slight flabbiness of muscle, with a questionable enlargement. She stated that she took part in all games and was able to tolerate four flights of stairs.

Exercise tolerance tests showed her unable to tolerate mild test exercises (5 ds × 10, or two flights of stairs, or rope 100 times). She was, however, apparently able to tolerate setting-up exercises. After a period of five months she was able to tolerate severe test exercises (5 ds × 30). Fluoroscopic examination at this time revealed transverse plus, muscle good.

Case 5.—A boy, aged 11 years, weight 114 pounds, height 60 inches, gave a history of chorea in 1917 and in 1918, and until May, 1920, did not show any cardiac involvement on repeated examination.

Exercise tolerance tests up to May, 1920, showed him to have a normal tolerance for severe test exercises (5 ds × 30).

May 15, he developed severe tonsillitis, and was in bed for one week. June 3, the patient was seen and showed noticeable pallor; his only complaint was fatigue. On examination, he was found to have no definite cardiac involvement except an impure first sound. Exercise tolerance tests at this time showed him unable to tolerate average test exercises (5 ds × 20).

The patient was put to bed and seen again two weeks later, when he was found to have a soft systolic murmur at the

apex. Fluoroscopic examination revealed a slight transverse enlargement, and flabby muscle suggesting dilatation. At this time he was unable to tolerate mild test exercise (5 ds × 10). From this time on exercise tolerance tests at two-week intervals showed gradually improved tolerance for standardized test exercises until September 26, when he was found to tolerate average test exercises (5 ds × 20). He was then permitted to be up and about, but has not, as yet, recovered the tolerance which he showed before his cardiac involvement.

CONCLUSIONS

1. The circulatory reactions after test exercises in forty-five normal children, and in 116 children with heart disease, confirmed the results obtained in the twenty normal children of the previous study, in all essential points.

2. A working table was formulated of standardized test exercises followed by normal systolic blood pressure curves, without symptoms of dyspnea and fatigue. It was standardized from an analysis of the reactions of an average group of sixty-five normal children according to age, weight and height.

3. The degree of distress and type of systolic blood pressure curve following standardized test exercises was used as a gage in estimating the exercise tolerance of children with heart disease.

4. Of the seventy-one children having definite organic heart disease, without symptoms of insufficiency, 69 per cent. had a normal tolerance for standardized test exercises, 29 per cent. had a fair tolerance, and 2 per cent. had a poor tolerance.

5. In children with chronic organic heart disease, exercise tolerance tests give important and useful information which may be utilized as a scientific basis for intelligent regulation of the child's activities. The observations resulting from this investigation would seem to indicate that the fear of exercise is unwarranted, and that a wider latitude may be permitted with safety.

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THE NEW ERA IN PEDIATRICS*

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Not long ago the physician treated the disease, such as typhoid, pneumonia or measles. Now progressive medical men treat the patient. But this concept in turn will not suffice. Medicine of the new era concerns itself not only with the disease, with patient plus disease, but also with the environment and living conditions.

Medicine of the future will recognize that disease is not simply a matter of bacteria, nor of bacteria and patient's resistance, but of bacteria and patient's resistance as influenced by environment, or often no bacteria, but simply patient and environment. Of all specialties, this point of view is particularly adapted to pediatrics.

A well baby, clothed in a shirt and diaper, will remain well and happy during the hottest summer weather. Overclothe this child, let him suffer from retained heat, and he will react with severe diarrhea, and collapse. Here physical diagnosis is valueless. Inspection of the stools is a waste of time. Bacteriologic examination of the food may lead one astray. The diagnosis is made by considering the environment, and in this case a searching history reveals the secret.

In our work we have repeatedly seen a change of nurses result in an upset of every child in the ward. This is so invariable that it is no coincidence. Without this experience one might easily be confused by such cases as the following: A baby of 3 months, thriving well on the bottle, suddenly became peevish and irritable, and began to vomit. The feeding formula had been unchanged. Physical examination was negative. Examination of the environment, however, that is, the history, revealed a change of nurse maids. In two days, with absolutely no treatment other than a closer acquaintance with the new nurse, the baby was well.

The classical example in pediatrics of the influence of environment is the condition known as anorexia nervosa. An infant, previously well, ceases to eat, or even shows an actual aversion to food and pushes away in disgust the spoon with cereal or vegetable. If the spoon is forced into the child's mouth, he vomits. The resulting loss in weight may be extreme enough to cause cosiderable emaciation, and is terrifying to the parents.

General history and physical examination prove nothing except that the patient is an only child or a premature child, somewhat neuropathic in disposition. What is the etiology? It is found largely in environment. The parents and often the grandparents have concentrated their entire battery of affection and solicitude on this one offspring. He responds at once to this tension, and the immediate reaction is loss of appetite. A change of environment is worth barrels of tonics in effecting a cure.

These are relatively simple cases. A problem more complex was that of a persistent, dry hacking cough of some months' duration in a boy, aged 8 years. He had been to various physicians, had taken quantities of medicines, and even had been under the care of a Christian science practitioner.

There was nothing exceptional in the general history and physical and laboratory examination. The chest itself was negative. The dry, hacking nature of the cough suggested a nervous element. The father himself was somewhat neurotic. Could there be anything else in the environment? Investigation disclosed that the parents were greatly worried about the condition, and spoke constantly of the cough in the boy's presence. They had kept him indoors for some weeks and, to cause him to relax, had given him a hot bath every night. To overcome the nervous element, parents and child were advised to forget the cough entirely. All medicine was to be stopped. The general measures to be taken were entirely those of building up the boy's resistance. In favorable weather he should go outdoors. He should have abundant rest and good food. Hot baths were to be replaced gradually by tepid, and later cool sponges. Within two weeks the boy was well.

In another case a chronic cough was due to the child's mimicking of a nurse clearing her throat.

A more complex example would be that of an obscure gastro-intestinal affair. This might be a reflex from improper vision, which in turn might be due to faulty methods at school.

One could go on indefinitely. As I look to the future I wonder whether, in our intense specializing, we are not becoming too narrow. Even in the new tendency toward group practice lie these inherent dangers. Somewhere must be the man who, in his examination,

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combines interest in the pathology of definite organs with interest in the patient himself. I believe that the great physician of the future will be he who by his studies has gained an increased knowledge of his specialty, but who, in his attitude to his patient, in his devotion to the ideal of true service, still retains the spirit of the family physician.

The mighty changes in our medical philosophy will become apparent to the distant observer of our profession. The new era of pediatrics will witness what one might fancy as the "passing of the age of pathology." On the one hand, pile all the great contributions to our better understanding of factors of etiology; on the other, stacks of data concerning physiology and function. The former has developed the great field of preventive medicine; the latter has influenced the entire matter of diagnosis from "What are the anatomic changes in this organ?" to "What work can this organ perform?" The former was seized upon by pediatricians in developing the brilliant ideá of "infant welfare"; the latter has been employed by children's men in developing methods of treatment infinitely superior to anything in the past.

By no means must we be blind to the invaluable pathologic knowledge and studies handed down to us, and those which are to come. As students, however, we were taught that almost the greatest essential for medical practice was a knowledge of pathology. Now, in our larger interest in the child's whole welfare, many pathologic problems fade into insignificance. When, by pouring a little oil on the water, we can blot out whole districts of malaria and yellow fever, the pathology of these diseases becomes of only academic interest. Who but the most ardent student cares much about the changes due to hookworm, when proper shoes free whole countries of the scourge? If boiled or chlorinated water, screens, and a few injections of vaccine eradicate typhoid from the army, the typhoid spleen and ulcers pass into history. Pathologic symptoms, gastro-intestinal, bronchial or circulatory, which some years ago would have led to the most learned discussions as regards morbid anatomy, are now brushed aside. The pathology in itself may be of interest, but it is of no practical import, for the etiology lies in easily corrected conditions of environment, as improper feeding, improper hygiene of the home, insufficient sleep, or unknowing neglect on the part of the parents.

In the idea of keeping our patients well, pediatrics is again in the lead. Until recently medical men were interested exclusively in the sick. A well baby was absolutely to be neglected. Only by the wails of midnight colic or the terrifying whoops of pertussis could he attract the attention of his medical friends. What is really the most gratifying field of medicine—that of prevention—has been left to the public agencies of the city and the state, while the practitioner overlooks this field entirely or gives an occasional disinterested public lecture. To pediatricians, however, this preventive work arising from the fuller understanding of etiology can easily be incorporated in daily practice, for much illness results from improper feeding. Infant welfare societies, working in a spirit of prevention, have reduced infant mortality by incredible figures. The time is now ripe to preach the benefit of this to our private patients. Some of us in Chicago are attempting this. We wish to see the babies, no matter how well, at least once a month, and offer our services for the sake of keeping the children well, rather than awaiting their illness. Though this idea is just at its beginning, it offers a great future. I find it in its results the most gratifying and satisfactory feature of my entire work.

Not only, however, does pathology in many instances become insignificant before etiology; it is often rudely brushed aside by the advances of practical physiology.

To the medical man of the future, far more important than the problem "What are the pathologic findings in this intestine, in this heart, in this kidney?" will be the diagnosis of "What is the tolerance of this intestine to food, the capacity of this heart or this kidney for work?" The community will demand of us that we apply all our skill in keeping the child at play or at school, the adult at work. This physiologic point of view has given rise to a change in our conceptions of therapy infinitely more fortunate than anything developed from the pathologic standpoint. Physiologic studies considering the importance of function draw attention to the patient *as a whole*. Often in attempting to improve the function of an organ we do so by neglecting the specific organ entirely and accomplishing our result indirectly through influencing the body as a whole. Such a procedure was first attempted timidly by the pediatricians in certain types of infantile diarrhea, and I myself have become so enthusiastic about this procedure that I am attempting the same thing in my little patients suffering with heart and kidney abnormalities.

Take the question of stools, for instance. As students we were all taught the vital importance of stool examination. This is still the creed of many pediatricians, particularly those of the East. Thinking more from the physiologic than the pathologic standpoint, one may to a considerable degree disregard their significance. Certainly an abnormal stool is a symptom of something wrong in the alimentary tract. Reasoning pathologically, one examines this stool, discovers undigested food, and restricts the diet to overcome this failure of digestion. Physiologically, and with an interest in the whole patient above that of a single organ, one may reason: "Certainly there is a disturbance of digestion. Perhaps the gastro-intestinal tract is suffering from the same lack of nutrition as the whole body. In an undernourished child, if we increase the diet in a way not to damage the alimentary tract, perhaps this latter will improve proportionally to the improvement of the child's general condition." Thus, a diet which might be absolutely contraindicated from the standpoint of pathology of the gastro-intestinal tract might, from the standpoint of the patient as a whole, be marvelously successful.

It is interesting to note that this changing philosophy was adopted by several great thinkers at about the same time. While Finkelstein was revolutionizing our ideas of infant feeding and preaching, "Don't treat the stools, treat the baby," so was Mackenzie revising our conceptions of cardiac conditions. Those of us in military service learned the wisdom of his writings. His work might be summarized, "Treat the patient as well as his heart." No matter if there be a murmur, if there be enlargement, if there be irregularity, if the patient feels better and happier by exercise, then his activities should not be restricted. Again, we see physiology taking precedence over pathology. Far more important than the knowledge of the anatomic defect is the estimation of function, that is, how much work the patient may do.

And so it is with kidney work. Many times have I seen a nephritis in a child improve on a full salt free diet, while a restricted meal was without value. The same fundamental philosophy was followed. Thinking of the whole child before any one particular organ, one reasoned that in the resulting benefit to the child's whole nutrition the kidney would also improve. This happens in many cases unless the kidney is so damaged that it absolutely cannot care for the food given. The idea of a restricted diet preventing the development of nephritis in scarlet fever has long been overthrown by Pospischill, and in my own postgraduate work in Vienna I was able to show that those children given full diets, that is, thinking first of the whole child, came through the disease with less nephritis and in much better physical condition than those whose food was restricted.

The secret of success in this physiologic method of treatment is the careful estimation of the function of an organ. The patient's general nutrition must be improved to the utmost, but in a way so as not to injure the organ one wishes to aid. Thus, in following such a procedure one must not give food above the tolerance of a diseased intestine or kidney, or give exercise too severe for an injured heart.

So here we are back once more to the spirit of the family practitioner in the knowledge of the physiologic capacity of each individual patient; only, in addition to knowledge of his patient, our specialist of the future must understand the basic pathologic and physiologic "Why."

These I believe to be some of the advances of the future. Pathology will bow before the great strides of etiology, with its attendants, preventive medicine and infant welfare. Pathology must bow before physiology, which has emphasized the importance of function; which has made us think not of an isolated organ but of that organ in relation to the whole body; which has developed a rather revolutionary idea of treatment.

The future will see medical men adopting something of the spirit of social service in their private work. More detailed and searching histories will disclose diagnoses never revealed by the most painstaking physical examination.

I believe that we must learn to view our patients from some little distance. I believe that we must learn to regard our own work and profession, not through the magnifying power of our own eyes, but with the perspective offered through the eyes of the community.

Chicago Beach Hotel.

Official Warning Against Nostrum.—The government of the state of Anhalt in Prussia published in a recent issue of its official organ, the *Amtsblatt für Anhalt,* a warning against the use of "Rad-Jo," explaining that the advertising of this preparation has no official sanction although the advertisements are found in railroad and street cars and in postoffices in various parts of the country. The public health authorities of Schwerin also published recently in the Mecklenburg dailies a warning against the use of "Rad-Jo," saying that it is designed merely to exploit the public. The "Rad-Jo" company and the manufacturer, Wasmuth, brought suit against the official who had signed the warning. But the Hamburg court and the court of appeal before which the suit was brought cast it out, saying there were no grounds for action, the official warning against the purchase of "Rad-Jo" being absolutely justified. The canton of Zurich in Switzerland prohibited some time ago the advertising and sale of "Rad-Jo."

WASSERMANN TEST WITH SECRETIONS, TRANSUDATES AND EXUDATES IN SYPHILIS

WITH A NOTE ON THE ORIGIN OF THE COMPLEMENT FIXING ANTIBODY *

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There is a paucity of knowledge concerning the Wassermann reaction with the secretions and other fluids excepting the serum and spinal fluid of individuals infected with syphilis. In a previous communication,[1] the results of Wassermann tests performed with the urines from sixty acute cases of syphilis were given. In this investigation only two of the sixty cases gave a positive reaction. It is our purpose here to record the results of the Wassermann reaction performed with milk, saliva, seminal fluid, exudates and transudates from syphilitics.

TECHNIC

As in complement fixation tests employing urine, the anticomplementary activity of milk, saliva and seminal fluid required very careful control. In every instance we have found it necessary to titrate each specimen for the purpose of determining the smallest amount producing begining inhibition of hemolysis, which was designated as the anticomplementary unit; in conducting the complement fixation tests one half or less this amount was employed.

Despite a large number of tests with milk, saliva and semen freshly collected we could arrive at no fixed amount proving satisfactory for the Wassermann test; as previously stated, each specimen required preliminary titration for anticomplementary activity. We believe this fact is worthy of emphasis as being a possible explanation for some of the positive Wassermann reactions reported by others with milk and urine, due to nonspecific rather than specific fixation of complement.

In our tests all specimens of milk, saliva and seminal fluid were used unheated in order to avoid the destructive influence of heat on any antibody that may have been present. A number of comparative tests with unheated and heated portions of milk, saliva and seminal fluid showed that the antilysins were largely thermostabile, the anticomplementary units of heated portions being but slighty influenced.

All tests were conducted with an antisheep hemolytic system and a primary incubation of one hour in a water bath. All specimens were first titrated for anticomplementary activity. A cholesterolized alcoholic extract of heart was employed as antigen in all tests; and if the amount of fluid was sufficient, additional tests were conducted at the same time with an alcoholic extract

* From the Dermatological Research Institute.

* Investigation aided by funds accruing from the preparation of arsphenamin.

1. Klauder, J. V., and Kolmer, J. A.: The Urine in Syphilis, Report of Laboratory Studies Including the Wassermann Reaction in Sixty Cases, J. A. M. A. **76**: 242-246 (Jan. 8) 1921.

of syphilitic liver and an extract of acetone insoluble lipoids.

Wassermann tests with the heated serum of each patient were conducted with the same antigens and with the same technic.

WASSERMANN REACTION WITH MILK

We performed the Wassermann reaction on the breast milk from nineteen syphilitic women. In the majority of cases the milk was obtained at variable periods after childbirth; in some the milk was obtained during the last month of pregnancy. The majority of the women were untreated and presented no clinical evidence of syphilis. The duration of the disease was variable. However, some presented secondary and late secondary skin lesions. All patients had a positive Wassermann reaction of the blood; in the majority the reaction was + + + + with three antigens.

The Wassermann reaction with milk has been studied and positive results obtained by Bab,[2] Bar and Daunay,[3] Thomsen,[4] and more recently by Rojas.[5] Thomsen, in 1910, reported his results obtained with milk from fifty-three syphilitic women. Of this number the milk was positive in fifty-two cases and the blood in thirty-three cases. The reaction with milk was stronger than the blood reaction in all but eleven cases. In performing the Wassermann reaction with milk he employed 0.2, 0.1, 0.05, 0.025, 0.012 and 0.006 c.c. In a few instances a positive reaction was obtained in the dilution of 0.012 c.c. In 200 nonsyphilitic control cases a positive Wassermann reaction with milk was obtained in ninety-six cases in which 0.2 c.c. of milk was employed, and in six cases in which 0.1 c.c. was employed. In view of these results, Thomsen regards

TABLE 1.—ANTICOMPLEMENTARY ACTIVITY OF UNHEATED HUMAN MILK AND RESULTS OF WASSERMANN TESTS *

Case	Clinical Diagnosis	Time After Childbirth	Anti-complementary Units, C.c.	Wassermann Tests † Amount Used, C.c.	Wassermann Tests † Results
1	Late secondary syphilis....	40 days	0.6	0.4	—
2	Tertiary syphilis.....	1 mo.	0.8	0.6	—
3	Tertiary syphilis.....	.....	0.6	0.2	+
4	Tertiary syphilis.....	.....	0.5	0.4	—
5	Late secondary syphilis....	.....	0.8	0.4	—
6	Tertiary syphilis.....	.....	0.8	0.6	—
7	Tertiary syphilis.....	.....	0.8	0.4	—
8	Tertiary syphilis.....	.....	0.8	0.5	—
9	Tertiary syphilis.....	.....	0.8	0.4	—
10	Tertiary syphilis.....	.....	0.8	0.4	—
11	Tertiary syphilis.....	.....	0.9	0.5	—
12	Tertiary syphilis.....	.....	0.6	0.4	—
13	Tertiary syphilis.....	.....	0.9	0.6	—
14	Secondary syphilis.....	1 mo.	0.6	0.4	—
15	Tertiary syphilis.....	2 mo.	0.8	0.5	—
16	Tertiary syphilis.....	2 mo.	0.9	0.5	—
17	Secondary syphilis.....	7 days before childbirth	0.5	0.3	—
17	Secondary syphilis.....	3 days	0.5	0.3	++
17	Secondary syphilis.....	3 wks.	0.7	0.4	—
18	Tertiary syphilis.....	4 days	0.5	0.2	—
19	Tertiary syphilis.....	5 days	0.35	0.2	++

* All patients gave a ++++ blood Wassermann reaction.
† Conducted with a cholesterolized alcoholic extract of heart.

the Wassermann reaction with milk as only quantitively specific, but as diagnostic when used in amounts smaller than 0.1 c.c. He recommends examining the milk within five days after childbirth. According to Thomsen, not only is the Wassermann reaction a useful supplement to the serum reaction, but the absence of the milk reaction is important evidence against the assumption of syphilis, since this reaction is not influenced by mercurial treatment.

More recently, Rojas [5] reported his results with the Wassermann reaction performed with milk obtained from twenty-eight syphilitic women. The milk was collected during the last few months of pregnancy and within the first five days after childbirth. Milk was used in amounts of 0.2, 0.1 and 0.05 c.c. The reaction was regarded as positive only when it appeared in the second tube (0.1 c.c.). In seven cases the reaction was distinctly positive in both the milk and the blood; the reaction was more pronounced in the milk in three of the cases. In six cases the reaction was negative in the blood and weakly positive in the milk. In four cases the reaction was negative in both the blood and the milk. In the remaining cases the results of the reaction were variable.

TABLE 2.—ANTICOMPLEMENTARY ACTIVITY OF UNHEATED SALIVA AND RESULTS OF WASSERMANN TESTS *

Case	Diagnosis	Lesions in Mouth	Anti-complementary Units, C.c.	Wassermann Tests † Amount Used, C.c.	Wassermann Tests † Results
1	Late secondary syphilis....	None	0.2	0.1	—
2	Primary syphilis.....	None	0.2	0.1	—
3	Tertiary syphilis.....	None	0.2	0.1	—
4	Secondary syphilis.....	Profuse	0.2	0.05	+
5	Secondary syphilis.....	Few	0.3	0.2	—
6	Secondary syphilis.....	None	0.2	0.1	—
7	Late secondary syphilis....	Few	0.3	0.1	—
8	Late secondary syphilis....	None	0.4	0.2	—
9	Late secondary syphilis....	Few	0.12	0.1	—
10	Late secondary syphilis....	None	0.14	0.1	—
11	Late primary syphilis.....	None	0.08	0.05	—
12	Late secondary syphilis....	None	0.08	0.06	—
13	Tertiary syphilis.....	None	0.15	0.1	—
14	Late secondary syphilis....	Few	0.09	0.06	—
15	Tertiary syphilis.....	None	0.12	0.08	—
16	Tertiary syphilis.....	None	0.2	0.1	—
17	Late secondary syphilis....	Few	0.15	0.1	—
18	Late secondary syphilis....	None	0.15	0.1	—
19	Secondary syphilis.....	Few	0.5	0.4	—
20	Secondary syphilis.....	Few	0.15	0.1	—

* All patients gave a ++++ blood Wassermann reaction.
† Conducted with a cholesterolized alcoholic extract of heart.

The results of our tests are shown in Table 1. With the technic employed, fresh human unheated milk was anticomplementary in amounts varying from 0.5 to 0.9 c.c. Tests conducted with one half and even slightly more of these anticomplementary amounts yielded negative reactions with the milks of all women excepting three, two of whom were tested within five days of delivery (Cases 17 and 19). The milk in Case 17 gave negative reactions before and three weeks after delivery.

WASSERMANN REACTION WITH SALIVA

We know of no report in the literature in which the Wassermann reaction was performed with saliva.

We have conducted the test with the saliva from twenty patients with syphilis. The majority were untreated and in the secondary period of the disease, some having mucous patches in the buccal cavity. The blood Wassermann reactions of all patients were + + + + with three antigens. The results are shown in Table 2. Saliva proved extremely anticomplementary both unheated and heated. In order not to destroy possible traces of antibody each was used unheated, titrated for anticomplimentary activity and used in an amount corresponding to almost one-half the anticomplementary units.

All of the reactions were negative excepting one (Case 4) which gave a weakly positive reaction under

2. Bab, Hans: Kongenitale Syphilis und Spirochaeta pallida, Ztschr. f. Geburtsh. u. Gynäk. **60**: 161-211, 1907.
3. Bar, P., and Daunay, R.: Recherches sur le séro-diagnostic de la syphilis chez la femme enceinte et l'enfant nouveau-né, L'Obstetrique **14**: 260-276, 1909.
4. Thomsen, O.: Die Bedeutung der positiven Wassermannschen Reaktion mit Frauenmilch fur die Wahl einen Amme, Berl. klin. Wchnschr. **47**: 1743-1746, 1910.
5. Rojas, O. A.: The Wassermann Reaction in Breast Milk, Semana Med. **26**: 100-103, 1919.

conditions in which a true rather than a nonspecific reaction probably occurred (saliva used in one-quarter anticomplementary unit). It is to be noted that this patient had a profuse eruption on the buccal mucosa.

WASSERMANN REACTION WITH SEMINAL FLUID[6]

We have not been able to find any references in literature to the Wassermann test with seminal fluid. We have conducted the test with the seminal fluid from thirty patients with syphilis. These patients were in all stages of the disease, from the late primary stage to many years after infection. The majority were previously untreated, and a considerable number were in the acute stage. All the patients had a positive blood Wassermann reaction, the majority giving ++++ reaction with three antigens.

In some of the married patients there was a history suggestive of the transmission of syphilis to the spouse and progeny. In still others the blood Wassermann reactions of the spouse and progeny were ++++.

The results are summarized in Table 3; the Wassermann reactions of the seminal fluids were negative in all the cases except one (Case 4). This patient was 40 years of age and was infected twelve years ago. The blood Wassermann was +++. His wife gave a ++++ reaction. The seminal fluid yielded a ++ reaction with the cholesterolized antigen, 0.4 c.c. of unheated seminal fluid being used; the reaction was negative with the alcoholic and acetone insoluble antigens.

TABLE 3.—ANTICOMPLEMENTARY ACTIVITY OF UNHEATED SEMINAL FLUID AND RESULTS OF WASSERMANN TESTS *

Case	Diagnosis	Anti-complementary Units, C.c.	Wassermann Tests † Amounts Used, C.c.	Results
1	Neurosyphilis	0.5	0.3	—
2	Late secondary syphilis	1.2	1.0	—
3	Tertiary syphilis	0.6	0.4	—
4	Tertiary syphilis	0.7	0.4	++
5	Tertiary syphilis	0.9	0.6	—
6	Secondary syphilis	0.8	0.5	—
7	Tertiary syphilis	0.4	0.2	—
8	Late secondary syphilis	0.5	0.4	—
9	Tertiary syphilis	0.8	0.5	—
10	Tertiary syphilis	0.6	0.4	—
11	Secondary syphilis	0.3	0.2	—
12	Tertiary syphilis	0.5	0.3	—
13	Tertiary syphilis	0.4	0.2	—
14	Tertiary syphilis	0.5	0.3	—
15	Tertiary syphilis	0.4	0.2	—
16	Secondary syphilis	0.5	0.3	—
17	Secondary syphilis	0.3	0.2	
18	Secondary syphilis	0.4	0.2	—
19	Tertiary syphilis	0.4	0.2	—
20	Secondary syphilis	0.4	0.2	—
21	Secondary syphilis	0.4	0.2	—
22	Tertiary syphilis	0.4	0.2	—
23	Secondary syphilis	0.5	0.3	—
24	Tertiary syphilis	0.6	0.3	—
25	Secondary syphilis	0.6	0.3	—
26	Secondary syphilis	0.4	0.2	—
27	Tertiary syphilis	0.25	0.1	—
28	Tertiary syphilis	0.25	0.2	—
29	Late secondary syphilis	0.18	0.1	++‡
30	Late secondary syphilis	0.18	0.1	—

* All patients gave a ++++ blood Wassermann reaction.
† Conducted with a cholesterolized alcoholic extract of heart.
‡ Very probably a nonspecific anticomplementary reaction.

WASSERMANN REACTION WITH AQUEOUS FLUID FROM ANTERIOR CHAMBER OF EYE[7]

We know of no report in the literature in which the Wassermann test was performed on the aqueous fluid. In our series the test was performed on ten different specimens obtained from patients who were in the tertiary period of syphilis with variable clinical manifestations of the disease. Some patients presented a syphilitic involvement of one or the other structures of the eye, and others were neurosyphilitics with a positive spinal fluid Wassermann reaction. In most of the cases the fluid was obtained at the time of an operation on the eye. The blood Wassermann reaction was positive in all cases except one; this patient presented a uveitus thought to be of syphilitic origin (the Wassermann test of the spinal fluid was also negative).

TABLE 4.—THE WASSERMANN REACTION WITH BLISTER FLUIDS *

Case	Diagnosis	Blood Wassermann Reactions C. B. H.	S	A	Blister Fluid Wassermann Reactions C. B. H.	S	A
1	Secondary syphilis	++++	++++	++++	++++	++++	++++
2	Paresis	++++	++++	++++	++++	++++	++++
3	Secondary syphilis	++++	++++	++++	++++	++++	++++
4	Secondary syphilis	++++	++++	++++	++++	++++	+++
5	Latent syphilis	++++	0	0	++++	0	0
6	Secondary syphilis	++++	++++	++++	++++	++++	++++
7	Tabes dorsalis	++++	++++	++++	++++	++++	++++
8	Tertiary syphilis	+++	+	+	+++	+	+

* C. B. H., cholesterolized alcoholic extract of heart; S, alcoholic extract of syphilitic liver; A, acetone insoluble lipoids.

In this series of cases the Wassermann reactions were negative in all but two cases, and in these the reactions were doubtfully positive. Probably the high percentage of negative reactions was due to the very small amounts of fluid available for the tests. It is reasonable to expect a positive Wassermann reaction with the aqueous humors of those syphilitics whose spinal fluids yield positive reactions, and especially if active eye lesions are present (as, for example, iritic eruptions during the secondary stage).

THE WASSERMANN REACTION WITH EXUDATES AND TRANSUDATES

The Wassermann test was conducted with the fluids obtained from blisters produced on the skin with cantharides plaster, and in one instance with pleural fluid from a syphilitic. Blister fluids were obtained from patients who were in variable stages of the disease. The blood Wassermann tests yielded different degrees of positive reactions, and the blister fluids were positive in all and the degree of positive reaction closely paralleled the reaction obtained in the blood from the same patient.

The pleural fluid yielded the same degree of positive reaction as was obtained with the serum of the same patient.

A study of the Wassermann test with exudates and transudates from syphilitics has been reported by Roger and Sabareanu,[8] Jacquet and Durand,[9] Wile,[10] and more recently by Riser.[11] In the reports by these writers, blister fluid, arthritic fluid, pleural fluid, ascitic fluid, pericardial fluid and edema fluid obtained through the use of Southey's tubes were examined. The Wassermann reactions were found positive in almost 100 per cent. of these exudates and transudates.

6. Further studies of the seminal fluid in syphilis will be reported in a separate communication as a part of studies on the prenatal transmission of syphilis.

7. This study was conducted at the Episcopal Hospital in collaboration with Dr. Harold Goldberg, ophthalmologist to the hospital, who obtained the aqueous fluid. The Wassermann tests were performed by Drs. C. Y. White and William Egbert Robertson.

8. Roger and Sabareanu: Sur la déviation du complement par les sérosites des syphilitiques, Bull. et mém. Soc. méd. d. hôp. de Paris **29**: 31-37, 1910.

9. Jacquet and Durand: Réaction de Wassermann dans un liquide d'hydarthrose chez un syphilitique, Bull. de la Soc. franç. dermat. et syph. **6**: 244-245, 192.

10. Wile: Personal communication to the authors.

11. Riser: La réaction de Brodet-Wassermann dans les transudates chez les syphilitiques, Ann. de dermat. et. de syph., 1920, pp. 452-460.

It is of interest to note that, in some of the cases reported by Riser,[11] necropsy studies of the serous membranes from which the transudates were obtained disclosed no syphilitic involvement; a local origin of the complement fixing antibody was therefore improbable, and the antibody was derived from the plasma of the blood.

The practical value of performing the Wassermann test with blister fluid rather than the blood may be mentioned in passing as particularly applicable in the diagnosis of syphilis in the infant from whom blood cannot be obtained by the usual methods. The method is apparently accurate but technically unsatisfactory by reason of the small amount of fluid available and the disagreeable and painful nature of the blister.

ORIGIN OF THE COMPLEMENT FIXING ANTIBODY

The Wassermann reactions conducted with secretions, exudates and transudates in this study were conducted to determine the origin of the antibody, whether it was hematogenous or whether there occurred a local formation of these substances. If a local formation of Wassermann producing antibodies could be established, the test would be of value in the diagnosis of local syphilitic lesions and would be of considerable clinical value when applied to the seminal fluid of syphilitics to determine their fitness for marriage.

Our knowledge concerning the Wassermann reaction in the spinal fluid is of particular interest in the foregoing regard and therefore can appropriately be reviewed. The complement fixing antibodies in the spinal fluid is, in the light of present knowledge, dual in origin. The presence of these substances in the spinal fluid in neurosyphilis, although less frequent in the vascular types, is doubtless of neural origin, that is, due to the presence of spirochetes in the nervous system and a reaction on the part of the nervous tissue to their presence. This view is substantiated by the not uncommon observation of a positive spinal fluid Wassermann test in neurosyphilis and a negative blood Wassermann in the same patient. On the other hand, these antibodies are in all probability also of hematogenous origin, that is, due to an infiltration from the blood through the choroid plexus. This view is substantiated by the following clinical and laboratory observations: In experiments conducted by Kolmer and Sekiguchi,[12] a positive Wassermann test was obtained with the spinal fluid of dogs after injecting the animals intravenously with human syphilitic serum which yielded a ++++ reaction. In a communication by one of us (J. V. K.),[13] it was shown that, in some cases of acute secondary syphilis in which there were no subjective or objective symptoms of a neuraxis involvement, the spinal fluid Wassermann test was positive only in the low dilutions of 1 c.c. or more; the spinal fluid otherwise was entirely negative. These observations suggest an infiltration of complement fixing antibodies from the blood into the spinal fluid.

It may be mentioned here that not uncommonly in neurosyphilis the Wassermann test, as well as other laboratory tests of the ventricular fluid, is entirely negative, whereas the fluid obtained by lumbar puncture is positive.[14]

It is interesting to note that the permeability of the choroid plexuses and the meninges for the virus of syphilis, the complement fixing antibodies and probably syphilitic immune bodies is distinct from the defense mechanism of the meningeal choroid complex. The truthfulness of this becomes apparent when we consider the infrequent incidence of meningitis in septicemias in general and the exceptional finding of drugs, bacteria immune bodies and other substances in the spinal fluid under normal and, indeed, abnormal conditions.

The uniform finding of the complement fixing antibody in all exudates and transudates points to the hematogenous origin of these substances. The permeability of serous membranes for the complement fixing antibodies is in striking contrast to the lack of permeability of secretory glands to these substances. It appears however, that within five days after childbirth complement fixing antibodies are more likely to be found in milk than during any other period. This can doubtless be attributed to the greater degree of vascularity of the mammary gland at this time which facilitates the filtrability of these substances.

THE "LOCAL" WASSERMANN REACTION

For purposes of studying the question of local formation of the complement fixing antibodies, we performed the test on the surface fluid from a number of chancres and on the saline extract of syphilitic nodules removed from syphilized rabbit's testicle. The test performed with chancre fluids yielded almost uniformly a ++++ reaction. In some instances positive results were obtained before the test appeared positive in the blood, which apparently excludes the possibility of the positive reaction in the chancre fluid being due to admixed blood. The complete results of this study will be later communicated in a separate report, and its practical value as an aid to the early diagnosis of syphilis will be pointed out. The reaction performed with saline extract of syphilitic testicular nodules yielded a positive result. The control reactions in both studies were negative.

In view of these observations, it appears that there is a formation of complement fixing antibodies at the site of syphilitic lesions and that the Wassermann test may be of value in the diagnosis of local syphilitic lesions when fluid from or in relation to this site is employed. The negative Wassermann test with saliva obtained from cases with buccal mucous patches does not negative the foregoing statement since positive Wassermann tests were obtained with the fluid obtained directly from the surface of the mucous patch.

During the acute stage of syphilis, there is, at least in some cases, an invasion with *Spirochaeta pallida* of the secretory organs and their secretions on which we performed the Wassermann test. Voss[15] observed several cases in which a wetnurse, who had no symptoms of syphilis at the time, nevertheless infected a healthy child. He therefore inoculated three volunteers with milk from the breast of a woman with secondary syphilis. One of the three persons thus inoculated developed syphilis. Uhlenhuth and Mulzer[16] inoculated the testicles of rabbits with milk from

12. Kolmer, J. A., and Sekiguchi, S.: J. Immunol. **3**: 101 (March) 1918.
13. Klauder, J. V.: Early Neurosyphilis Asymptomatic, with Report of Observations and Cases, Am. J. Syph. **3**: 559-586 (Oct.) 1919.
14. Solomon, H. C., and Klauder, J. V.: Provocative Reactions in the Cerebrospinal Fluid in Neurosyphilis, Arch. Dermat. & Syph. **2**: 679-691 (Dec.) 1920.
15. Voss: Ist die Syphilis durch Milch übertragbar? St. Petersburg. med. Wchnschr. **1**: 1, 1876.
16. Uhlenhuth and Mulzer: Weitere Mittheilungen ueber die Infectiosität des Blutes und anderer Körper flüssigkeiten syphilitischer Menschen für das Kaninchen, Berl. klin. Wchnschr. **1**: 769, 1913; Ueber die Infektiosität von Milch syphilitschen Frauen, Deutsch. med. Wchnschr. **39**: 879, 1913.

the breasts of eight syphilitic women. Two of the inoculated animals reacted positively. *Spirochaeta pallida* has likewise been demonstrated in seminal fluid,[17] spinal fluid [13] and urine [1] of syphilitics. We also know that this invasion occurs with or without a local reaction on the part of the invaded tissue. Warthin has shown in pathologic studies that the testicle in tertiary syphilitics is frequently the site of a pathologic involvement with syphilis.

From the point of view of our negative Wassermann tests performed with the various secretions, there is no local formation of complement fixing antibodies due to the foregoing invasion with *Spirochaeta pallida* and pathologic involvement, at least of the testicle, of these secretory organs.

Unfortunately, we had not the opportunity, while conducting this study, to perform the Wassermann test on these secretions during a time in which there was a gross or clinical syphilitic involvement of these secretory organs. Our observations concerning the local formation of complement fixing antibodies support the belief that the Wassermann test on the various secretions may be of value in differentiating a syphilitic from a nonsyphilitic pathologic condition of the secretory organs from which the secretion is obtained.

SUMMARY AND CONCLUSIONS

The Wassermann test was performed with milk, saliva, seminal fluid, exudates and transudates from syphilitics.

An antisheep hemolytic system, water bath incubation and a cholesterolized antigen were used in performing the test.

Wassermann tests with the heated serum of each patient were conducted with the same antigen and with the same technic. All yielded a positive reaction.

All specimens were first titrated for anticomplementary activity. Milk and saliva were found to be highly anticomplementary.

Nineteen specimens of milk were examined; positive Wassermann tests were obtained in three.

Twenty specimens of saliva were examined; a weakly positive Wassermann test was obtained in one.

Thirty specimens of seminal fluid were examined. A moderately positive Wassermann test was obtained in one.

Ten specimens of aqueous fluid from the anterior chamber of the eye were examined. All yielded a negative test excepting two in which the test was doubtful.

Eleven specimens of exudates and transudates were examined. All yielded a positive Wassermann test. The degree of positive Wassermann reaction closely paralleled the reaction obtained with blood from the same patient.

Evidence is presented which supports the belief that the complement fixing antibody in spinal fluid is in all probability dual in origin, neural as well as hematogenous.

The presence of the complement fixing antibodies in exudates and transudates from syphilitics is regarded as derived from the plasma of the blood.

The Wassermann test was performed with the surface fluid from a number of chancres, and with the saline extract of syphilitic nodules removed from the testicles of syphilized rabbits. All the tests performed with chancre fluids yielded almost uniformly ++++ reactions. The reaction performed with saline extract of syphilitic testicular nodules yielded positive results. The control reactions in both studies were negative.

These positive reactions support the belief that at the site of syphilitic lesions there may occur a local formation of complement fixing antibodies. The reaction in these circumstances is styled the "local" Wassermann test. The practical value of the "local" Wassermann test is pointed out as a possible aid in differentiating syphilitic from nonsyphilitic lesions, particularly when applied to chancre fluid as a means to the early diagnosis of syphilis.

17. Herman, L., and Klauder, J. V.: Studies of the Prenatal Transmission of Syphilis, I, Syphilis of the Testicle, Am. J. M. Sc. **59**: 705-723 (May) 1920.

BASAL METABOLISM IN BORDERLINE CASES

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It can be safely said that there is no sign or symptom, or laboratory test, on which a certain diagnosis of hyperthyroidism can be based. In the marked case the signs and symptoms are usually clear cut, and the basal metabolism markedly increased. In the borderline cases the signs and symptoms are not clear cut, and the basal metabolism may not be markedly increased.

INCIDENCE OF VARIOUS SIGNS AND SYMPTOMS

	26 Cases of Hyperthyroidism, Percentage	42 Miscellaneous Cases, Percentage
Pulse over 90	88	25
Tremor	85	24
Nervousness	88	58
Struma	73	52
Moebius	23	19
Von Graefe	42	35
Loss of weight	77	43
Gain in weight	7.7	35
Palpitation	65	55
Digestive disturbances	73	83
Dyspnea	57	50
Choking	15	14
Perspiration	23	19
Menstrual disturbances	46	38
Exophthalmos	4	0
Pigmentation	8	5
Blood pressure: Above 110	96	80
Above 130	50	30
Above 140	23	..
Above 150	8	..
Above 160	4	..
110 or below	4	20
Pulse pressure: Over 50	54	21
Without hypertension, 14		
Over 60	30	14
Without hypertension, 7		
Basal metabolism: Over 10 per cent.	73	26
Over 15 per cent.	61	19
Over 20 per cent.	50	9
Over 25 per cent.	30	4
Over 30 per cent.	30	2

The present study was undertaken with the object of comparing the clinical diagnosis with the basal metabolism. The cases, with but two or three exceptions, are borderline cases, i. e., cases in which the possibility of a hyperthyroidism had to be considered. The diagnosis in each case is based on the clinical findings independently of the basal metabolism reading. Each patient underwent at least a complete physical and routine laboratory examination and, when indicated, special examinations, such as mental, ophthalmoscopic, nose and throat, gastro-intestinal, roentgen-ray, and blood chemistry.

The sixty-eight cases are divided into two groups: Group 1 (twenty-six) consists of cases in which the diagnosis, based on the clinical findings, exclusive of the basal metabolism, was hyperthyroidism. Group 2

(forty-two) consists of cases with a rather wide variety of diagnoses, but diagnoses based on clinical findings, independent of the basal metabolism. Some of the diagnoses in this group were: neurosis, paroxysmal tachycardia with goiter, chronic endocarditis, arteriosclerosis, visceroptosis, cholecystitis, no disease, myxedema, diabetes, infected tonsils, mucous colitis, chronic nephritis and simple goiter. The table gives a summary in percentages of the incidence of the various signs and symptoms.

Rather interesting comparisons are brought out in studying the blood pressure. The figures seem to show that it is rare to have a blood pressure below 110 mm. in hyperthyroidism; that a pulse pressure over 50 mm. favors the presence of a hyperthyroidism, while a pulse pressure below 50 mm., if hypertension is excluded, favors the absence of hyperthyroidism.

RESULTS OF OBSERVATIONS

An increase in the basal metabolism of 10 per cent. is present in two thirds of the cases presenting clinical signs and symptoms of mild hyperthyroidism. An increase in the basal metabolism of 10 per cent is present in one fourth of the cases in which the clinical signs and symptoms were not considered sufficient to warrant a diagnosis of hyperthyroidism as being the prime factor in the diseased condition.

As the basal metabolism rose, the percentage of cases clinically falling into the hyperthyroidism groups increased rapidly.

RELATION OF INCREASED BLOOD VISCOSITY TO TRANSIENT ATTACKS OF HEMIPLEGIA *

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The occurrence of attacks of hemiplegia or aphasia which clear up completely within a few hours is an extremely interesting phenomenon. It is seen not infrequently in individuals suffering from arteriosclerosis, with or without abnormal blood pressure changes. The term transient hemiplegia, as here used, refers to a condition resulting from a disturbance in the circulation of the blood, in one or more of the cerebral vessels, which is not of sufficient duration to result in permanent damage. This condition must be carefully distinguished from the transient hemiplegias that are not uncommon in general paralysis of the insane, and from hemiplegias that leave a residue of symptoms indicating permanent organic injury of the brain.

There has been considerable speculation as to the nature of the circulatory disturbance which could be so severe as to result in a complete loss of function of one or more parts of the brain, and which is yet so fleeting as to permit perfect restoration of function within a few hours. Many authors believe that the circulatory disturbance is the result of arterial spasm, and see in the pathologic process a condition analogous to the spasm of the peripheral vessels supposedly present in intermittent limp, Raynaud's disease, etc. This view has been well summarized by Russell,[1] who writes: "In this condition the closing of the blood channels is initiated by the channels themselves, and is effected by means of their muscular coat. It is a local closing and may be partial or total—that is to say, it may only lessen the amount of blood passing, or it may completely arrest the flow of blood to the part." The terms angiospastic hemiplegia and intermittent cerebral claudication have been used, therefore, to describe the attacks. Oppenheim [2] states that "the term transient hemiplegia is used when softening does not result—either because the clot dissolves or is washed away, because collateral circulation is established, or because (as in syphilis) the defective blood supply was the result only of great narrowing of the vessel-lumen, which for the time being amounted to occlusion."

Inman [3] takes issue with the adherents of the vessel-spasm theory, and says: "In the first place, the theory rests on a foundation of conjecture only. There is little evidence, either of a pathologic or of an experimental nature, to support the belief that isolated spasm of the cerebral vessels may occur as a result of conditions arising in the body." He offers as a more satisfactory explanation of some cases of transient paralyses the view that they are due to slowing of the circulation in sclerotic vessels as a result of lowered blood pressure.

So far as I am aware, there is no absolutely certain clinical or experimental method by which the vessel spasm theory of transient cerebral palsies can either be proved or be disproved. The influence of blood pressure changes can be investigated more easily. The theories mentioned leave out of consideration, however, the influence of changes in the physical character of the blood. It is not my object in this paper either to prove or disprove the truth or falsity of the theories mentioned, but to invite attention to the probability that changes in the physical character of the blood may be equally at fault with diseased vessels and changes in pressure.

INFLUENCE OF THE VISCOSITY OF A FLUID ON ITS RATE OF FLOW

From a purely theoretical standpoint, it is apparent that at a constant temperature, the resistance offered to the flow of a fluid through a tube will depend, not only on the size, shape and smoothness of the tube lumen, but also on the character of the fluid. Because of friction, that part of the fluid in contact with the walls of the tube is slowed, so that the center of the fluid moves with greater velocity than the periphery. Angulation, constriction or roughness of the lumen will result in increased friction and a consequent slowing of the stream. All other factors remaining constant, an increase in the viscosity of the fluid will produce a similar effect. By viscosity is meant that quality of a fluid which tends to cause the molecules composing it to remain in contact. It has nothing to do with specific gravity, since a liquid such as mercury may have a very high specific gravity and yet flow freely because of a low viscosity, while glycerin, which has a relatively low specific gravity, has a high viscosity. The volume of fluid discharged from a tube in a unit of time will depend upon the resistance offered by the tube, the viscosity of the fluid, the temperature, and the pressure exerted by the driving force.

VISCOSITY OF BLOOD

Blood has a viscosity four or five times that of water, and for that reason the energy required to circulate it

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* From the Department of Medicine, Northwestern University Medical School.

1. Russell, William: Intermittent Closing of Cerebral Arteries, Brit. M. J. 2: 1109 (Oct. 16) 1909.

2. Oppenheim, H.: Text Book of Nervous Diseases (English Translation) 2: 819, 1911.

3. Inman, T. G.: Cerebral Thrombosis and Abrupt Slowing of the Cerebral Circulation, J. A. M. A. 75: 1765 (Dec. 25) 1920.

is much greater than would be required to circulate an equal volume of water. The viscosity of blood is subject to fluctuation due to changes in salt, colloidal, gaseous and water content, and the corpuscular concentration. An increase in the number of cells, of the colloids in suspension, or of carbon dioxid causes an increase in viscosity. Increases in the water, oxygen or salt content lower viscosity. In individuals with normal vessels and adequate pressure, it is highly improbable that the viscosity of the blood is ever altered sufficiently to result in the production of symptoms. Bock,[4] in an article on plasma volume, advances the general proposition that, with certain exceptions, among which are edema of the lungs, excessive sweating and diarrhea of severe type, plasma volume tends to remain fairly constant. He emphasizes the necessity of a normal tissue fluid reserve for the maintenance of blood plasma volume at a physiologic level.

The degree of dehydration which may result from severe diarrhea, vomiting, cholera, etc., may become so extreme as to constitute an urgent indication for the subcutaneous or intravenous introduction of fluid in order to restore blood volume and decrease blood viscosity. Apparently, severe sweating, occurring under conditions which preclude the possibility of replacing the water lost, may also result in a sufficient concentration of the blood to produce symptoms. Allbutt [5] says: "Sweating, it is agreed, raises viscosity by about 1.25." If it does, and reason, clinical and experimental evidence seem to corroborate the truth of his statement, the increase is from 25 to 30 per cent. above normal values. Such an increase cannot be ignored in considering the dynamics of the cerebral circulation, especially if it occurs in an individual suffering from either relative or actual hypotension, or vascular disease or both.

The foregoing is sufficient to indicate that, in considering the cause of transient attacks of paralysis due to slowing or stoppage of the circulation in a cerebral vessel, factors other than decreased head of pressure and narrowing of the vessel lumen may play a part. Such a supposition was suggested by the history and physical examination of a patient seen recently:

N. E. B., a white man, aged 78, actively engaged in business, with the exception of a single attack of gout which occurred a few months prior to his present illness, had always been in excellent health. Physical examination at that time was for the most part negative. He had a moderately low systolic pressure, a faint trace of albumin in the urine, and the findings characteristic of acute gout. His present illness consisted of two complete but transient attacks of left sided hemiplegia separated by an interval of about two weeks. Both attacks occurred during the early morning hours; both followed baths which were so hot that he says the water nearly scalded him. On both occasions he awoke because of a severe left hemicranial pain. He attempted to arise, only to discover that the left side of the body was completely paralyzed. Summoning help, he insisted on being aided to sit upright in bed. Twelve hours later the paralysis had almost completely disappeared, and within forty-eight hours the only evidence which remained was a feeling of numbness of the left side of the body. Examination forty-eight hours after the second attack revealed all reflexes present, equal and normal. There was no impairment of muscular power of the left side of the body as compared with the right. Sensation was normal. Cranial nerves were normal. There was normal plantar flexion. He insisted that he felt perfectly all right and chafed under the restraints imposed on him by his family. Cardiovascular examination was negative. The vessels were not palpably sclerotic. The systolic blood pressure was 140; the diastolic, 80.

The patient on two occasions had taken very hot baths during the early evening hours; six or seven hours later, in the early morning hours when the cardiac rate, blood pressure, and respiratory rate were presumably at their lowest ebb, he suffered from cephalic pain and hemiplegia. If the baths played a part in the pathogenesis of the condition, it would seem that they did not do so by reason of sudden changes either in blood pressure or in blood distribution, since there had been no untoward symptoms during or immediately after the baths. Even if the baths had resulted in a marked change in blood pressure, the time which elapsed before the onset of the paralysis should have been ample to permit readjustment. It was surmised, therefore, that the effect of the hot baths must have been of such a nature as to result in increased blood viscosity through loss of water by perspiration. As indicated in a previous paragraph, increased viscosity would result in increased resistance to the flow of blood through the capillaries. Given, then, sclerotic vessels, lowered blood pressure and increased blood viscosity, all the factors necessary for the slowing of the cerebral circulation were present. That in this case they did not result in permanent damage was probably due to the fact that the exertion consequent to assuming the sitting position resulted in an accelerated cardiac rate and higher blood pressure, thus reestablishing the circulation before coagulation of the stagnant blood could occur.

The history of the foregoing case is almost duplicated by that of another man in the fifth decade of life who has had two attacks of transient aphasia following sweating brought on by unusual muscular exertion. Here, also, physical examination is for the most part negative, with the exception that he is slightly overweight and has a permanent hypotension.

Other cases might be cited in which the effect of dehydration is not apparent, but the connection in the two cases aforementioned is reasonably clear. Because of difficulty on urination as the result of prostatic disease, or because of the inconvenience of frequent nocturnal urination, many elderly men restrict their fluid intake, a procedure against which they should be warned, especially if they also suffer from hypotension or vascular disease. In view of the fact that the transient cerebral palsies have been regarded as analogous to intermittent limp (thrombo-angiitis obliterans) it is significant that the treatment of the latter condition was most unsatisfactory so long as it was considered as being purely a vascular disease, and continued so until efforts were directed toward improvement of the abnormal blood viscosity known to exist in this condition. Since the introduction of the Mayeshima-Koga method of treatment of this condition, consisting of the subcutaneous injection of large amounts of Ringer's solution, the therapeutic results obtained have been most gratifying. Modifications of the original method, such as the intravenous injection of 2 per cent. sodium citrate, or the introduction of Ringer's solution into the stomach through a Rehfuss tube, have also given good results.

CONCLUSIONS

In the care of patients of advanced years, or those known to have vascular disease, and in those who have had cerebral vascular crises, dehydration of the tissues should be avoided.

4. Bock, A. V.: The Constancy of the Volume of the Blood Plasma, Arch. Int. Med. **27**: 83 (Jan. 15) 1921.

5. Allbutt, Clifford: The Viscosity of the Blood, Quar. J. Med. **4**: 342, 1910-11

The introduction of anticoagulant salts and of fluid may be indicated in certain cases of transient hemiplegia or aphasia in order to prevent actual thrombosis in vessels when slowing of the circulation is the cause of the symptoms.

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TRAUMATIC SURGERY PROBLEMS*

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The big problems in accident surgery are the prevention and cure of infection of the soft parts, the management of fractures and of injuries to joints, tendons and nerves, and the after-care of the injured. Of these, the management of infected wounds and the care of broken bones are the most important, because 75 per cent. of our patients have wounds of the soft parts or broken bones. It is important to remember that these were the problems of war also, and some of the great surgical lessons of our recent military experience are applicable to these, our postwar civil traumapathies.

However, we must recall that military surgery did not radically change our previous knowledge, and it is a regret, and something of a reproach also, that out of the war has arisen no universally accepted treatment for infected wounds or fractures, despite the fact that the attention of surgeons the world over was focused essentially on these two problems. The French military surgeons brought forward the best preventive method of wound treatment by stressing mechanical sterilization, the exsection of damaged tissues (called by them débridement); but at the close of the war it remained for a Frenchman (Louvard) to show that this supposedly new method had been advised and practiced in all its essentials during the Napoleonic wars by that great French surgeon, the Baron Larret. In my opinion, the one applicable gain of military experience to civil experience is the recognition that crippling from injury is preventable by early care and that deformity can be minimized by later care of the injured. Fortunately, this gain is in terms of restoration of function, for the two great basic factors in traumatic surgery are, first, safety, and, second, conservation, as related to life, limb and vital organs.

In a quantitative and qualitative sense, the war presented maximum opportunities for the practice of traumatic surgery, and, beginning in 1917, the combined experience of the best surgeons among our allies became available through the meetings of the Interallied Surgical Conference, which made an intensive study of common problems, agreed upon the best methods of treating them, and, from then on, standardization and unification of procedure became possible. In due time, our own surgeons joined this group, and out of this clearing house of information came the precepts and practices which guided us in the treatment of our own soldiers and those of our allies.

At the meeting of the American College of Surgeons in 1919 in New York, I proposed a similar conference for the purpose of standardizing the methods of treatment of present-day injuries. This proposal is being considered.

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There assuredly is one best way of treating the average wound, the average burn, the average fracture, the average joint injury; and, until we standardize our methods by agreement among those best fitted by clinical experience to express an opinion, our therapy will be shifting, aimless, and ineffective.

Standardization of treatment is then the next basic problem I would mention, and, with that in view, I venture to state what to me are some of the elements leading to earlier return of function after injury.

ELEMENTS LEADING TO EARLIER RETURN OF FUNCTION AFTER INJURY

Wounds.—Sterilization is the key to success, and we have only two methods to accomplish this, namely, mechanical sterilization and chemical sterilization. The first of these means that we sparingly cut away all bruised, frayed or otherwise devitalized tissue, realizing that germs propagate only in tissues robbed of normal blood supply, and that healthy tissue is inimical to their growth. This sort of treatment is needed only in crushing wounds of the soft parts and in grossly compounded fractures, and we practice it only when we can see the patient within the first twenty-four hours after injury. This débridement of wounds is not sacrificial to the tissues, and only enough soft parts are removed to encounter free bleeding, normal color, or contractile muscle.

For the ordinary wound, chemical sterilization suffices if we can make our antiseptic contact with every part of the dried wound. Hence the uniform procedure is to cleanse the surface with gasoline, benzin, or kerosene, remove all débris or foreign bodies, and then bathe the parts very freely with tincture of iodin full strength. In a wound with a small or tortuous orifice, the iodin should be introduced by a syringe so that we may be assured that all the wound tract is iodized.

Next to iodin sterilization, the most important point is *drainage*. Every wound not made under surgical auspices is already infected and should be so regarded; therefore, it should be suitably drained, after being loosely sutured. Gauze drainage soon plugs and dams the orifice; therefore rubber drainage (such as by an ordinary rubber band) is best. Personally, I use gauze drainage only for two reasons; to keep the wound edges apart, or to act as a hemostatic agent. The first dressing placed on the now sterilized, loosely sutured and rubber drained wound, consists of gauze wet in some nonirritating solution to combat infection from the skin cocci present on the surface of every wound. One dram of full-strength tincture of iodin to a pint of saline makes an excellent solution for this purpose.

Rest and elevation are the final measures, and for this purpose a light splint is very useful, aiming by posture to anticipate a possible deformity. Drainage is removed at the end of from twenty-four to forty-eight hours, if conditions warrant. However, there are some wounds, deep, tortuous, perhaps associated with much tearing of muscle, perhaps even involving the bone. To suture these is but to lock up infection, to keep it at the depth of the wound despite adequate drainage. In these it is the part of wisdom to sterilize the wound mechanically or chemically, to place the stitches but not to tie them for from twenty-four to seventy-two hours, until we are sure clinically or bacteriologically that streptococci are absent. Such a procedure in war surgery went by the name of inter-

mediate or primosecondary suture, as compared with the immediate or primary suture method just described. The final form of wound closure is the so-called secondary or late suture. This we adopt for infected wounds, which we make clean by some form of chemical sterilization, some favorite antiseptic. This practice of undermining the margins of a clean, granulating surface, bringing the skin edges together, suturing and draining, is a big help in our effort to shorten disability and diminish deformity.

Burns.—If we will modify our conception of burns and regard them as infected wounds due to heat, our therapy will then also become modified, our results will be better. We will not voluntarily reinfect an ordinary wound by applying a rancid, oily or greasy dressing, such as stale carron oil or a non-antiseptic ointment; nor will we cover an ordinary wound with a paraffin dressing that in effect seals it like collodion. If we decline to do this for an *ordinary* wound, why should we do it for a heat wound, or burn?

The treatment for burns that has given me the best results is one that regards all burns as heat wounds, that pass through three stages in their development. The first stage is that of dermatitis (which is allied to superficial cellulitis); the second stage is that of exudation (which is allied to suppuration); the third stage is that of cicatrization (which is allied to the formation of scar tissue). For the initial stage, my plan is to sterilize the burned area by painting it with a 3.5 per cent. watery solution of iodin, unless the involved area is very large or the patient is in shock. Thereafter the surface is covered by a gauze dressing wet in 10 per cent. sodium bicarbonate, and this dressing is kept wet by rubber tubing incorporated in the dressing so that the original dressing is unchanged for from twenty-four to forty-eight hours, depending on the extent and depth of the burn. Why do we use sodium bicarbonate? Burns produce their systematic effect, their toxicity, their shock, because they are manifestations of an acidosis, and hence sodium bicarbonate is a physiologic antidote and is also productive of an excessive secretion of the serum so necessary to prevent infection and promote healing. Organized serous effusion is to an injury of the soft parts what callus is to an injury of the hard parts. Part of the toxicity and shock from burns is also due to dehydration and to absorption of destroyed tissue, just as shock is similarly produced by absorption of destroyed tissue, in excessive destruction of muscle and other soft parts in severe crushes and allied wounds. A third cause of toxicity and shock in burns is due to the suprarenal disturbance which focalizes in the suprarenal tissue of the duodenum, giving rise to the gastroduodenitis which sometimes complicates burns. All these elements are in part counterbalanced by the use of sodium bicarbonate externally, and by the use of the same drug by rectum or intravenously in cases of profound shock. The second stage of burns, that of exudation, is treated by exposure of the burned area to sunlight or open air, the parts being so arranged that contractures will not occur. In the absence of sunlight, exposure is made to the rays from an ordinary electric light bulb covered by red or yellow paper. No dressing of any sort is placed over the wound, and all secretion from it is gently washed or sponged away by a 5 per cent. solution of sodium bicarbonate. If the burned area is large, especially in children, a daily bath in the bicarbonate solution is excellent. At night, it may be necessary to cover the surface, and the dressing then consists of camphorated oil, sterile olive oil, or a 10 per cent. solution of castile soap and petrolatum in sterile water. If crusts form, they are allowed to crack and separate spontaneously, the process being hastened by double strength sodium bicarbonate The third stage, that of cicatrization, is treated by similar exposure to sunlight, or the red or amber rays from an ordinary electric light bulb. This form of exposure is the best form of treatment for an infected wound of any type, notably when a sinus exists, or there is excessive purulent discharge. The comfort to the patient is remarkable because no dressings are required; sepsis is minimized because the pus is not kept in contact with dressings, which virtually act as pus poultices; and the cicatrix is smooth, soft and nonadherent. Even with very large and deep burns, this treatment is so successful that skin grafting is far less often necessary. It is applicable to a burn of any extent, of any origin and of any location. Even in ambulatory cases, a caging of chicken wire can be placed over the burned area so that the secretions can flow out, and not be kept in by a dressing that soon becomes pus saturated, to act as a reinoculating agency. In passing, I may say that most of these wounds, especially those on the face, trunk and abdomen, would do much better without any dressing whatsover, because the normal serous flow effectively prevents reinfection.

Joint Injuries.—One of the great advances during the war was the recognition that mobilization and not immobilization was the best treatment for articular lesions. This means that early activity of the joint and not inactivity best promotes return of function, irrespective of the grade of joint damage.

Sprains.—These should receive the benefit of immediate hot applications during the first few hours, and then the affected joint should be massaged and wrapped in adhesive in such a way that circulation and joint motion will not be impaired. Thereafter, the joint should be moved *by the patient* every two hours through a full range of motion, massage being given daily over the adhesive. In sprained ankles and knees, walking should be insisted on after the first massage period. It is *active* motion, not *passive* motion, which promotes circulation, prevents organization of exudate, limits atrophy, shortens disability and restores the maximum of function.

Synovitis.—This can be cut short if the effused fluid is promptly aspirated and the joint actively moved every two hours. Reeffusion after the first twenty-four to forty-eight hours is treated by reaspiration, and rarely will more than two aspirations become necessary. Synovitis of the knee is a troublesome affair if treated by the usual method of pressure and splintage, even if we add the benefits of massage. If, however, we empty the joint of the serosanguineous exudate, we prevent stretching of the joint capsule and the surrounding ligaments, we limit the possibilities of intra-articular adhesions, and we go a long distance in restoring more perfect function, which of itself safeguards the joint from that form of recurrence with which we are all familiar. A safe and simple method of aspirating the knee is to paint the outer part of the joint with iodin. Then the patella is pushed as far outward as it will go, so that it forms a sharp-edged surface like the eaves of a roof. Then an aspirating needle, with a caliber equal to that of

the lead in a pencil is pushed into the joint just under the upper part of the overhanging patella, which now makes an excellent guide to the joint interior. The joint should be entirely emptied, and to do this it may be necessary to bend and straighten it several times, so that all the fluid may be made to gravitate toward the needle. Ethyl chlorid or some local anesthesia may be used if desired, and when the puncture is being made, the joint should be as nearly straight as possible. In recurrent or chronic synovitis, it is an excellent plan to inject ether into the joint after all the fluid has been evacuated, using about 10 c.c. of ether to every 50 c.c. of fluid removed. This stimulates the interior of the joint to such an extent that pain and reeffusion occur (as in a hydrocele), but this soon subsides.

Dislocations.—Here again we must get away from our former idea that immobilization is a necessary part of the treatment. What is a dislocation but a wound of the capsule of a joint made by the articular end of the bone? Certainly it is not rational to treat that wound by locking up the entire joint for weeks and often for months. Every dislocation has as associates arthritis, synovitis, bursitis, and a ligamentous wound or sprain. When we put the bone back into the socket, we are no longer treating the dislocation, but only these associated lesions. The therapy then is one of active mobilization, not passive immobilization. As applied to the shoulder, we reduce the dislocation, we massage the joint, we apply a hot wet dressing, we support the forearm in an ordinary sling and have the patient move the arm forward and backward every two hours. After the first few days we have the patient pronate and supinate with the arm at the side, and on the fifth day we teach the patient to abduct the arm by making the hand climb the wall with the body tilted toward the wall. Daily massage helps much in this activation for we realize that the deltoid muscle very promptly atrophies, as do all broad, flat muscles, unless we prevent this by usage. There is a triple reason for this, because we have a combination of pressure from within, disuse and unantagonized action. In all these joint injuries, it is especially important to move the parts every two hours through at least two full joint excursions during the first two days, because this is the period in which joint effusion, muscle spasm and joint reaction are most amenable to treatment. In this connection, let me warn against forcibly attempting to "break up adhesions" in old joint cases. That is a bad practice and, if done at all, an anesthetic should be used. When the adhesions are felt to give, stop and immediately begin the procedure of maintaining and increasing this gain by voluntary motion by the patient every two hours.

Fractures.—A broken bone is a wound of bone, and this wound like those of the soft parts may be clean cut, irregular, or gaping. The analogy is the more helpful when we realize that clean cut wounds of the soft parts heal by primary union with a minimum of cicatrix, just as do wounds of the hard parts (or bone) when they heal by a minimum of callus. A suture of a wound of the soft parts is a means of keeping the edges together after we have coapted them; a splint is the same thing for a wound of the hard parts. We take out sutures when the wound no longer needs this form of extrinsic support; likewise we should remove splints when and for the same reason. We know that a suture in the soft parts has no power to coapt edges unless we have first brought them into more or less perfect apposition. Let us remember also that a splint (virtually the external suture used in fractures) is not a means of coapting broken bone fragments but that it acts only as a supporting medium during the process of healing. This fact is all too often forgotten, and it is important for all of us to recall that no splint, however elaborate or ornate, is of itself capable of doing more than holding a broken bone in the position in which we place it. A splint is a medium of retention, not a method of reduction; a splint holds, but does not set, a fracture.

There are from a clinical standpoint only two types of fractures, either of which may be simple or compound: Type I is the displaced, the malalined, the overlapping fragments. Type II is the nondisplaced, the alined, the coapted sort. Type I is the typical form that presents considerable deformity because the fragments are separated. Type II is the atypical form that shows little if any deformity because the fragments are little, if at all, separated.

The importance of this typing of fractures is in terms of treatment, because Type I requires reduction and retention, but Type II requires retention only. In other words, when we have brought together malalined bony fragments, we have made that fracture fall into the Type II class. In compound fractures of a selected type, we seek by sterilization and suture to convert them into simple fractures.

Every broken bone is associated with lesions of the surrounding parts, notably myotenosynovitis, hemorrhage, vascular and neural damage; and in fractures in or near joints there is also synovitis, bursitis, or arthritis. It is important for us to recognize this associated pathology and to realize that when we have set the bone our efforts should be directed toward these soft part lesions. Having in mind this conception of fractures, and recalling the analogy between broken skin and broken bones, we can say that in the treatment of fractures there are four R's, namely, recognition, reduction, retention and reeducation. Of these, reduction and reeducation are the most important. By *recognition* we mean differential diagnosis, and, by applying the universal rule of the law of averages, experience teaches us that about 80 per cent. of deforming and disabling joint injuries are fractures and not dislocations. The only main joint in the body to be excluded in this grouping is the shoulder, where dislocation is so common. Ninety-nine per cent. of so-called dislocations of the hip prove to be fractures of the neck of the femur. About 85 per cent. of the so-called dislocations of the wrist and ankle prove to be, respectively, Colles' or Pott's fractures.

Reduction.—This should be made at once, and in all Pott's and in most Colles' fractures, general anesthesia should be more often employed. Let me warn against the use of chloroform in any traumatic case, for it is as dangerous in these as it is safe in obstetric cases. Nitrous oxid is safest; ether by the drop method, next; ethyl chlorid on a mask, third. Provisional traction with suspended weights on the limb is a great aid if for any reason immediate reduction cannot be made. Let us recognize once for all that unless we can attain at least physiologic readjustment of fragments, our subsequent efforts will be to a large extent unsuccessful. This means that reduction or setting is the most important phase in treatment, and that we "set" the bone only by "setting" the muscles which are affected and which maintain the displacement. This

muscular element is at first a manifestation of spasm, then contraction, then scar tissue shortening, so that the longer we wait the harder it is to overcome and the more futile our attempts to correct bony displacement by any quick or sudden efforts. Hence the rationale and value of traction by weights in early or late cases.

Retention.—This is the third element, and, as already stated, a splint is a form of external suture applied to keep displaced bones in the replaced position in which we have put them. A splint should first of all be safe, and last of all it should be simple. Beware of complicated splints; beware also of splints which hide the parts so that they can neither be seen nor massaged. The ideal splint is of the removable type, so that it can be made to fit the patient immediately, and can be used up to the time the patient is cured. The splint should fit the patient; not the patient the splint. Hence the "nests" of splints usually sold to us should be put in the forge before they are put on the patient. Molded plaster-of-Paris two-piece splints are the best for permanent fixation. They are safe because they have two channels for circulation; they are custom made and fit that patient alone; they are removable for inspection, massage and motion; they can be used from start to finish. Thomas splints for the extremities, especially the leg and thigh, are the best for transport, for many compound and for some simple fractures. For use on the ambulance or for first-aid purposes, there is nothing better, and their adoption in civil life would prove as valuable as was their universal use during the war.

Circular plaster-of-Paris casts should be much less often used, especially in the early part of treatment. They often act as tourniquets, they immobilize, cause atrophy, and prevent that grade of frequent inspection, massage and motion now properly deemed of such importance. Fracture of the neck of the femur is practically the only indication for their early use, and their later use should be limited to that class of case in which adequate supervision is for a variety of reasons impossible.

Let us not forget that we should always make sure of our reduction by resort to roentgenograms taken in two axes, and that when possible we should have another series of roentgenograms within two weeks, or earlier if there are special indications. We must not wait for a roentgen-ray examination in an obvious case before making attempts at setting, and if there is only one chance of getting a roentgenogram, use it for the purpose of checking up reduction rather than for checking up the diagnosis. The fluoroscope has a limited field and is not wholly unattended with danger to the patient or the user. It will not uniformly show nondisplaced fractures and is most useful in the reduction of certain fractures of the shaft of the forearm or leg.

Reeducation.—This is the fourth and last element in treatment, and next to reduction, the most important, for virtually this part of our therapy has much to do with the end-result. The estimation of end-results varies in fractures as it does in all other things surgical, but for purposes of checking up my own cases I have adopted an arbitrary standard based on the three elements of function, union and contour. Of these, function is most important, and accordingly this is allotted 60 per cent., union and contour being given 20 per cent. each. If in a given case, say a fracture of the femur, function is perfect as to gait and joint action, we allow ourselves 60 per cent.; if, however, there is a limp, or the joints are stiff, we reduce this allowance to, say, 30 per cent. If the union is solid, if the callus is rounded, nonadherent and painless, we allow a full 20 per cent.; if not, we may allow only 10 per cent. If the contour is straight, if there is no angulation, bowing, shortening, atrophy or trophic effects, we allow the full 20 per cent.; if not we allot 10 per cent. or less. A perfect result would thus give us 60 per cent. for function, 20 per cent. for union, 20 per cent. for contour, or 100 per cent. end-result. In the other instance, our arbitrary allowance would be the sum of 30 plus 10 plus 10, or 50 per cent. This plan can be used in any traumatic case. It is based on the idea that function is the essential aim of treatment, and hence has an arbitrary value, at least three times that of any other factor.

Reeducation, then, means rehabilitation, refunctioning, reconstruction, restoring the part to normal; and this essential of our treatment does not begin after the fracture has united, but on the contrary keeps pace with and promotes union. Hence our first effort is to so splint the fracture that access to the parts may be had for massage and motion. In every joint fracture we remove half the splint and begin massage the day after reduction. We continue this daily, replacing the splintage after each massage. For example, with Colles' fracture, we begin passive motion on the third day and permit active to and fro wrist motion from the fifth to the seventh day, removing the anterior splint in from seven to ten days and the posterior splint in from ten to fourteen days. Under this form of treatment, there is no adhesive tenosynovitis, no arthritis, no atrophy; and at the end of from three to four weeks that joint is ready for reasonable use instead of being ready to be removed from splints, as under the older form of treatment. In other words, we begin reeducation early and not late. In Pott's fracture, virtually the downstairs form of Colles' fracture, the procedure is exactly the same. In a recent compound Pott's fracture in which I removed two displaced fragments of the internal malleolus lying free in the joint, active motion through 15 degrees was possible on the tenth day, when the sutures were removed. This patient was operated upon within a few hours after the injury, and the fracture was converted from the compound into the simple form by mechanical sterilization and suture, using the hands-off ultra aseptic technic.

In joint fractures (neck of the femur excepted) there is practically no such thing as nonunion, but, on the contrary, union is so rapid that deformation will occur unless we keep the articular surfaces apart by functioning them. In no joints is this more probable than the elbow, wrist and ankle.

Massage and motion in fractures, and in joint and soft part injuries should then be part of our regular therapy, and if these are employed early there will be less need for the other useful physiotherapeutic aids, such as dry or moist heat, electricity or arthromotive apparatus. The last are especially valuable when stiffness and disuse have produced dysfunction, and no case should be submitted to operation without careful study, until these methods have been tried out.

As to operations in fractures, my belief is that plating, wiring, or other forms of metallic implantations are very rarely needed, and when such operations

are performed the surgeon should be familiar with that type of work and should carefully select his case.

There is a class of fracture, however, in which the ordinary nonoperative methods will not accomplish satisfactory reduction, and to these I apply the general term "the irreducibles." In these, I place overlapping fractures of the radius and ulna, certain fractures of the os calcis, and tibia, and all fractures of the femur (neck excepted) in which there is overlapping of an inch or more, in which the musculature is thick, or in which more than a week has elapsed. In the forearm cases, I cut down and interlock the fragments, with or without suture, by kangaroo or chromic tendon. In the os calcis, open correction and forced locking of fragments is attempted, for this is a form of fracture that causes much disability unless early correction is possible. In the tibia (especially the lower third) I use the traction obtained by the Finiochietto stirrup passed over the top of the os calcis, or the tongs applied to the malleoli, or the Steinmann nail passed through the os calcis. For the femur cases named, my preference is for the nail transfixion method, or the tongs. The nail, the tongs and the stirrup are the so-called *skeletal traction* methods, and their use has made it unnecessary in my practice to introduce plates, wire or other nonabsorbable materials. They have the great advantage of being introduced at a distance from the fracture site, no splintage is required, the entire limb can be readily inspected and massaged, and joint function can be encouraged from the onset. Finally, their introduction and removal are very simple, and the patient need not be in the hospital if for any reason home treatment is demanded. For the aged or for those of poor physique, the allowable activity in bed under this treatment is a distinct advantage. I am quite certain that nonunion is less common with skeletal traction then with other forms of treatment in which absolute immobilization is featured.

Compound Fractures.—Many of these should be subjected to mechanical sterilization (débridement), so that by suture they may be converted into simple fractures at once. Joint fractures are especially amenable to this treatment, but it should not be attempted in any case after the lapse of thirty-six hours, and very rarely should it be practiced in areas where the muscles are thick, as in the thigh and upper part of the leg.

The rule in compound fractures should be to regard the wound as the most important consideration for the first three days, not neglecting, however, during that interval, to avail ourselves of the advantages of provisional traction, as by a Thomas splint, or by hanging a weight to the broken limb, to prevent muscular contraction and inevitable increase of deformity.

In compound fractures with simple punctured wounds, it is usually sufficient to sterilize the tract by injecting into it tincture of iodin and covering it with a wet antiseptic dressing.

SUMMARY

The basic factors in traumatic surgery relate primarily to the treatment of infected wounds, burns, fractures, and joint injuries.

Safety first, conservation next, are the two essential considerations.

Sterilization of wounds by mechanical or chemical means is the end in view, and after sterilization, suture should be attempted.

Burns are, from a clinical standpoint, wounds due to heat and should be placed in the wound class, as thereby our patients will measurably profit.

Fractures are wounds of bones, and are always associated with lesions of the contiguous parts. Splintage should be of the removable type to permit inspection, massage and motion.

Early mobilization of joint injuries means earlier local repair, earlier return of function.

Physiotherapy begins early and should not be looked upon as applicable only to the final stages of treatment.

Functional return is the greatest aim in all forms of injury, and no patient should be regarded as cured until function has been restored to the maximum.

Traumatic surgery is not trivial surgery; on the contrary, it often demands a higher grade of surgical skill and experience than the average form of general or pathologic surgery.

115 East Sixty-Fourth Street.

THE EFFECT OF PROHIBITION ON THE INCIDENCE OF PORTAL CIRRHOSIS

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There is considerable difference of opinion among physicians as to the etiologic rôle of alcohol in portal cirrhosis. There is considerable literature, both clinical and experimental, on this subject, and quite complete bibliographies may be found by referring to the articles of Klopstock [1] and Fischler.[2] That the clinical picture and pathologic findings of portal cirrhosis can be produced by other agencies than alcohol is generally admitted. Among these agencies may be mentioned syphilis and malaria. Consumption of large amounts of highly spiced foods has been considered a possible factor. Cirrhosis occurs among high caste Hindus who are total abstainers but eat large amounts of ginger. Budd's "digestive cirrhosis," found among Egyptians who abstain from alcohol, has been ascribed to their highly spiced food. Segan reports liver cirrhosis in the Fuegians, which he ascribes to the use in their diet of mussels, which contain myrtilotoxin.

The deposit of small foreign particles in the liver is considered responsible for the cirrhosis anthracotica described by Welch, and the cirrhosis of copper smelters mentioned by Lancereaux. Libermeister and others have reported changes in the liver resembling early cirrhosis in chronic sepsis.

Experimentally, apparently any agent which will destroy the liver cell, as alcohol, chloroform and phosphorus, will produce changes similar in character to that observed in portal cirrhosis in man. Bacterial toxins, whether used alone or especially in combination with any of these agents, may bring about definite changes in the liver. Only relatively few of the animals so treated show the characteristic changes, and it is certainly true in man that only a very small percentage of alcoholics ever develop cirrhotic changes in the liver.

The question at issue is, How frequently is cirrhosis in man due to the use of alcohol? The literature on

1. Klopstock, F.: Zur Lehre von der Lebercirrhose, Berl. klin. Wchnschr. **47**: 1574, 1910.
2. Fischler, F.: Die Entstehung der Lebercirrhose nach experimentellen und klinischen Gesichtspunkten, Ergebnisse der Inneren Medizin und Kinderheilkunde **3**: 240, 1909.

this subject is largely of German origin, and rather than considering it from the standpoint of alcohol in moderation as being a possible cause, they have discussed it from the point of view of high grade alcoholism. In studying this literature there cannot be found any definite evidence that when portal cirrhosis was present the individual was by any means a total abstainer. Frierichs reports thirty-six cases of cirrhosis, in only twelve of which the patients used alcohol to excess. Bamberger asserts that only one third of the cases were marked alcoholics. Lange reports that in only 50 per cent. of his cases was alcoholism present. Price reports 142 cases, with excessive use of alcohol in seventy-two. Naunyn lists 170 cases, in 108 of which the patients were steady drinkers, but states that he would hesitate to diagnose portal cirrhosis in the absence of an alcoholic history. Pilcz reports that in 151 cases of alcoholic psychosis, 14.5 per cent. showed changes in the liver, and in nonalcoholic psychosis, 13.8 per cent.

In England, a collective investigation committee [3] was selected to report on the relation of this disease to intemperance. In sixty-seven cases carefully analyzed, 60 per cent. of the patients were described as hard drinkers, 30 per cent. as free drinkers, and the remainder as fairly temperate. For a number of years I have gone carefully into the history of every case of cirrhosis on my service at Cook County Hospital, and I have never failed to obtain a history of marked alcoholism.

With this rather conflicting evidence, it is of interest to see the effect of prohibition on the incidence of portal cirrhosis in large general hospitals. With this in mind, a study was made of the number of cases of cirrhosis entering the Cook County Hospital from 1910 to 1920, inclusive. Attention was attracted to the subject by the almost complete disappearance of cirrhosis during the last year in the wards of this institution.

Prohibition in Chicago since July 1, 1919, has been far from complete, as shown by the number of cases of acute alcoholism admitted to the County Hospital. That the amount of liquor consumed by the laboring class has been greatly reduced must be admitted. While it could be obtained without great difficulty, its cost, quality and the fear of wood alcohol poisoning have greatly lessened the number of consumers and the amount taken. Beer has been practically unobtainable.

TOTAL ADMISSION AND CASES DIAGNOSED AS PORTAL CIRRHOSIS

Year	Total Admission	Cases of Portal Cirrhosis
1910	33,232	137
1911	29,975	147
1912	30,392	154
1913	27,889	132
1914	29,330	141
1915	27,104	151
1916	31,261	160
1917	22,680	156
1918	29,527	87
1919	27,819	48
1920	27,862	19

The accompanying table shows the total admission and the number of cases diagnosed as portal cirrhosis from 1910 to 1920, inclusive. As will be noticed from this table, there has been a rapid reduction since 1917. We have been unable to explain the sudden drop in 1918, as liquor at that time was readily obtainable. Its cost had not been greatly increased. It is possible that the closure of the hospital to all but acute cases for six weeks during the autumn of this year on account of the influenza epidemic might account for a slight reduction. A study, however, of the monthly admission shows that it had little if any effect. That this reduction was in all probability, however, due to a lessened consumption of alcohol is shown by the marked reduction during 1919 and 1920, after national prohibition came into effect.

The histories of the nineteen cases entering during 1920 were reviewed with the hope of determining whether these patients had been able to secure alcohol after July 1, 1919. All but one gave a history of chronic alcoholism, but no mention was made of whether they had been able to obtain liquor after July 1. This question must therefore remain undetermined.

From these figures there can be little doubt that portal cirrhosis, in this country, at least, is associated largely and possibly entirely with the use of alcohol.

The very sudden drop in the incidence of cirrhosis following prohibition suggests that progression of the process in the liver ceases when alcohol is discontinued. With few exceptions the diagnosis of portal cirrhosis when made at the Cook County Hospital indicates very advanced cases with ascites, and cirrhosis in this stage has almost disappeared.

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3. Owen, I.: Collective Investigation Committee Report upon the Connection of Disease with Habits of Intemperance, Brit. M. J. **1**, 1880.

CHRONIC PULMONARY TUBERCULOSIS, PRIMARILY IN THE LOWER LOBE*

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Chronic pulmonary tuberculosis primarily in the lower lobe is rather a rare occurrence—so rare, indeed, that many good clinicians assert that such a condition never occurs. Speaking about the differential diagnosis of chronic nontuberculous lesions, Landis [1] says: "As I have repeatedly emphasized, tuberculosis is never a basal condition. The fact that the physical signs are entirely limited to the base of the lung therefore excludes tuberculosis at once." Many other authorities are of the opinion that the progress of pulmonary tuberculosis is invariably from the apex downward, following the "line of march" described by Fowler.[2]

Some observers, on the other hand, consider tuberculosis at the base comparatively common. Kidd [3] quotes various authors who found tuberculous lesions primarily at the base in one out of from sixty to eighty cases, and he himself describes two cases of basal lesions out of 412 that came to necropsy.

The conflict of opinions as to the frequency of basal tuberculous lesions is probably due to the difference in the diagnostic methods employed in studying the cases. Reports based on physical signs alone are extremely unreliable. It is only after a careful study of the history, physical and roentgenologic findings, and repeated sputum examinations that a tuberculous lower lobe lesion can be differentiated from the various nontuberculous affections.

In order to ascertain the frequency with which lower lobe tuberculous lesions occur, I have reviewed the

* From the Montefiore Home Country Sanatorium.

1. Norris and Landis: Diseases of the Chest, 1920, p. 471.
2. Fowler, J. K.: The Localization of Lesions of Phthisis, London, 1888.
3. Kidd, Percy: Lancet **2**: 615 (Oct. 2) 1886.

cases in 1,000 consecutive admissions to the Bedford Sanatorium, and I was able to find only three cases of definite lower lobe tuberculosis. On physical examination, lower lobe lesions were found in eighteen other cases; but after careful study, seventeen cases proved to be nontuberculous, and in two patients old tuberculous lesions were found at both apexes, in spite of the fact that extensive physical signs were found at one base and that the upper lobes appeared to be normal. In the seventeen nontuberculous cases, eleven patients suffered from chronic nonspecific inflammatory conditions, and five from bronchiectasis. Following is a report of the three cases of lower lobe tuberculosis:

REPORT OF CASES

Case 1.—*History.*—A. J., a woman, aged 22, schoolteacher, admitted to the sanatorium, Nov. 3, 1919, gave a history of eleven months' illness supposedly following an attack of influenza. She had considerable cough and expectoration and frequent afternoon fever up to 101 F. She also lost considerable weight and strength, and had frequent pains in the right chest, but she never had any hemoptysis. During that time the patient was seen by several well-known physicians, but nobody diagnosed her case as tuberculosis. Several sputum examinations were reported negative. Finally a roentgenogram was taken by one of her physicians on the basis of which tuberculosis was diagnosed, and she was sent to the sanatorium for treatment.

Examination.—November 4, there was considerable dulness and the feeble breathing from the lower angle of the scapula to the base on the right side, and numerous moist râles were found at the right base, extending up to the fifth dorsal spine posteriorly and to the fourth rib anteriorly. Subsequent physical examinations revealed an extension of the lesion upward, the râles extending up to the level of the third spine posteriorly and to the third rib anteriorly. Signs of extensive cavity formation at the base could also be elicited later. Tubercle bacilli were found in the sputum on several examinations. The urine examination and the Wassermann test were negative.

Roentgenologic Examination. — Stereoscopic roentgenograms taken in November, 1919, disclosed extensive dense mottling at the right base and also evidence of a large cavity in the right lower lobe. There were also a few patches of slight infiltration on a level with the second space; otherwise the upper part of the lung appeared clear. Subsequent fluoroscopic and roentgenographic examinations revealed a moderate extension of the lesion upward. A small amount of fluid within the basal cavity described above was occasionally seen on fluoroscopic examination.

Clinical Course.—While the patient was at the sanatorium, the disease ran a rather active course. She had considerable fever and frequent night sweats. She also lost much weight and strength. Right pneumothorax was induced, Jan. 7, 1920, and a fair collapse was obtained, but the patient soon developed a purulent effusion. She was then treated by aspiration and substitution of air, and the same treatment is still continued. The patient is doing remarkably well. She gained considerable weight and strength, and is practically free from symptoms.

Case 2.—*History.*—S. K., a schoolgirl, aged 16, was admitted to the sanatorium, March 20, 1920. She gave a history of about six months' illness. She had moderate cough and expectoration, and fever up to 100 daily for several months and occasionally up to 102 for the three weeks preceding her admission. She also complained of frequent pain in the chest, and lost about 7 pounds in weight in the course of three months. She never had any hemoptysis.

Examination.—March 23, there were noted marked dulness, feeble breathing, and a few râles from the lower angle of the scapula to the base on the right side. At the right apex there was slight dulness and bronchovesicular breathing, but no râles. There were no abnormal signs in the left lung. Repeated examinations at frequent intervals revealed a gradual extension of the lesion upward, till finally numerous moist râles could be elicited up to the fourth spine posteriorly and to the third rib anteriorly. Signs of cavitation could also be elicited at the base posteriorly. The sputum was positive on many examinations. Urine examination and the Wassermann test were negative.

Roentgenologic Examination.—A roentgenogram, taken April 7, disclosed a dense mottled shadow extending from the level of the fourth rib anteriorly to the base, the shadow increasing in density when approaching the base. A moderate sized cavity partly filled with fluid was seen on a level with the fourth space and fifth rib. Another plate, taken June 9, disclosed practically the same as the plate just described, except that some mottling could be seen extending for about one interspace above the level seen on the earlier plate. A third roentgenogram, taken July 4, disclosed, in addition to what was seen on previous plates, submiliary-like infiltration spreading upward to the level of the first rib, the apex still remaining clear.

Clinical Course.—While the patient was at the sanatorium the disease was running a rather active course, with considerable fever, cough and expectoration, and marked loss of weight and strength. Artificial pneumothorax was induced, July 28. A fair collapse was obtained, but the patient has only slightly improved. She is still under treatment.

Case 3.—*History.*—F. A., a housewife, aged 40, admitted to the sanatorium, Feb. 17, 1919, gave a history of about one year's illness, the predominating symptoms being cough and expectoration, which were worse at night. She also had several hemoptyses during the year of her illness, the amounts ranging between 1 and 8 ounces. The patient asserted that she never had any fever, but she had frequent night sweats for a few weeks. She thought she lost some weight and strength, but she never knew her exact weight.

Examination.—February 19, there were moderate dulness at the right base and many moist râles from the second rib and the fourth spine to the base, the signs being most marked at the extreme base posteriorly. The right apex and the left lung were apparently free. Subsequent examinations detected practically no change. The sputum was positive on many examinations.

Roentgenologic Examination.—Stereoscopic roentgenograms, taken March 3, revealed very dense mottling of the lower two thirds of the right lung, the greatest density being at the base. The apexes were apparently free. There was also considerable density at the root of the left lung. Another roentgenogram, taken after pneumothorax was induced, gave evidence of a cavity at the right base.

Clinical Course.—The patient stayed at the institution only about three months, and her condition remained practically stationary.

COMMENT

There is hardly any doubt that in all these three cases the lesion developed primarily in one lower lobe. The fact that the disease has advanced to the stage of extensive cavitation in one lower lobe, and at the same time repeated physical and roentgenologic examinations fail to reveal any definite lesion in the upper lobes, warrants the conclusion that we are dealing with a primary basal lesion. But in the first two cases we also had occasion actually to observe the spread of the lesion from the base upward.

In considering the diagnosis of such cases, one must bear in mind that the greatest majority of basal lesions are not tuberculous. Particular care must therefore be exercised before tuberculosis is diagnosed in a patient who presents a lower lobe lesion. Some authors are of the opinion that no lower lobe lesion should be considered tuberculous unless tubercle bacilli are found in the sputum. A study of Case 1, however, will show that it is not always safe to follow this rule. It should be noted that in that case the patient had been ill for about one year and the lesion had advanced to the stage of extensive cavitation before tubercle bacilli could be found in her sputum. At any rate, once the possibility

of lower lobe tuberculous lesions is admitted, it would be illogical to wait with our diagnosis until tubercle bacilli are found in the sputum, as an early diagnosis is of importance in basal as well as in apical lesions.

It is my opinion that if a patient presents the clinical symptoms of tuberculosis, such as cough, expectoration, afternoon fever, night sweats and loss of weight and strength, and dulness, altered breathing and moist râles are found at one base and a roentgenogram shows the characteristic mottling density at the site where the lesion is found on physical examination, a diagnosis of lower lobe tuberculosis is justified even if no tubercle bacilli are found in the sputum.

The roentgenologic evidence is of paramount importance in the diagnosis of basal lesions when no tubercle bacilli can be found in the sputum. In lesions of considerable magnitude, the roentgenographic appearance of tuberculosis is almost pathognomonic when interpreted by one experienced in this work. At any rate, the nontuberculous lower lobe conditions that are most frequently confused with tuberculosis clinically are easily differentiated roentgenologically. In chronic nonspecific lung infection and bronchiectasis—the two conditions that are most commonly mistaken for tuberculosis—the roentgenogram is usually clear even in cases in which extensive physical signs are found, while tuberculous lesions of such extent never fail to give roentgenologic evidence of their existence, and in most cases the lesion demonstrated on the roentgenogram is much more extensive than what was expected from physical examination. The roentgenographic appearance of pulmonary abcess or pulmonary neoplasm can hardly ever be mistaken for tuberculosis. In view of this, it is almost superfluous to state that a roentgenologic examination is absolutely indicated in all lower lobe pulmonary conditions.

AMERICAN CHILDREN IN THE TROPICS

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Of sixteen children born to American missionaries in Hainan during the last seven years, all are alive and well today. This fact is of interest because Hainan is in the tropics, where the climatic conditions are marked by great heat and humidity, and where diseases peculiar to the tropics are prevalent, and unchecked except for such control as is exercised by the foreigners in their own homes and compounds.

The mortality among Chinese infants and children is high. Infantile tetanus takes a heavy toll. Smallpox is deadly. Malaria is universal, and, if not fatal during childhood, leaves its victims more or less impaired, as the anemias and large spleens show. Very often maternal illness—in most cases malaria and hookworm—or poverty, causes diminution or stoppage of the milk supply. The Chinese do not have dairies, nor do they use milk, except as a few are learning to use condensed milk. Therefore, when the milk supply gives out, either some neighbor acts as wet nurse, or feeding with rice is begun. Nutritional disturbances are the cause of many deaths among the Chinese. During the early years of childhood, dysentery, especially of the amebic type, is common and virulent. During epidemics of cholera and plague, children as well as adults are taken.

These are some of the conditions prevailing here. The American child has to combat, in addition, the great heat, which apparently does not greatly affect native children.

ADVANTAGES OF HEREDITY AND CARE

Missionaries are required to pass a physical examination before being sent to the field. Those who pass are the healthy, and those free from latent disease as far as can be determined. The heredity of their children is good. This is of the greatest importance, and is in marked contrast to the heredity of the Chinese here, who have a history of generations of malaria, hookworm, syphilis, tuberculosis, and other wasting diseases behind them. Whether the heat of the tropics plays a great part in the determination of the energy and health index of the people cannot be definitely established until the disabling factors, chiefly malaria and hookworm, are eliminated.

It is a rule that there shall be a physician in each mission station where foreigners are. As a result foreigners are more or less constantly under observation; treatment in case of sickness is administered early, and in maternity cases, the best of care before and after childbirth is given.

At the outset, therefore, the children are endowed with good heredity, and are surrounded with proper medical care. Infantile tetanus is eliminated; smallpox is prevented by vaccination. Malaria is controlled by mosquito nets, screening, and sanitary measures in the compound. Unfortunately, in Hainan, malarial fever among the foreigners is not entirely eliminated, but they are getting it under control now. The American children wear shoes and thus escape the most common method of infection with hookworm.

The birth weight of the American children in Hainan does not differ from the birthweight in America. The highest weight recorded was 10 pounds, 5 ounces; the lowest 5 pounds, 9 ounces. Within a year three children weighing more than 8 pounds were born. The measurements of the head, thorax, and abdomen were all normal.

PROBLEMS OF FEEDING

Most of the children were breast fed. The importance of maternal feeding to the life of the child being recognized and emphasized, especially in the absence of fresh cow's milk, the mothers did their best. The free use of malted and condensed milk and other liquids, by the mothers, helped to keep up the supply. However, only a few mothers were able to nurse their babies for the full nine months. For some of the children, as the maternal milk supply diminished, artificial feeding supplemented breast feeding. In general, it is harder to keep up the milk supply in the tropics than at home.

In the feeding problem, scales and schedule were of utmost value. Rules as to weighing, and as to regular intervals between feedings were generally kept, contributing not a little to the success of the outcome. This was true in all the stations of the mission. For the cases under my care, the four-hour feeding schedule was used, and was found very satisfactory both for the child and for the mother.

The intelligent cooperation of the mothers has helped greatly in the problem of feeding. One mother was unable to nurse her children. The babies developed serious digestive disturbances. It required the most careful study to work out suitable formulas with the materials at hand. The mother helped in the study of each case, and today she has three books of well written records, and three healthy children to show

for her work. At present she is nursing a fourth child, aided by supplementary feedings of dry milk.

The lack of fresh cow's milk has been a serious handicap. Various malted milks and modified condensed milks have been used. No hard and fast rule could be made in any case. Each baby was a law unto itself, and required constant study. The fat content of goat's milk (8 per cent.), and buffalo cow's milk (12 per cent.) is too high to allow either of these to be used unmodified, and in neither does the cream separate readily. So far, dry milk has been used in one case only, but it shows promise of value.

No cases of scurvy or rickets developed. Fresh fruit juices were used liberally. After the children were weaned, condensed milk was used, to which were gradually added soft boiled rice and chicken congee. The weight and measurements of the children for the second and third years have been normal.

CLIMATIC CONDITIONS

The care of the skin is an important part of tropical hygiene for children. Prickly heat tends to cover the body. Boils develop very easily. This holds true among the Chinese children also; tots with head, arms, and legs covered with large boils are a common sight. A powder of zinc oxide, 8 parts; starch, 8 parts, and boric acid, 1 part, applied liberally and often, has proved very useful both for children and for adults.

The great heat during nine or ten months of the year is a problem to contend with. There is an almost constant flow of perspiration, day and night. And it is impossible for a child to play outside after 8 o'clock in the morning, or before 4:30 or 5 in the afternoon.

To meet this problem, not only for children, but for the comfort of adults also, the houses are built with wide verandas, with a maximum exposure to the prevailing breezes (in Hainan, the south monsoon). The constant flow of perspiration is a source of danger if a sudden breeze comes up, causing abdominal chill. This chill may start a diarrhea ending in dysentery, or it may bring out latent malaria. It is guarded against by the use of a thin flannel abdominal band until the child is 2 or 3 years old, and after that by careful watching.

In the control of these skin and heat manifestations—prickly heat, boils, abdominal chills, and exposure to the heat of the day—the cooperation of the mothers has helped greatly. However, the long continued heat does depress. Appetites flag, play is listless, cheeks become white, and while no disease is apparent, it is evident that the energy of the child is lessened. If is for this reason that changes to cooler climes for a part of the hot season are made, and it is astonishing how quickly vigor is restored after such a change, or during the two or three cooler months of the year.

The matter of the heat of the tropics in relation to the general health of the American child is still a subject of study. While native children seem to stand the heat more or less well, their physical condition is lowered by the tropical diseases to which they fall prey. Whether the characteristics of tropical races are due to the heat or to disease will be determined only as disease is stamped out. While the American child does not show definite disease, the heat is certainly felt. On the other hand, life in the tropics during childhood seems to have no appreciable effect on the mentality or the physical development of later years.

TROPICAL DISEASES

Of the so-called tropical diseases, malaria has had the greatest effect upon the children. The danger of the pernicious type of the disease is a constant source of anxiety to the physician. In Hainan the problem is being met by careful search for breeding places of mosquitoes, by drainage and by the clearing of underbrush on or near the compounds where the foreigners live; also by screening and the use of mosquito nets and quinin. During attack, fairly large doses are necessary, 8 grains daily for a year-old child not being considered large. Notwithstanding long continued courses of treatment, relapses occur. The parasitic index is of little value, as the parasites disappear from the peripheral circulation upon administration of quinin. In the case of malaria, I feel that sanitary measures can do away with the disease and thus remove a great source of disability in children in the tropics.

Following malaria, the greatest cause of discomfort, and often of ailments more or less severe is the roundworm. Santonin has often a surprising effect in cases of abdominal distress, loss of appetite, and listlessness. The boiling of vegetables is often incomplete, the ova of the ascaris being apparently quite resistant to heat.

It is possible to protect American children in the tropics from plague and from cholera in time of epidemics. Dysentery of the amebic type is common and has occurred among the American children here. Emetin has proved valuable in these cases. With great care this disease can be prevented. In connection with amebic dysentery, the possibility of recurrence and the formation of liver abscess years after the childhood infection must always be borne in mind by the physician in America who treats patients who have lived in the tropics in childhood. In fact, in such cases a thorough examination of the blood and feces will often reveal the existence of tropical diseases contracted long ago, and causing symptoms after years of quiescence.

Of the so-called "children's diseases," measles and whooping cough are found in Hainan. Scarlet fever and diphtheria apparently do not exist here. Whether this is due to the heat attenuating the virulence of the infecting organisms, or whether they just haven't found their way into the tropics, is not known. Furthermore, the pneumonias, while occurring in Hainan, are not so common as in America. Rheumatic fever, if present at all in the tropics, is rare, at least in Hainan. And, as may be expected, with the absence of scarlet fever and rheumatic fever, nephritis in children is not common, although I have seen cases among Chinese children. Colds and sore throats are common, and a mild form of tonsillitis, but severe tonsillitis and quinsy are not found frequently in Hainan.

CONCLUSIONS

The commercial expansion of the United States means that more men are going into the tropics. The physician at home will be consulted by these men as to the advisability of taking their families with them to their new place of business. Women will seek advice on the bearing and rearing of children in these climates.

It is my experience and observation, over a period of six years' residence in the tropics, that healthy American children can be brought up in the tropics, and no American need hesitate to go to tropical climates if these conditions are met:

1. The housing facilities must be ample to secure plenty of space, good ventilation, and proper screening protection. From purely business considerations, no business firm should ask an employee to move to a place where housing conditions are not of the best.

2. The wife and mother must be prepared to enter on a period of ceaseless vigilance and cooperation with the physician in: (*a*) problems of nursing and feeding of infants; (*b*) sterilization of drinking water and food; (*c*) fighting against flies and mosquitoes, and (*d*) care of the skin, and the protection of children from the heat of the sun and from chills.

The sixteen healthy American children in Hainan owe a great deal to the intelligent care bestowed on them by their mothers.

3. No family should live in a place where good medical care is not available at the shortest notice. Many tropical diseases are quick and deadly in their action, especially in children.

4. Frequent (yearly) changes from the heat into a cooler climate should be possible for mother and children.

Of these conditions, the most important is the responsibility resting upon the wife and mother, from the moment of the birth of the child, through the nursing period, especially if there are difficulties of feeding, until the child leaves the tropics for study at home.

If these conditions are met, American children born in the tropics will be healthy. And there will be advantages, too. The careful watchfulness of mother and physician, and the rigid hygiene as practiced in the tropics, together with the absence of scarlet fever, diphtheria, and other diseases of colder climates, should make for healthy bodies.

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LESSONS IN THE MANAGEMENT OF DIPHTHERIA

ESPECIALLY AS SUGGESTED BY THE STUDY OF A SERIES OF ONE HUNDRED AND FORTY-SEVEN FATAL CASES *

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It is reasonable to suppose that an infectious disease which can be readily and certainly recognized, whose cause is known and can be traced in its dissemination, and for which, when used in time, there is a specific cure, would be quickly eliminated from an intelligent community and cease to cause any considerable number of deaths.

While the conditions enumerated obtain in diphtheria, the assumed results have not been realized. It is true that the prevalence is less and the death rate lower than in the period preceding the introduction of the bacteriologic method of diagnosis, and the immunizing and therapeutic use of diphtheria antitoxin; but during recent years there has been little appreciable improvement.

The death rate in Chicago from diphtheria during the last twenty years shows no marked decrease. From 1897 to 1906 it was 3.72 per 10,000 and from 1907 to 1916 it was 3.34 per 10,000 of population.[1]

The fatality rate in diphtheria in Chicago from 1912 to 1919 is given in Table 1. While there is a slight fluctuation from year to year, it is evident that there has been no appreciable decrease in the proportion of cases of diphtheria in which the patients die. The fatality rate for the last four years is almost the same as that for the preceding four.

These figures justify the conclusion that in Chicago advantage is not being taken of the means at hand for the cure of diphtheria. This is being constantly impressed on those having to do with the care of diphtheria patients in hospitals. With the purpose of learning something of the factors which have been operating to defeat our efforts in reducing the mortality from diphtheria, I have made a study of the fatal cases of the disease observed in the Durand Hospital during eight years (1913-1920). The results of the study are now submitted, with some suggestions as to lines of

TABLE 1.—FATALITY RATE OF DIPHTHERIA IN CHICAGO *

Year	Per Cent.		Year	Per Cent.	
1912	13.04	11.63 per cent.	1916	11.26	11.31 per cent.
1913	11.08		1917	11.82	
1914	10.87		1918	12.67	
1915	11.60		1919	9.31	

*Report and Handbook of the Department of Health, p. 383.

effort which might reasonably be expected to lead to some improvement. It is realized that much is a repetition of what others have done; but it is hoped that, coming from a different source and based on the study of new material, it may serve some useful purpose. By repetition, lessons are finally learned.

CONDITIONS OBSERVED

Among informed persons there is no need of quoting figures to show that diphtheria antitoxin is a specific curative agent in diphtheria and that the efficiency of its action depends on adequate dosage and early administration. Most deaths in diphtheria follow failure to satisfy these demands. In the 147 fatal cases in our series, eighty, or 54.4 per cent. of the patients, received no antitoxin at home, and nine of them died almost at once after admission to the hospital, six before any antitoxin could be given.

In sixty-seven cases in which antitoxin had been given at home, the amount could be accurately determined and was 3,000 units in two; 4,000 units in one; 5,000 units in twenty-nine; 8,000 units in two; 10,000 units in eighteen; 15,000 units in five; 20,000 units in seven, and 30,000 units in three.

Of the larger doses, many were given by the physicians of the department of health to desperately sick patients just before removal to the hospital. In only seven cases had more than one dose been given. Of the entire number of fatal cases, sixty-two were laryngeal, in thirty-six of which no antitoxin had been received before coming to the hospital.

It was often difficult to determine accurately when the disease began, because of the lack of intelligence in parents. Many times parents place the onset at too late a time in order to avoid the appearance of having neglected the child. In the 141 fatal cases in which antitoxin was given before or after entrance to the hospital, the first antitoxin was given as indicated in Table 2.

Of these patients, 70.2 per cent. received their first antitoxin between the third and sixth days. In all the cases in which the first antitoxin was given on the first day, the dose was small and the disease progressed in spite of it.

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* Read before the Chicago Medical Society, May 4, 1921.

* From the John McCormick Institute for Infectious Diseases.

1. Report and Handbook of the Department of Health of the City of Chicago for the Years 1911 to 1918, Inclusive, Chicago, 1919, p. 1434.

In this summary one is impressed by: (1) the large number who received no antitoxin at home; (2) the relatively small doses of serum usually given at home, and (3) the lateness of the primary administration of serum.

CAUSES

In no single case had an adequate amount of serum been given early. When an attempt is made to explain why these conditions obtained, a variety of factors must be taken into account.

1. *Neglect by Parents.*—This was the most frequent reason for failure to secure proper early treatment. This neglect naturally was unintentional, and was dependent on ignorance and failure to appreciate the nature and danger of the disease until its insidious course had produced irreparable damage. Sometimes poverty deterred the parents from calling for help. The "Christian science" delusion was responsible for the neglect of two children until the disease was far advanced.

In an investigation of seventy-five deaths from diphtheria by the Chicago Department of Health, thirty were found to be due to failure to call a physician at the beginning of the illness.[2]

2. *Inefficient Professional Care.*—This must be credited with responsibility for the unfortunate outcome in no small number of cases. Because of inability always to secure accurate data, we cannot quote figures in this connection. Of the seventy-five deaths investigated by the Chicago Department of Health, twenty-seven are put down as due to failure of physicians to make an early diagnosis, and twelve as probably due to insufficient antitoxin. The defects in the management of diphtheria among physicians, as shown by our study, may depend on several factors:

TABLE 2.—DAY ON WHICH ANTITOXIN WAS GIVEN

	Number of Cases
First day	5
Second day	15
Third day	30
Fourth day	35
Fifth day	20
Sixth day	14
Seventh day	11
Eighth day	6
Ninth to fourteenth days	5

A. Failure to make cultures from sore throats. Universal cultures made early would detect most cases in a few hours. We have been impressed by the frequency with which laryngeal symptoms develop in children who have been treated three or four days for a simple tonsillitis, no cultures having been made in the interval. There have been a number among our cases of severe diphtheria in which the patients were admitted late after being repeatedly seen by physicians who have treated them for peritonsillar abscess, even making incisions to reach expected pus. When a virulent diphtheria infection is limited to one tonsil, and the swollen, edematous peritonsillar tissues hide the tonsil and its covering of pseudomembrane, with the swelling and tenderness of the corresponding side of the neck, a suspicion of a peritonsillar abscess is not surprising. Cultures in these cases might save much valuable time.

B. Failure to administer antitoxin at once and in every case which looks suspiciously like diphtheria, without waiting for the result of cultures, or in the presence of a single negative culture. An encouraging sign is the increasing frequency with which tonsillitis patients are coming to the hospital after having received antitoxin from the attending physician. During 1920, sixty-five patients with tonsillitis which could be differentiated only by a bacteriologic examination came to the hospital as having suspected diphtheria. Of these, forty-nine, or 75.3 per cent., had been given antitoxin before entrance.

C. Failure to follow patients with sore throat after seeing them once. In some of the fatal cases the patients were seen on the first day, a diagnosis of tonsillitis made, a gargle prescribed, and no culture taken. A subsequent inspection or a culture would usually have enabled the physician to correct his diagnosis and to institute proper treatment. In other instances, patients were seen early, a correct diagnosis made and antitoxin given; but, the initial dose being too small, the disease progressed to a fatal termination.

D. Insufficient doses of antitoxin, which were often given, especially in toxic cases. In diphtheria a therapeutic dose of antitoxin should be at least 5,000 units, and often from 10,000 to 20,000 units. In cases in which highly virulent strains of diphtheria bacilli are concerned and are producing enormous quantities of toxin, doses of 1,000, 2,000, 3,000 or even 5,000 units are insufficient. Such doses neutralize some toxin and help to hold the disease in check, but often should be followed by subsequent administration. Better results are secured when all the antitoxin required is given at the initial injection. Except in early or mild cases, 5,000 units is too small a dose. In cases of laryngeal diphtheria, in which promptness of effect is imperative, the dose should not be less than 10,000 units.

E. Failure to get the antitoxin quickly in contact with the circulating toxin. Almost without exception the antitoxin given patients at their homes has been injected subcutaneously, although much prompter effects follow intramuscular injection. Some concentrated antitoxin is so thick that it passes through a needle with difficulty and is absorbed very slowly. Such should be diluted with salt solution before injection.

F. Confusing diphtheria with other conditions. In two instances, cases of virulent diphtheria came late to the hospital, having been considered as mumps by the attending physician because the edematous swelling was at first unilateral. An examination of the throat would have led to a proper diagnosis. Reference has already been made to confusion in some cases because of a resemblance to quinsy. Laryngeal diphtheria was a few times diagnosed and treated as catarrhal croup, no antitoxin being given until obstruction was well developed.

Of the reasons for the shortcomings of physicians in the management of diphtheria, lack of personal experience and infrequent contact with the disease are probably most important. If the reported cases of diphtheria were evenly distributed among the physicians of Chicago, each would see about one case a year. If the fatal cases were similarly distributed, each physician in Chicago would observe a death from diphtheria once in from seven to ten years. The chance of his seeing a fatal case of diphtheria is not much greater than that of seeing a death from an automobile accident. Medical students see but little of the contagious diseases, and most interns in general hospitals have no experience in treating diphtheria, often never seeing a case.

So much has been said and written about anaphylactic shock from serum that an unfounded fear of this

2. Report and Handbook of the Department of Health, Chicago, 1919, p. 288.

ccident seems quite widely spread among physicians. Anaphylactic shock from serum is a very rare occurence. Compared with the danger from diphtheria, its anger is infinitesimal and is to be ignored.

RECOMMENDATIONS

From our study, one may naturally conclude that the important fundamental factor in further reducing the deaths from diphtheria must be education. The public must be taught to secure professional advice at the onset in every case of sickness attended with sore throat or with laryngeal symptoms. Only then can cases of diphtheria be recognized early and curative treatment instituted. The channels through which this education can be disseminated are numerous. Some of the ways in which much can be accomplished are: personal instruction of mothers; carefully prepared articles, published in the newspapers in various languages, and disseminated as pamphlets; presentations on the moving picture screen, and instruction in school of the older children, who then become most efficient teachers of those at home. Like all educational efforts, in order to be efficient these must be continuous and carried out by persons with proper preliminary training. Much of this teaching must be done by physicians and nurses. This presupposes a proper education of the teachers. No nurse is properly qualified to act in her professional relations or to reach her greatest usefulness unless she has practical experience and training in the management and care of contagious diseases. Such a training should be included in the preparation of every nurse. It would be desirable for all interns in hospitals that have no department for contagious diseases to serve a short time at the end of their service in an institution which cares for these diseases. By utilizing municipal institutions, this would seem practical.

Physicians cannot be too often urged to examine the throat in every case that shows abnormal conditions of the neck, and in every sick child, and to make cultures from all sore throats; to administer diphtheria antitoxin in all suspicious cases without waiting for cultures, or in spite of a reported negative culture; to follow up all cases of sore throat until diphtheria has been certainly excluded; never to rest content when one dose of antitoxin has been given in a case of diphtheria, but to follow the case closely until the disease has been certainly controlled; to inject all therapeutic doses of antitoxin intramuscularly or occasionally, in very urgent cases, intravenously; to suspect every case of croup as one of possible laryngeal diphtheria, and to treat as diphtheria all such cases as do not promptly clear up.

To encourage such lines of action, culture outfits should be so distributed that they can be obtained when wanted with little trouble or loss of time. It is a question whether it would not be best to discontinue the issue of all curative packages of antitoxin of less than 5,000 units and to make 10,000 unit packages readily available.

The administration of the toxin-antitoxin mixture to all young children is to be encouraged; and if widely enough used, it should materially reduce the incidence of diphtheria.

637 South Wood Street.

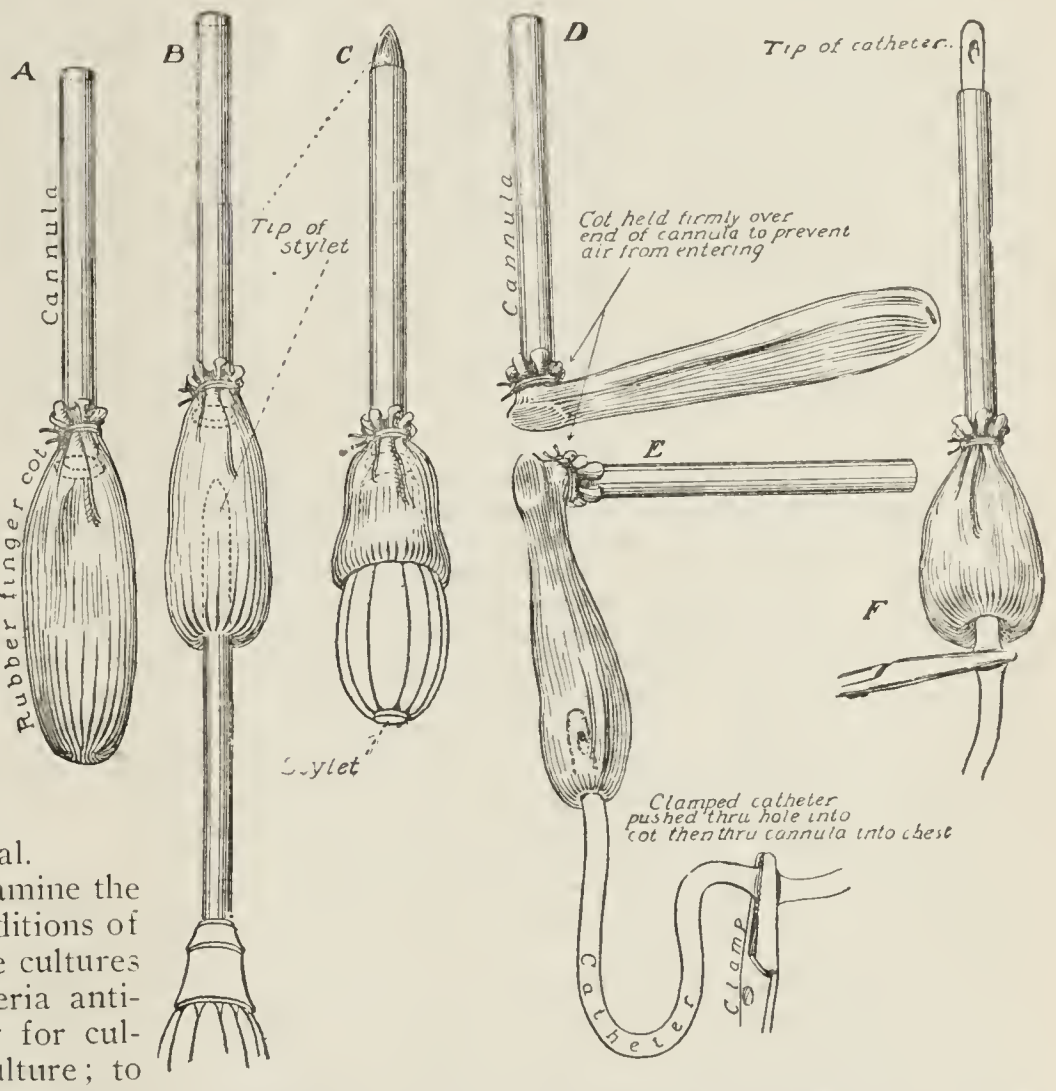
Clinical Notes, Suggestions, and New Instruments

APPARATUS FOR CLOSED METHOD OF DRAINAGE IN EMPYEMA

CHARLES M. FOX, M.D., SAN DIEGO, CALIF.

The simplified apparatus for the closed method of drainage of empyema, particularly in children, which I describe, I prefer to others because of its simplicity. I got the idea from the use of a finger cot as a valve in draining the air out of a pleural cavity in pneumothorax, a description of which method was published a number of years ago.

An ordinary large size trocar is used, the stylet being withdrawn. A finger cot is tied tightly around the base of the



Apparatus for closed method of drainage in empyema: *A*, cannula with finger cot attached; *B*, stylet pushed through finger cot; *C*, apparatus ready for introduction into chest; *D*, stylet withdrawn and finger cot held over end of cannula to prevent air from entering; *E*, clamped catheter pushed through hole in cot; *F*, clamped catheter pushed through cannula and into chest.

cannula. The stylet is then pushed through the tip of the finger cot into the cannula, and the apparatus is now ready for use.

The tissues having been anesthetized with 1 per cent. procain, a narrow bladed knife is inserted through the skin over the rib below the contemplated opening and pushed through the intercostal muscles in the space above, down to the pleura. The trocar, with stylet inserted, is then thrust into this opening and the stylet withdrawn. As the stylet is withdrawn, the end of the finger cot is dropped over the open end of the cannula, effectually keeping out the air. A small rubber tube or catheter, clamped at the end, is now pushed through the opening in the finger cot made by the stylet, the side of the finger cot remaining over the end of the cannula. The end of the finger cot is now wrapped around the opening where the catheter goes in to keep it air tight, and the catheter pushed through the cannual into the pleural cavity. The cannula is now withdrawn, the clamp replaced, and the tube held in place by means

of adhesive plaster. The accompanying diagrams will further explain this device.

The advantage over other similar devices is the simplicity and the ease with which the apparatus may be made from an ordinary trocar and finger cot.

A CASE OF CONTRACTION RING DYSTOCIA

Henry L. Holzberg, M.D., San Francisco
Surgical Assistant, Mount Zion Hospital

In looking over the literature on contraction rings during labor, one is impressed with the lack of definiteness of the terms. These rings are variously called Bandl's or retraction or contraction rings. Up to the present there has been no clear definition of the differences of these rings which is generally accepted. The etiology is unsettled. Among the predisposing causes mentioned are contracted pelvis, pelvic growths, rigidity of the cervix, intensity of contraction, premature rupture of membranes, length of labor, uterine inertia, and any condition interfering with the serous infiltration of the structure of the lower uterine segment.

To recognize early the presence of a contraction ring is very difficult. The case here reported brings out the difficulty of recognizing these cases until labor has progressed a number of hours with the patient exhausted and a number of local examinations made.

The proper treatment lies between the choice of cesarean section and craniotomy, plus decapitation followed by cesarean section. In this case, however, I was able to extract the child by version without a rupture of the uterus.

REPORT OF CASE

Mrs. I. H., a primipara, aged 25, menstruated last, Oct. 20, 1919. This would make the date of expectancy, July 27, 1920. Family and past history were negative. With this pregnancy she experienced considerable nausea and vomiting during the first three months, accompanied by severe frontal headaches. The nausea and vomiting were relieved by corpus luteum extract injections. Physical examination was negative. The blood pressure was 118 systolic and 80 diastolic. Urinary findings were negative throughout the pregnancy. The measurement between the iliac spines was 26.0 cm.; between the iliac crests, 28.0 cm.; external conjugate, 20.5 cm., and between the tuberosities of the ischium, 10.5 cm. At the eighth month, examination revealed the child to be in the right occipitoposterior position. The fetal heart was heard near the umbilicus, the rate being 36 each quarter minute.

July 10, 1920, at 4 p. m., while the patient was riding over some bumpy, cobbled streets in a small automobile, the membranes ruptured. Pains did not start until 5 a. m., July 11, thirteen hours after rupture of the membranes. Because of the dry labor the pains progressed slowly in frequency and severity during this day. At 8 a. m., July 12, they were of moderate severity, occurred every five or six minutes, and lasted about fifteen seconds. There was a small amount of bleeding. Examination revealed the cervix to be somewhat edematous and about 6.5 cm. dilated. The mother's condition was good and the fetal heart rate was 36 to the quarter minute. The patient was given the test of labor. At 8 p. m. the pains were bearing down in character, severe, and occurred every two and one-half minutes. Examination revealed the cervix to be almost fully dilated.

The patient was anesthetized, gas and oxygen being used, followed by ether. Forceps were twice applied and slipped off each time. On introduction of my hand I found the uterus to be hour-glass in shape with a firm tetanic muscular contraction ring about the neck of the child. I could also feel a pulseless loop of cord about the child's neck. This contraction ring was so strong that it took all my strength to move my hand at all. Deep anesthesia was used without much success in relaxation of this band. I attempted to dilate it with my hand without any success. Finally, after a number of manipulations, I was able to push the head into the upper portion of the uterus. I now did a version and pulled down the feet of the child. The child was readily extracted, slight difficulty being encountered in delivering the head.

The patient's condition was excellent and there was not much loss of blood. A second degree tear occurred, and this was readily repaired.

Attempts were made to revive the child without success, it apparently having been choked by the contraction ring and loop of cord about its neck during delivery.

The placenta was retained and had to be removed manually. A hypodermic injection of an ergot preparation was given intramuscularly, and the uterus was well retracted. The puerperium was uneventful except for the development of cystitis, which cleared up with proper treatment.

890 Geary Street.

Unusual Foreign Body in the Bladder.—Dr. David P. McCune, Jr., McKeesport, Pa., writes: On April 14, 1921, Mr. C. R., while on a lark with some friends, became intoxicated and was put to bed in that condition. On awakening he found the urethra plugged with what proved to be chewing gum. Part of this he extracted with a tooth pick. The next day he had chills and fever, which continued at intervals until I saw him. He was then suffering from fever, frequency and tenesmus, and the urine was loaded with pus. The patient stated that his friends had told him of inserting the gum, and that he imagined some of it was still in his bladder. Cystoscopy confirmed this. Lying loosely on the floor of the bladder were two rounded putty-like bodies, each 3.5 cm. long by 5 cm. in diameter, and both U shaped. A marked cystitis was present. Both bodies were easily grasped and removed with a lithotrite without anesthesia. The cystitis cleared up in a few days.

New and Nonofficial Remedies

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

W. A. Puckner, Secretary.

SALIGENIN (See New and Nonofficial Remedies, 1921, p. 35).

Saligenin-Abbott.—A brand of saligenin, N. N. R.

Manufactured by The Abbott Laboratories, Chicago. No U. S. patent or trademark.

SANTYL (See New and Nonofficial Remedies, 1921, p. 270). The following dosage form has been accepted:

Santyl Capsules, 7 drops.

SILVER ARSPHENAMINE (See The Journal, May 7, 1921, p. 1312).

Silver-Salvarsan.—A brand of silver arsphenamine, N. N. R.

Manufactured by the H. A. Metz Laboratories, New York, N. Y. U. S. patent and U. S. trademark applied for. Licensed for interstate sale by the U. S. Treasury Department under the "act to regulate the sale of viruses, serums, toxins and analogous products" as conforming to the regulations for the control, sale and manufacture of silver arsphenamine.

Silver-Salvarsan 0.05 Gm. Ampules.
Silver-Salvarsan 0.1 Gm. Ampules.
Silver-Salvarsan 0.15 Gm. Ampules.
Silver-Salvarsan 0.2 Gm. Ampules.
Silver-Salvarsan 0.25 Gm. Ampules.
Silver-Salvarsan 0.3 Gm. Ampules.

Public Health Education.—Twenty years ago, as Prof. E. L. Collis has pointed out, public health medicine was practically confined to questions of sanitation, the compilation of vital statistics, regulations for healthy housing, and for the notification and isolation of specified disease. The old medicine concerned itself with disease; the new envisages prophylaxis, social therapeutics, and education—and the greatest of these is education.—*Lancet*, Dec. 25, 1920.

PROCEEDINGS OF THE BOSTON SESSION

MINUTES OF THE SEVENTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT BOSTON, JUNE 6-10, 1921

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 6

The House of Delegates met in the Boston Medical Library Building, Boston, and was called to order at 10 a. m. by the Speaker, Dr. Dwight H. Murray, Syracuse, N. Y.

Preliminary Report of the Committee on Credentials

The Chairman of the Committee on Credentials made a preliminary report for this committee, stating that the committee desired at this time to report progress, and that more than a quorum of delegates had qualified.

As there was no objection, the report was accepted.

Next in order was the roll call by the Secretary.

The Secretary stated that the registration of the delegates in attendance recorded the presence of more than a quorum.

A quorum being present, the Speaker announced that the House was constituted and ready for the transaction of business.

The next order of business was the presentation, correction, and adoption of the minutes of the Seventy-First Annual Session.

The Secretary stated that the minutes had been printed and circulated among the members of the House of Delegates, with the request for criticisms or corrections, but none had been received.

It was moved that the reading of the minutes of the Seventy-First Annual Session be dispensed with and approved as printed.

Seconded and carried.

Addresses of Executive Officers

Drs. Dwight H. Murray, Speaker; William C. Braisted, President, and Hubert Work, President-Elect, addressed the House. See addendum.

Reports of Officers

SECRETARY'S REPORT

Dr. A. R. Craig, secretary, presented the following report, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

The following report is submitted for 1920-1921. It covers a period of thirteen months, from April 1, 1920, to May 1, 1921.

MEMBERSHIP

The membership of the several constituent associations which is the membership of this Association, according to records in the Secretary's office on May 1, 1921, was 84,971. This is shown in the accompanying table which also indicates the increase and the decrease in the membership of each of the organizations.

FELLOWSHIP

The Fellowship of the Scientific Assembly of the American Medical Association on April 1, 1920, was 47,045. During the thirteen months up to May 1, 1921, 554 Fellows have died, 1,215 have resigned, 308 have been dropped from the roll as not eligible, 347 have been dropped for non-payment of Fellowship dues and the names of sixty-two have been removed from the roll on account of being reported "not found," making a total of 2,486 names to be deducted from the Fellowship roll. Of these discontinuances, 543 have been transferred from the Fellowship roster to the subscription list of THE JOURNAL. There have been added to the Fellowship roll 6,411 names including 865 names of those who are new Fellows of the Scientific Assembly by virtue of their having been recently commissioned as medical officers on active duty in the several medical military departments of the federal government. Of the names newly entered on the Fellowship roll, 1,311 were transferred from the subscription list of the Association's publications. The Fellowship of the Association on May 1, 1921, was 50,970, a net increase for the thirteen months covered by this report of 3,925.

DEATHS OF OFFICERS

Dr. Isadore Dyer, vice president, died of heart disease at his home in New Orleans on October 12, 1920. At its meeting, held in November, the Board of Trustees elected Dr. Rudolph Matas, New Orleans, vice president to fill the unexpired term.

Doctor Dyer at the time of his death was also a member of the Council on Medical Education and Hospitals. Surg.-Gen. Merritte W. Ireland was appointed, *ad interim*, by the President to fill the vacancy.

ORGANIZATION

The world war and conditions which have developed subsequently have affected the American Medical Association very much in the same manner as other organizations. Attention has been called to certain specific instances in my previous reports to the House of Delegates. The social and economic unrest still prevails, but there seems to be developing gradually a more stable condition of affairs.

The reaction from the altruistic and patriotic motives which controlled actions during the war has had its influence on the esteem in which some physicians hold the principles which have always been the basis of the policies of this Association. One of the dangers which merits the consideration of the House of Delegates is the apparent tendency on the part of certain physicians and a few component county societies to be dominated by commercial ideals rather than by the standards which the Association has adopted in formulating its Principles of Medical Ethics. The opening statement of these principles is: "A profession has for its prime object the service it can render to humanity. Reward or financial gain should be a subordinate consideration." This subject is presented to the House of Delegates because, as representatives of the organized medical profession, the members of this House are in a position to carry back to the constituent associations and through these to the component societies influences which shall correct these destructive tendencies.

During the war and since, a number of the component county societies have been inactive. In each instance, when the office of the Secretary of the Association has been informed that a county society was not holding meetings, the secretary of the constituent state or territorial association, of which the society was a branch, has been written to and urged to have steps taken to revive active work in such component societies. The state organizations have responded to these suggestions so that those branches, which were inactive, are again functioning in a more effective manner.

Again, in certain localities, there have been evidences of a lack of coordinated action and failure to appreciate the essential unity of all branches of the organization. While it is recognized that each constituent association is an entity and is competent to act for itself, it is essential that the component societies in each state shall actually be federated and shall cooperate with each other in carrying on the work of the organized profession, first within the county and then within the state. The same principle must hold in the relationship which exists between the constituent associations and the national body. The best work can be accomplished only when an undivided, loyal cooperation exists between all

branches of the organization, the county society acting for the physicians within its jurisdiction and transmitting to the constituent association of which it is a part memorials on subjects in which the cooperation of the other component societies of the state is desired, and the state associations in turn acting to coordinate the work of its component societies and transmitting to the House of Delegates of the American Medical Association memorials presenting subjects for the consideration of this House of Delegates. Such procedure would in no wise interfere with this House of Delegates initiating action on a motion submitted directly by one of its members.

One of the most effective measures for carrying out the purposes of the organized medical profession is the education both of its members and of the lay public regarding questions relating to the health and physical welfare of the community. When action has been taken without first gaining the support of public opinion in the community, it is not unusual for failure to result. Occasionally either branches of the organization or their officers have endeavored to put into effect measures which, to the uninformed layman, seem to be primarily in the interests of practitioners of medicine. This has permitted those whose personal interests are affected to make a specious claim to the general public that they are being persecuted by members of the medical profession. This cry of persecution is an effective appeal, especially when it is presented in the form in which it is usually made by those who in fact are exploiting the people. If the members of this House of Delegates will urge the organizations which they represent to be active in informing the influential citizens of their several communities regarding matters which affect the preservation of health and the treatment of disease, the result undoubtedly will be that the people themselves will appreciate more fully the value of laws regulating health conditions and controlling the practice of the healing art so that the public rather than the medical profession alone will demand these laws and will require their enforcement.

ORGANIZATION OF CONSTITUENT ASSOCIATIONS

Constituent Association of	No. Counties in State	No. Component Societies in State Assn.	Number Counties in State Not Organized		Physicians in State (7th Ed. Directory)	Number Members of State Association		No. A. M. A. Fellows in State	No. Subscribers to Journal in State*
			1920	1921	No.	1920	1921		
Alabama	67	67	.....	.....	2,405	1,728	1,683	500	353
Arizona	14	11	3	3	380	213	245	165	96
Arkansas	75	63	12	12	2,450	1,042	1,194	454	257
California	58	42	14	16	6,766	3,311	3,351	2,372	1,720
Colorado	63	36	34	27	1,817	950	896	598	391
Connecticut	8	8	.....	.....	1,729	1,054	1,019	658	445
Delaware	3	3	.....	.....	262	123	129	91	74
Dist. Columbia	.....	.....	.....	.....	1,689	567	567	375	303
Florida	54	31	22	23	1,281	572	577	305	286
Georgia	154	101	62	53	3,406	1,188	1,225	616	519
Idaho	44	26	25	18	553	184	250	128	135
Illinois	102	100	1	2	10,651	7,049	7,065	4,526	2,319
Indiana	92	90	1	2	4,446	2,331	2,420	1,337	624
Iowa	99	99	.....	.....	3,536	2,342	2,277	1,383	681
Kansas	105	67	38	38	2,550	1,760	1,639	864	414
Kentucky	120	114	2	6	3,323	2,353	2,142	730	373
Louisiana	64	41	24	23	2,001	1,203	1,124	853	316
Maine	16	15	1	1	1,105	712	667	324	182
Maryland[1]	23	21	2	2	2,364	1,143	1,274	843	701
Massachusetts[2]	14	14	.....	.....	5,959	3,840	3,798	2,435	1,387
Michigan	83	81	2	2	4,593	2,620	2,864	1,673	843
Minnesota	86	82	3	4	2,628	1,335	1,452	1,203	677
Mississippi	81	79	3	2	1,761	499	482	379	235
Missouri[1]	114	108	11	6	5,921	3,402	3,383	1,554	1,007
Montana	51	19	33	32	620	375	381	194	181
Nebraska	93	64	28	29	1,965	1,116	1,068	671	465
Nevada	17	3	13	14	147	73	91	55	35
New Hampshire	10	10	.....	.....	641	526	520	268	88
New Jersey	21	21	.....	.....	3,260	1,748	1,895	1,460	754
New Mexico	29	14	16	15	529	199	286	162	105
New York	62	61	.....	1	16,284	9,110	8,916	5,441	3,475
North Carolina	100	82	14	18	2,236	1,377	1,636	463	471
North Dakota	53	51	1	2	556	431	455	285	116
Ohio	88	87	1	1	8,092	4,670	4,556	2,502	1,469
Oklahoma	77	66	10	11	2,622	1,638	1,374	704	343
Oregon	36	34	3	2	1,145	707	616	286	327
Pennsylvania[3]	67	63	4	4	11,348	6,687	7,384	4,491	2,239
Rhode Island[2]	5	5	.....	.....	778	400	388	288	148
South Carolina	46	41	5	5	1,452	640	632	310	274
South Dakota[2]	68	10	8	8	658	385	398	247	174
Tennessee	96	67	29	29	3,328	1,612	1,743	721	390
Texas	248	179	70	69	6,205	3,102	3,606	1,816	899
Utah	29	5	25	24	496	266	296	183	135
Vermont	14	12	2	2	594	406	379	168	96
Virginia[4]	100	65	41	35	2,545	1,735	1,898	642	446
Washington	39	19	20	20	1,797	1,096	987	598	442
West Virginia	55	41	12	14	1,717	1,078	1,235	512	432
Wisconsin	71	70	.....	1	2,750	1,904	1,949	1,125	705
Wyoming	22	10	17	12	267	92	130	82	86
Misc., Foreign, Govt. sub. for Army, Navy & U. S. P. H. S.	.....	.....	.....	.....	.....	.....	.....	139	2,936
Canal Zone	.....	.....	.....	.....	.....	102	74	21	24
Hawaii	5	.....	.....	.....	.....	72	81	38	48
Porto Rico	7	.....	.....	.....	.....	126	116	24	39
Philippine Isl.	.....	.....	.....	.....	.....	144	158	56	88
Totals	3,048	2,398	612	588	145,608	83,338	84,971	48,318	31,768
Commissioned Officers[5] and Honorary Fellows								2,652	
								50,970	

* Not including Fellows of American Medical Association.

Note.—The number of members of the different associations stated in this table is in accord with the membership of the several associations as they were reported to the Secretary on April 1, 1921.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

1. The state of Maryland has 23 counties and the city of Baltimore; Missouri has 114 counties and the city of St. Louis.

2. These state associations are divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

3. Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

4. Virginia has recently adopted the plan of organization and is now establishing component county medical societies.

5. This figure includes the Medical Corps of the Army, the Navy and the Public Health Service.

MEMORIALS AND OPINIONS

The By-Laws of the Association provide that no memorial, resolution or opinion of any character whatever shall be issued in the name of the American Medical Association unless it has been approved by the House of Delegates. This places on the House a grave responsibility in formulating the policies of the Association. From time to time, moot scientific questions have been brought to the attention of the House of Delegates. It is a serious matter to commit the Association on such questions when the problems have to be determined in the time available during an annual session; and under the present arrangements there is no standing committee to which the House of Delegates may refer such questions for deliberation and a report recommending action. If the House deems it wise, provision might be made so as to make it the function of one of the existing Councils—the Council on Scientific Assembly is suggested because of its relationship to the Scientific Assembly—to investigate such of these scientific questions as the House of Delegates may refer to it, and to report back recommendations for action. The By-Laws empower a Council to appoint special committees subject to the approval of the Board of Trustees for purposes falling within the jurisdiction of the Council. Consequently, the Council which has this subject within its jurisdiction is in a position to create a special committee or a bureau to carry out the necessary inquiries or studies. As suggested, such a bureau or committee, sitting with the Council on Scientific Assembly either at the annual session or in the *interim*, could give careful consideration to questions involving a scientific opinion so that the House of Delegates might be thoroughly informed before it takes action.

APPLICATION OF ALASKA TERRITORIAL MEDICAL ASSOCIATION

The application of the Alaska Territorial Medical Association to be accepted as a constituent association of the American Medical Association is herewith presented to the House of Delegates.

REAPPORTIONMENT

The attention of the House is called to Section 3, Chapter I, page 6, of the By-Laws. This is the year for reapportioning the delegates of the constituent associations. The By-Laws require that the House shall appoint a committee of five on reapportionment, of which the speaker and secretary shall be members. It is suggested that the appointment be made early in the session so that the committee may report to the House as promptly as possible.

Additional matters in which the office of the Secretary has been active are reported to the House of Delegates through other channels.

Respectfully submitted,

ALEXANDER R. CRAIG, Secretary.

REPORT OF THE BOARD OF TRUSTEES

Dr. A. J. Mitchell, Chairman, presented the following report, which was referred to the Reference Committee on Reports of Officers.

To the Members of the House of Delegates of the American Medical Association:

The year 1920 will be referred to in the future as the year of high prices, of abnormal profits in nearly every line of business, and of an hysterical condition in which all economic laws were treated as though they were nonexistent. In our publication department we were affected by the abnormally high scale of wages and the high cost of paper and of all other materials that go into the conduct of a printing establishment. On the other hand, we were faced with the fact that while the cost of every article purchased was steadily increasing, that which we had to sell—THE JOURNAL—was remaining stationary so far as the Fellowship and subscription departments were concerned.

In our report last year it was stated that "the steadily increasing cost of production is likely to cause serious concern if it continues much longer," specific reference being made to the increased cost of paper during the year 1919 and to the fact that wages in the printing trade had been advancing. It was then added:

> While there is no immediate cause for anxiety, it is well for us to realize that we must be prepared for whatever the future may have in store. It may be necessary either to increase the subscription price of THE JOURNAL—say $1 a year—or to reduce its size. However, this is for the future. Your attention is called to these matters that you may know the conditions that have developed and which are developing.

You know what transpired, viz., it finally became necessary either that THE JOURNAL should be published at a serious loss or that there should be an increase in the subscription and Fellowship dues. As you have before you the minutes of the special session of the House of Delegates called last November, to raise the annual dues, it is unnecessary to do more than refer you to these minutes.

An analysis of the conditions of the year shows that during the first two months—that is, before the first increase in the cost of labor and paper during the year (1920) went into effect—the profits on the publication were quite satisfactory —this not only because of the increase in circulation but also, and especially, on account of the unusually satisfactory returns from the Advertising Department. To a less extent the same applies to the following four months, when the cost of paper took a second upward turn. From that time on, to about August, when the labor scale made another large increase and the price of paper again advanced, we were just about running even. From August on we were operating at a loss. However, the profits of the first half of the year were sufficient to more than carry the loss of the latter half, so that, as will be noticed by the Auditor's Report, we were able to show a net gain for the year of a little over $30,000.

The present outlook as to the cost of production is uncertain. In February there was a decrease in the cost of paper stock, approximately equivalent to the last increase—in September, 1920. But thus far the high scale for labor continues.

ADVERTISING DEPARTMENT

For the fairly satisfactory financial outcome for the year, considerable credit must be given to the Advertising Department. As you probably are aware, until toward the end of the year 1920 there was a very large amount of advertising of all descriptions in all kinds of periodicals. The reason is well known—the income tax. Toward the end of the year, and still more since the first of the present year, there has been a most decided falling off—the excess advertising to which we refer has vanished. These comments apply to periodicals in general but apparently not to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, for thus far our advertising is keeping up. The enormous circulation of THE JOURNAL and the standard of the men whom it reaches make it an advertising medium of great value to those who want to reach the leading members of our profession. It is needless to say that our advertising standard is still kept up, and, if anything, the advertising committee is more exacting.

It may be of interest to note that the receipts from dues and subscriptions exceeded those from advertising until the year 1919, when this order was reversed. In 1919 the receipts from advertising were $395,598; whereas the receipts from dues and subscriptions were $357,684. Last year the receipts from advertising were $512,765, and from dues and subscriptions $386,825.

SUBSCRIPTION DEPARTMENT

In the addenda to this report will be found, in tabular form, the facts regarding circulation. The number of names on the mailing list—i. e., bona fide subscribers, including Fellows—on Jan. 1, 1920, was 74,919; on Jan. 1, 1921, 78,560 —a gain for the year of 3,641. The total number of copies printed during 1920 was 4,110,112—349,761 more than in 1919. The weekly average was 79,040—an increase in the average of 6,726 over 1919. This must be regarded as satisfactory. Since the first of January of this current year there has not been an issue printed of less than 80,000 copies.

SPANISH EDITION

The circulation of the Spanish Edition of THE JOURNAL is slowly increasing; the number of bona fide paid subscribers on January 1 this year was 3,611, as against 2,908 a year ago. The circulation covers pretty nearly all Spanish-speaking countries; naturally, the largest circulation is in Mexico—approximately 600. Cuba comes next with 500 copies; then Argentina, 403; Brazil, 312; Philippine Islands, 254; Spain, 236, and Chile, 232. The rest is scattered in the various Spanish-speaking countries.

The monetary exchange condition is a serious handicap not only in securing remittances but also in promoting circulation. This accounts in part for the loss, which amounts to about $9,000. We may naturally expect that conditions will improve, otherwise the Board would have to consider whether the good to be obtained is worth the cost. There is no doubt that the publication of this journal is doing much good: it is bringing the Association, as well as American medicine, prominently and most favorably to the attention of the best physicians in the Pan-American countries, Mexico, the Philippines, etc.; it is surely developing a friendly spirit; it is bringing to this country, as students and for postgraduate work, many who otherwise would be going to European countries. It will be remembered that the Rockefeller Foundation bears half the loss.

SPECIAL JOURNALS

All our special journals are doing well so far as circulation is concerned; there was a financial loss, however, during the year on all except the ARCHIVES OF INTERNAL MEDICINE.

The circulation of the AMERICAN JOURNAL OF DISEASES OF CHILDREN is steadily increasing; it numbered 2,911 on the first of this year, as compared with 2,531 on Jan. 1, 1920.

The circulation of the ARCHIVES OF INTERNAL MEDICINE is improving, although the increase last year was only 198, making the total circulation on the first of this year 2,791.

The circulation of the ARCHIVES OF NEUROLOGY AND PSYCHIATRY was 1,248 on Jan. 1, 1921, as compared with 1,158 the preceding year—not as large as that of either of the above mentioned journals, as the specialty it represents is limited in number. However, the circulation is steadily increasing.

The ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY has now been published by the Association one year and, we are informed, is highly appreciated by dermatologists of the country. Its circulation, too, naturally is limited—1,051 on January 1. It, too, is steadily growing.

The publication of the ARCHIVES OF SURGERY was begun in July, as a bimonthly, and numbers were issued in July, September and November. The circulation during the year 1920 reached 3,273.

As we have stated, there were losses on all these special publications, with the exception of the ARCHIVES OF INTERNAL MEDICINE. These losses are accounted for by the radical increase in the cost of production in every branch of the printing trade, and especially in the price of paper. We did not have to contend with the unstabilized paper market so far as paper for THE JOURNAL and the Spanish Edition was concerned: with paper for our special journals it was different; it was not possible to contract for the year's supply

of this paper, hence we were compelled to meet the market conditions as they developed. The result was that we had to pay whatever the market demanded. We are better prepared for the future, since we have been able to make a contract similar to that for THE JOURNAL, the terms of which will give us paper for these special journals 50 per cent. less then it cost us last year.

Under the conditions that had developed, the Board felt it wise to discontinue the combination rates on the special journals, and in some instances to increase the price. Naturally, therefore, a better showing may be looked for this year. For instance: 1,863 of the subscribers to the ARCHIVES OF INTERNAL MEDICINE by clubbing paid only $4 a year; hereafter they will pay the regular $5 rate. The 2,187 subscribers to the AMERICAN JOURNAL OF DISEASES OF CHILDREN who were paying the combination rate of $3 will this year pay $4. The price of the ARCHIVES OF NEUROLOGY AND PSYCHIATRY and of the ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY has been increased from $5 to $6, and since many of the subscribers to these periodicals were paying only $4 under the combination rate, there will be quite an increase in the receipts under the new order. It is believed that these increases will make these journals at least self-supporting. However, it is well to bear in mind that even if it should be necessary to increase the subscription price of these journals, say, another $1 or $2, they would still be far cheaper than similar special journals published elsewhere. May we again emphasize that one of the great opportunities for the advancement of scientific medicine in the United States is the encouragement of these special journals? While we should not publish them at a loss, they should be issued at as near cost as possible. The Association, with its splendid printing facilities and its direct contact with the profession of the whole country, is able to do this work better and cheaper than it is possible for the men interested in these specialties to have their journals printed and published elsewhere, and to promote their circulation at a nominal expense. When our building is completed our printing plant will be capable of taking on more of these publications.

QUARTERLY CUMULATIVE MEDICAL INDEX

Related to the special journals, and published ultimately for the same reason—that is, for the advancement of scientific medicine in the United States—is the Quarterly Cumulative Medical Index. This index is heartily appreciated by research workers and by those physicians who are attempting to keep up with medical progress; it is regarded by such men as one of the most helpful publications on medical literature in any language. The circulation is steadily creeping up: at the end of the year 1920 there were 1,045 bona fide subscribers, as against 738 the preceding year. Incidentally, the increase during the first part of the current year is greater than that during the same period last year.

COOPERATIVE MEDICAL ADVERTISING BUREAU

The Bureau closed its seventh year, Dec. 1, 1920. The financial reports show it has been increasingly helpful to the state journals each year. During 1920, it did a gross total business of 65,976.91; and after paying all expenses distributed to the twenty-eight state journals, on a pro rata basis, excess earnings of $3,500. This amount was in the nature of a bonus, as each journal had been paid its earnings regularly each month, as they came due.

In addition to securing general advertising for the state journals, the Cooperative Bureau, as its name implies, helps to coordinate the work of these publications. It provides the publishers with information about general advertisers, keeps them informed about credits and business conditions, answers inquiries regarding acceptable advertising, and in other ways renders the individual publishers a real service, without charge.

Prior to the organization of the Bureau, the advantages of the state journals as advertising mediums were imperfectly understood. But the Bureau has continuously advertised them until general advertisers have begun to appreciate their worth and are now including these journals in their lists of publicity mediums. This service feature is appreciated by both publishers and advertisers. The latter have come to understand that this chain of twenty-eight state journals comprises a list of reliable, standardized publications, which can be handled through the Bureau in one order. This method is a distinct advantage to both advertisers and publishers. The state journal editors have shown increasing confidence in the Bureau, as it has demonstrated its ability to secure advertising accounts which individual publishers could not obtain. All of the state-owned medical journals, except the Illinois, are now represented by the Bureau.

BUILDING

In its report to you two years ago, at Atlantic City, the Board of Trustees stated that the increased activities were beginning to crowd the Association headquarters, especially in the printing department; and that it was proposed to tear down the old building and extend the main one to take in this space. This, it was stated, would give a steel and concrete structure 100 by 120 feet, six stories and a high basement, of sufficient strength to make possible the addition of two, three or even four more stories if future needs require additional room. Other facts also were given at that time regarding the proposition. Later the architects were authorized to draw preliminary plans and to make estimate of the cost. This was done and presented to the Board in October. The tentative plans were accepted, and the architects were authorized to proceed to make complete plans and detailed specifications. These detailed plans and specifications were presented to and approved by the Board at its meeting in February, 1920. The estimated cost was $280,000. The architects were then instructed to call for bids. In due time the bids came in, the lowest of which was $420,000 and it had strings to it. The Board therefore decided to postpone building. As more room had become absolutely necessary, the lease on three floors of the old building was terminated, and this space is now being used. But this is a makeshift arrangement and should be terminated as soon as building conditions warrant.

Prices of building material seem to be coming down, and we are informed that the cost today would quite probably come very near to the architects' original estimate. The outlook certainly is more promising than in the past, and we hope it may soon be such that the Board will feel justified in authorizing construction of the building. From the present outlook there will be sufficient funds to complete the building without going into debt; this would not have been the case last year. There is one serious feature: the present depreciated prices of securities. While all of the Association's bonds are high-class, few will bring the original cost. Even the government bonds, in which the Association has invested $175,000, probably would have to be sold at a sacrifice. Of course your Board of Trustees will give careful consideration to the matter before finally deciding to go ahead. When this building is completed it will be possible for the Association to undertake additional work in the interest of the profession and public health which your Board has not heretofore felt inclined to recommend on account of the expense.

COMMITTEE ON REHABILITATION OF EX-SERVICE MEN

Early in March the Committee on Hospitalization of ex-service men of the American Legion, through Dr. Billings, requested a conference with representatives of the American Medical Association attending the Congress on Medical Education and Hospitals, Licensure and Public Health, then being held in Chicago, with the object of securing cooperation of the American Medical Association looking to the improvement of the unsatisfactory condition of affairs in the hospitalization and care of disabled ex-service men. The conference was held in Chicago on March 7, at which were present: Gen. Abel Davis, Major A. A. Sprague and Dr. Thomas B. V. Keene, members of the National Committee on Hospitalization and Rehabilitation of the American Legion; Surgeon-General Cumming and Drs. Lavender and McDill, of the United States Public Health Service; Dr. Thomas W. Salmon, representing the National Committee for Mental Hygiene, and Dr. Charles J. Hatfield, representing the National Tuberculosis Association. The American Medical Association was represented by President-Elect Work; Drs. A. R. Mitchell, W. T. Sarles and Frank Billings, representing the Board of

Trustees; Drs. A. R. Craig, George H. Simmons, E. E. Irons, J. N. McCormack, Ray Lyman Wilbur and others. After the conference the matter was taken up by the Executive Committee of the Board of Trustees, which at that time was holding its regular monthly meeting in Chicago. It called into conference President Braisted, President-Elect Work, Surgeon-General Ireland, Dr. J. N. McCormack, Dr. George H. Simmons and Dr. A. R. Craig. As a result of this conference, President Braisted appointed the following committee to act in the matter: Dr. Frank Billings (chairman), Dr. Hubert Work and Dr. J. N. McCormack. It was the understanding that this committee should go to Washington, investigate and advise with the committees of the American Legion and others. The matter was submitted to the full Board by vote and approved. The committee then proceeded to Washington, accompanied, at its request, by the editor and general manager, who worked with the committee. On March 17 and 18 the committee held conferences in Washington with the Surgeon-General of the Public Health Service, with officers of the Bureau of War Risk Insurance and with others, making a preliminary and general survey of the whole subject.

Meantime, Dr. Billings had been selected by the Secretary of the Treasury as a member of a board of consultants on hospitalization of ex-service men. It was, therefore, decided by the committee that inasmuch as Dr. Billings was a member of an official government committee, he could represent the committee of the American Medical Association unofficially but effectively. Hence, while the Association's committee has not been discharged, it has ceased active work awaiting further developments.

A report of the result of the activities of our committee and other committees was published in THE JOURNAL, April 16, p. 1112.

DIRECTORY

The Seventh Edition of the Directory was issued in April. The delay in its publication was the result, in part, of the difficulty in securing clerical assistants in the early stages of the revision and, in part also, of the unusual number of changes—removals. The Directory Department estimates that the removals amounted to approximately 30 per cent. This not only added to the amount of work, but also took more time, as it was difficult to locate many who had moved. The unusual number of removals undoubtedly was the result of the war; evidently many physicians who gave up their practice and went into the army made use of the opportunity to change their locations on returning to civil practice.

The advance orders for this edition nearly double those for the former edition—4,200 for the Sixth, as compared with approximately 8,000 for the Seventh. Nine thousand copies were printed, as compared with 6,000 copies of the previous edition.

We can make no statement at the time this is written regarding the financial side.

THE PROPAGANDA DEPARTMENT

The Propaganda Department continues to be a clearing house for information relative to the nostrum evil and quackery. Many of you no doubt imagine that the only information disseminated by this department is that which appears in the pages of THE JOURNAL devoted to it. Yet, as a matter of fact, this is but a small part of its work. Letters of inquiry that run into the thousands are annually received and answered by the department. About as many of these inquiries come from the public as from members of our profession. There is an increasing number of letters from students in schools and colleges, owing to the fact that the work of the Propaganda Department has come to be recognized to an extent that it is referred to in school and college textbooks. Moreover, teachers of home economics, civic biology, hygiene, etc., devote a certain amount of time to the study of the nostrum evil, and the Association's work along this line is, naturally, brought out. The past year has brought a large number of letters of inquiry relative to nostrums of the alcoholic type and also a large number from those who are interested in the problem of medical advertising copy in newspapers and magazines. Advertising managers and agencies, secretaries of advertising clubs, and especially officials of the Associated Advertising Clubs of the World, are in regular correspondence with the department. The influence that the department is exerting in the interest of truthfulness and honesty in medical matters as they affect the public directly will never be generally known; but to those who are familiar with the facts, this feature of the department's work is especially encouraging and impressive. An active demand continues for the pamphlets, books, educational posters and stereopticon slides prepared and issued by the department. New editions of the pamphlets prepared by the department are continually being issued. The same is true of the educational posters on the nostrum evil; these are reprinted from time to time with modification and additions that bring them down to date, while a certain number of new posters are prepared each year. The new edition of "Nostrums and Quackery" has, through shortage of help and the urgency of other work, been delayed, but it is now practically ready for distribution.

COUNCIL ON PHARMACY AND CHEMISTRY

The Council on Pharmacy and Chemistry is continuing the splendid work which has put the profession of this country far ahead of that of any other, in that it is protected against misrepresentation and commercialism inherent in the exploitation of proprietary medicines. The fact that this country is better off in this regard than others is obvious to those who will compare the advertisements of medical products in even the highest-class medical journals of Europe, including Great Britain, with those of this country. While there are still many medical journals in this country that do not follow the Council, with two or three exceptions its influence for good on these journals is apparent. Excluding that mentioned above, all the state journals refuse to carry medicinal products not accepted by the Council. One sometimes wonders whether our profession really appreciates what this body of scientific men has done, and is still doing, for the medical profession and the public, and for the advancement of scientific and rational therapy. It is well known that a certain percentage do appreciate this, but it is feared that the percentage is not as large as it should, and would, be if physicians were more familiar with this work. That much has been accomplished will be appreciated if one compares conditions of twenty years ago and now.

The problems of the Council today are radically different from those which existed when it was first organized. In the early days they were, to a large extent, concerned with the secret and semisecret complex mixtures of simple drugs exploited to our profession under fanciful names and with extravagant claims. These have been forced into obscurity, and physicians who still prescribe them are reticent about it. However, in the place of these ancient nostrums we now have biologic products, and biologic therapy is tending toward conditions just as serious as those which resulted from the exploitation of the shotgun drug mixtures; and they are more dangerous. What promised to be a blessing seems to be proving a menace. In any event we must be on our guard against the present commercial exploitation of this form of therapy. The point is, these preparations are being exploited through our profession directly, and to the public indirectly, for financial gain rather than in the interest of scientific medicine and for the good of the public. Another development in therapeutics somewhat related to the field of biologic therapy is the intravenous use not only of biologic products but also of drugs and chemicals—a method of treatment which has numerous dangers. These newer problems which are engaging the attention of the Council should also concern every physician.

New and Nonofficial Remedies is the official publication of the Council, issued annually. This book contains a list of the proprietary products accepted by the Council, and physicians may protect themselves by having this book available for reference when they desire information on unofficial and proprietary preparations.

Useful Drugs and the Epitome of the Pharmacopeia also are published under the supervision of the Council. They are used in quantities by medical students and by teachers in medical schools.

The Council has a Committee on Therapeutic Research, for which the Trustees make an appropriation each year. This

appropriation is used for investigations and laboratory research into the actions of drugs and pharmaceutical products. The results are published in various medical journals and are included each year in a single publication, "A. M. A. Therapeutic Research Reports."

Detailed reports of the activities of the Council on Medical Education and Hospitals, the Council on Health and Public Instruction and the Judicial Council will be submitted directly by these bodies; hence it is not necessary to refer here to the work of the Association carried on by these councils.

As an addenda we submit, in addition to the facts covering the circulation of THE JOURNAL, etc., the Treasurer's statement, and the official and complete Auditor's report.

COMMITTEE ON SCIENTIFIC RESEARCH

As the Board previously reported to you, a Committee on Scientific Research was constituted in 1900 and continued until 1914 when, in the curtailment of expenses, it was found necessary to discontinue making an annual appropriation for its work. In 1918 the Board felt justified in reestablishing this grant, and appropriated $1,200; in 1919 a similar appropriation was made; in 1920, $1,500; and this year, $1,500. The object of these grants, of course, is to further meritorious research in subjects relating to scientific medicine and of practical interest to the medical profession, special effort being made to aid such work as otherwise might not be carried on to completion. We are of the firm opinion that this expenditure is well worth while. Before long it is hoped to publish a complete list of all the grants since the first appropriation, made in 1903.

Respectfully submitted,

A. R. MITCHELL, Chairman,
FRANK BILLINGS, Secretary,
D. CHESTER BROWN,
OSCAR DOWLING,
THOMAS MCDAVITT,
WENDELL C. PHILLIPS,
CHARLES W. RICHARDSON,
W. T. SARLES,
WALTER T. WILLIAMSON.

ADDENDA TO TRUSTEES' REPORT

SUBSCRIPTION DEPARTMENT

The regular weekly issue of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, from Jan. 1, 1920, to Dec. 31, 1920, inclusive (52 issues), was as follows:

January 3	76,250	July 3	78,080
January 10	76,379	July 10	78,036
January 17	75,471	July 17	77,667
January 24	75,686	July 24	78,050
January 31	75,577	July 31	78,226
	379,363		390,059
February 7	75,976	August 7	79,047
February 14	76,135	August 14	79,400
February 21	76,042	August 21	79,196
February 28	76,531	August 28	79,512
	304,684		317,155
March 6	76,003	September 4	79,675
March 13	76,326	September 11	79,412
March 20	80,548	September 18	79,717
March 27	76,494	September 25	80,092
	309,371		318,896
		October 2	80,003
April 3	76,650	October 9	79,954
April 10	76,518	October 16	80,188
April 17	76,470	October 23	80,433
April 24	76,664	October 30	80,655
	306,302		401,233
May 1	76,636		
May 8	77,826	November 6	80,166
May 15	81,798	November 13	80,679
May 22	77,382	November 20	80,878
May 29	77,638	November 27	94,538
	391,280		336,261
June 5	78,159	December 4	95,530
June 12	78,004	December 11	85,226
June 19	77,875	December 18	81,113
June 26	78,245	December 25	81,356
	312,283		343,225
Total			**4,110,112**
Weekly average			**79,040**

PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL

This table gives the number of physicians (based on the sixth edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL, and the approximate percentage in each state. Copies to physicians in the United States Army, United States Navy, Public Health Service, etc., are not included.

State	Number Receiving JOURNAL	Physicians in State 6th A. M. Dir.	Approx. Percentage 6th A. M. Dir.
Alabama	854	2,530	34
Arizona	260	333	78
Arkansas	710	2,587	27
California	3,829	5,929	65
Colorado	964	1,713	57
Connecticut	1,095	1,701	64
Delaware	124	264	47
District of Columbia	654	1,237	53
Florida	573	1,296	44
Georgia	1,126	3,442	33
Idaho	244	458	53
Illinois	6,688	11,095	60
Indiana	1,933	4,765	40
Iowa	2,013	4,004	50
Kansas	1,261	2,668	47
Kentucky	1,075	3,483	31
Louisiana	1,166	2,060	56
Maine	496	1,179	42
Maryland	1,452	2,268	64
Massachusetts	3,740	5,926	63
Michigan	2,443	4,598	53
Minnesota	1,824	2,566	71
Mississippi	643	1,975	33
Missouri	2,473	6,063	41
Montana	356	661	54
Nebraska	1,103	1,960	57
Nevada	93	159	59
New Hampshire	348	666	52
New Jersey	1,184	3,153	69
New Mexico	250	456	55
New York	8,628	15,877	54
North Carolina	932	2,257	41
North Dakota	379	604	63
Ohio	3,866	8,089	48
Oklahoma	1,003	2,672	37
Oregon	597	1,157	52
Pennsylvania	6,635	11,495	58
Rhode Island	438	752	58
South Carolina	583	1,433	41
South Dakota	424	695	61
Tennessee	1,086	3,481	31
Texas	2,637	6,246	42
Utah	305	488	62
Vermont	254	653	38
Virginia	1,066	2,552	42
Washington	1,008	1,698	54
West Virginia	905	1,759	52
Wisconsin	1,759	2,817	62
Wyoming	162	254	63

The following table shows the number of Fellows and subscribers on THE JOURNAL mailing list, for each year, commencing with 1900, omitting advertisers, exchanges, libraries, colleges, etc.:

Year	Fellows	Subscribers
January 1st, 1900	8,445	4,633
January 1st, 1901	9,841	8,339
January 1st, 1902	11,107	10,795
January 1st, 1903	12,553	12,378
January 1st, 1904	13,899	14,674
January 1st, 1905	17,570	15,698
January 1st, 1906	20,826	17,669
January 1st, 1907	26,255	20,166
January 1st, 1908	29,382	20,880
January 1st, 1909	31,999	18,983
January 1st, 1910	33,032	19,832
January 1st, 1911	33,540	20,504
January 1st, 1912	33,250	21,620
January 1st, 1913	36,082	19,863
January 1st, 1914	39,518	19,751
January 1st, 1915	41,254	20,430
January 1st, 1916	41,938	22,921
January 1st, 1917	42,744	22,156
January 1st, 1918	43,420	23,117
January 1st, 1919	42,366	24,687
January 1st, 1920	44,340	30,032
January 1st, 1921	46,669	31,347

The total number of transfers to Fellowship was 3,914 in 1920.

The total number of copies printed during the past year (4,110,112) was 349,761 more than were printed the previous year.

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ended December 31, 1920

ASSOCIATION RESERVE FUND

Reserve Fund as at December 31, 1919		$283,186.42
Interest—Bonds	$12,067.72	
Interest—Uninvested	300.27	
		12,367.99
Reserve Fund as at December 31, 1920		$295,554.41

TREASURER'S GENERAL ACCOUNT

Balance as at December 31, 1920		$ 265.34

DAVIS MEMORIAL FUND

Balance as at December 31, 1919		$ 3,762.16
Interest		87.19
		$ 3,849.35
Disbursements:		
Invested in U. S. 4¼'s Gov. Bonds	$ 3,701.60	
Accrued Interest	6.65	
Northern Trust Co.—Rebate	0.47	
Care of Bonds	1.84	
		$ 3,710.56
Balance uninvested as at December 31, 1920		138.79

Summary as at December 31, 1920

Invested in Bonds	$ 3,701.60	
Cash Balance	138.79	
		$ 3,840.39

AUDITOR'S REPORT

Chicago, January 18, 1921.

To the Board of Trustees,
American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended December 31, 1920, and now submit our report thereon.

SURPLUS ACCOUNT

The surplus at the beginning of the year amounted to $456,839.39, and the surplus at the end of the year amounted to $489,694.97, an increase of $32,855.58. This increase is spread over the assets and liabilities as follows:

Increase in Current and Working Assets		$ 5,612.55
Increase in Prepaid Expenses		55,027.60
		$ 60,640.15
Less:		
Decrease in Fixed Assets	$11,628.56	
Increase in Accounts Payable	13,905.70	
Increase in Advance Payments on Publications	2,250.31	
		$ 27,784.57
Net Increase in Surplus, as above		$ 32,855 58

FINANCIAL POSITION

The financial position of the Association as at December 31, 1920, is shown in the following statement:

Balance Sheet as at Dec. 31, 1920

ASSETS:			
Property and Equipment at Cost, less Depreciation:			
Real Estate and Buildings			$201,534.40
Machinery			43,779.97
Type and Metals			6 902.51
Furniture and Equipment			15,730.93
Chemical Laboratory			1,537.43
Library			736.15
			$270,221.39
Reserve Fund Investment			295,554.41
Current and Working Assets:			
Inventory of Materials, Supplies and Work in Process		$ 99,280.74	
Accounts Receivable:			
Advertising	$54,244.80		
Cooperative Medical Advertising Bureau	7,360.48		
Reprints	2,577.63		
Miscellaneous	13,423.10		
		$77,606.01	
Notes Receivable		1,884.03	
Cash in Bank and on Hand		16,086.99	
			$194,857,77
Prepaid Expenses:			
Insurance		$ 982.78	
Session 1921		1,327.82	
Directory, Seventh Edition		53,621.50	
			$ 55,932.10
Total			$816,565.67
LIABILITIES:			
Accounts Payable:			
Cooperative Medical Advertising Bureau		$ 5,527.25	
Sundry		15,227.55	
			$ 20,754.80
Advance Payments on Publications			10,561.49
Association Reserve Fund			295,554.41
Surplus			489,694.97
Total			$816,565.67

The balance sheet submitted, in our opinion, correctly reflects the financial position of the Association as at December 31, 1920, subject to provision for accrued interest, taxes and "Journal" subscriptions paid in advance, less subscriptions and memberships due and unpaid.

We examined the securities representing the investment of the Association Reserve Fund, and found them in order.

We verified the cash on hand by actual count and the cash in bank by certificates obtained from the Association's bankers. The following is a statement of the cash balances:

Continental and Commercial National Bank	$ 15,270.66
First Trust and Savings Bank (Treasurer's Account)	265.34
Cash on Hand	400.99
Cashier's Fund	150.00
Total	$ 16,086.99

OPERATIONS

The operations of the Association for the year ended December 31, 1920, are shown in the following statements:

Income and Profit and Loss Account for the Year Ended December 31, 1920

JOURNAL:			
INCOME:			
Fellowship Dues and Subscriptions			$386,825.21
Advertising			512,765.71
Jobbing			16,643.35
Books			8,228.29
Reprints			5,937.14
Insignia			2,335.92
Miscellaneous Sales			16,828.39
Interest			5,096.82
			$954,660.83
Expenses, Schedule "1"			791,665.03
Net Income from Journal			$162,995.80
MISCELLANEOUS INCOME:			
Cooperative Medical Advertising Bureau		$ 209.16	
Directory, Sixth Edition		1,440.02	
Archives of Internal Medicine		388.46	
Rent		3,740.00	
Miscellaneous		271.10	
		$ 6,048.74	
			$169,044.54
Association Expenses—Schedule "2"		$85,203.59	
Less (Session) 1920		923.50	
		$84,280.09	
Miscellaneous Expenses—Schedule "3"		51,908.87	
			$136,183.96
Net Gain on Operations			$ 32,855.58

JOURNAL EXPENSES—SCHEDULE "1"

Wages and Salaries	$288,411.45
Editorials, News and Reporting	8,655.48
Paper—Journal Stock	298,358.66
Paper—Miscellaneous	16,427.95
Electrotypes	16,352.17
Binding	449.25
Ink	7,487.36
Postage—First Class	19,957.02
Postage—Second Class	38,080.22
Journal Commissions	8,338.91
Collection Commissions	848.07
Discounts	18,121.89
Express and Cartage	3,466.44
Exchange	3,893.05
Office Supplies	2,136.07
Telephone and Telegraph	1,306.76
Office Jobbing	6,088.81
Miscellaneous	14,577.09
Power and Light	3,951.76
Fuel	4,629.93
Factory Supplies	11,827.14
Repairs and Renewals—Machinery	5,167.53
Bad Debts, Net Loss	1,022.13
	$779.555.14

Depreciation:

Property and Equipment	Rate	Amount	
Machinery	15%	$7.725.87	
Furniture and Equipment	15%	1,952.55	
Factory Equipment	15%	705.84	
Type	20%	777.37	
Metal	20%	948.26	
			$ 12,109.89
Total			$791,665.03

ASSOCIATION EXPENSES—SCHEDULE "2"

Association	$ 28,649.19
Health and Public Instruction	11,739.31
Pharmacy and Chemistry and Chemical Laboratory	21,766.78
Medical Education and Hospitals	17,523.11
Organization	3,531.74
Therapeutic Research	1,822.63
Laboratory Depreciation—10%	170.83
Total	$ 85,203.59

MISCELLANEOUS EXPENSES—SCHEDULE "3"

Building "B" (New), Depreciation 5%	$ 7,575.28
Building Improvements	6,000.00
Insurance and Taxes	8,031.65
Legal and Investigation Expense	600.00
Building Maintenance	4,879.52
Depreciation Library—10%	81.80
Periodical Publications	24,740.62
	$ 51,908.87

The audit embraced an exhaustive test of the various sources of income and the verification of the cash disbursements with proper vouchers on file.

We are pleased to report that we found the accounting records to have been kept in the usual good order and that every facility was afforded us for the proper conduct of the audit.

Yours truly,

MARWICK, MITCHELL & Co.

Report of the Judicial Council

Dr. M. L. Harris, Illinois, Chairman, presented the report of the Judicial Council, which was referred to the Reference Committee on Report of Officers:

To the Members of the House of Delegates of the American Medical Association:

At the New Orleans session of the House of Delegates, a resolution was adopted requesting the Judicial Council, at the next annual session, to report "a concrete proposition" or plan for reducing the number of Trustees of this Association from nine to seven and to subdivide the United States into seven Trustee Districts.

Under the present plan there are nine trustees, each elected for three years, the term of service being so arranged that the terms of three trustees expire each year. There are, therefore, three trustees to be elected each year for a term of three years. If the House of Delegates shall determine to reduce the number of trustees to seven, and if it is desired that the term of office of all of them shall not expire at the same time, the only satisfactory plan would be to make the term of office seven years instead of three years and to arrange so that the term of office of one trustee in rotation shall expire each year.

If then the House of Delegates should decide to make the change, the following plan is suggested: At the annual session in 1922 when the term of office of three trustees expires, elect one trustee for a term of seven years. In 1923 when the term of office of three more trustees expires, elect one trustee for seven years, one for five years and one for four years. In 1924, there will be four holdover trustees for terms of six, five, four and three years respectively, with three to be elected, one for a term of seven years, one for two years and one for one year. In 1925, there will be six holdover trustees for terms of six, five, four, three, two and one year respectively with one trustee to be elected for a term of seven years. Thereafter, there will be one trustee to be elected each year for a term of seven years.

Of course, before any change can be made in the number of trustees, it will be necessary for the trustees to change the Articles of Incorporation, as the number of trustees is fixed in the present Articles of Incorporation. The House of Delegates can direct the Board of Trustees to have the necessary changes made in the Articles of Incorporation any time during the coming year, but the change in the Constitution would have to be proposed this year and lie over one year before it could be adopted and become operative.

For the subdivision of the United States into seven trustee districts, the following is submitted as a tentative proposition:

FIRST DISTRICT	Number of Members	Number of Delegates
Maine	657	1
New Hampshire	506	1
Vermont	380	1
Massachusetts	3,975	5
Rhode Island	376	1
Connecticut	1,007	2
New York	8,819	11
Total	15,720	22

SECOND DISTRICT		
Pennsylvania	7,362	9
New Jersey	1,816	3
Delaware	129	1
Maryland	1,262	2
District of Columbia	545	1
Virginia	1.828	3
West Virginia	1,091	2
Total	14,033	21

THIRD DISTRICT		
Ohio	4,552	6
Indiana	2,423	3
Illinois	6,978	8
Michigan	2,815	4
Total	16,768	21

FOURTH DISTRICT		
North Carolina	1,598	2
South Carolina	631	1
Georgia	1,225	2
Florida	577	1
Alabama	1,664	3
Mississippi	481	1
Tennessee	1,701	2
Kentucky	2,039	3
Total	9,916	15

FIFTH DISTRICT		
Louisiana	1,081	2
Arkansas	1,195	2
Missouri	3,329	5
Oklahoma	1,293	2
Texas	3,547	5
Total	10,445	16

SIXTH DISTRICT		
Iowa	2,276	3
Wisconsin	1,938	3
Minnesota	1,507	2
North Dakota	454	1
South Dakota	396	1
Nebraska	1,182	2
Kansas	1,581	3
Total	9,334	15

SEVENTH DISTRICT		
Montana	374	1
Wyoming	97	1
Colorado	852	2
New Mexico	272	1
Arizona	245	1
Utah	233	1
Idaho	223	1
Washington	985	2
Oregon	606	1
Nevada	88	1
California	3,328	3
Canal Zone	74	1
Hawaii	81	1
Philippine Islands	158	1
Porto Rico	155	1
Total	7,771	19

The foregoing division makes provision so that no one state will have the majority of the delegates in the district in which the state is included.

As already stated, the foregoing is presented to the House, not as a recommendation from the Judicial Council, but in response to the action taken by the House of Delegates requesting the Judicial Council to submit a plan which will effect the change provided the House deem it advisable to do so.

During the past year one case has been presented to the Judicial Council for adjudication. This is an appeal of the Spokane County Medical Society from an action of the Washington State Medical Association. The question raised did not seem to warrant the calling of a special meeting of the Council, especially in view of the short time intervening before the next regular meeting of the Council at the annual session. The case, therefore, will be taken up at the regular meeting of the Council at this annual session, when a full report on this question will be made to the House.

Respectfully submitted,

M. L. HARRIS, Chairman,

I. C. CHASE,
H. A. BLACK,
RANDOLPH WINSLOW,
WILLIAM S. THAYER,
A. R. CRAIG, Secretary.

Report of the Council on Health and Public Instruction

Dr. Victor C. Vaughan, Michigan, Chairman, presented the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Reports of Officers.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

The Council has continued during the past year to develop the program which it adopted in 1914 and which it has followed since that time. This program includes three main objects, namely:

I. Investigation of the existing health conditions with a view to securing accurate information on all phases of the public health situation.

II. Education of the public and the profession by every means within the resources of the Council, in order that the public may understand the advance of scientific medical knowledge and the possibility of utilizing such knowledge in the prevention of disease, the reduction of the death rate and the preservation of human lives.

III. The crystallization of public sentiment into such practical health laws, regulations and ordinances as may be necessary for the conservation of human life.

Reorganization of Federal Public Health Activities

In the report of the Council for 1920, the situation existing at that time regarding public health reorganization was stated at length as well as the cooperative efforts which had been undertaken by the Joint Committee of the Council, the State Health Officers Association and the American Public Health Association. In accordance with the action of the House of Delegates, the Surgeon-General of the United States Public Health Service was requested to designate three officers of the Public Health Service to cooperate with this committee. In accordance with this request Surg.-Gen. Hugh S. Cumming designated Assistant Surgeons-General Allen W. McLaughlin, W. S. Warren and J. W. Schereschewsky to cooperate with the Joint Committee.

Following the reassembling of Congress on December 4, 1920, efforts were made to secure the passage of House Resolution No. 33. Almost immediately after Congress reassembled, however, a joint resolution was introduced in the Senate by Senator Smoot of Utah, and in the House, by Mr. Reavis of Nebraska, providing for a congressional committee to make a survey and prepare a report on the reorganization of the executive departments of the federal government. This resolution passed both Houses and became a law without the President's signature. As the scope of this resolution was much broader than that of Resolution No. 33, it was impossible to secure the consent of the Republican Steering Committee to consider the later measure. Following the passage of the Smoot-Reavis resolution the following Joint Congressional Committee was appointed: Senators Reed Smoot of Utah, James W. Wadsworth of New York, and Pat Harrison of Mississippi, and Representatives C. F. Reavis of Nebraska; H. T. Temple, Pennsylvania, and R. W. Moore, Virginia.

Efforts are now being made to secure information regarding the plans of this committee and as to whether they are taking up public health as one of the first subjects to be considered; whether it will consider this subject in committee of the whole or will appoint a subcommittee thereon, etc.

Attitude of the Administration on Public Health

During the presidential campaign of 1920, Senator Harding repeatedly stated in his speeches that he regarded public health and human welfare as two of the most important subjects for governmental activity and that, if elected President, he would favor the creation of a Department of Health and Welfare with a secretary in the cabinet. Following his inauguration, he commissioned his personal physician, Dr. Charles E. Sawyer of Marion, Ohio, as brigadier-general in the Medical Reserve Corps and assigned to him the special duty of collecting evidence and preparing plans for the development of the health and welfare work of the federal government.

Health Measures Before Congress

With the termination of the Sixty-Sixth Congress on March 4, 1920, all the measures before both Houses at that time were wiped off the calendar. Since the reassembling of Congress on April 11, the following bills have been introduced up to date of the compilation of this report:

House Bills

H. R. 3.—Establishment of Veterans' Bureau, Transferring to It Powers and Duties of War Risk Insurance Bureau and Federal Board for Vocational Training.
H. R. 7.—Creation of an Educational Department, with Appropriation Including Federal State-Aid.
H. R. 19.—Provision for Vocational Rehabilitation of Disabled Soldiers.
H. R. 21.—Provision for Vocational Education by Federal State Aid.
H. R. 22.—Creation of a Division of Physical Education.
H. R. 65.—Amending Food and Drug Act of 1906 and Amendments of 1912.
H. R. 116.—Granting Physicians Licensed to Practice in any State, Right to Practice in all States.
H. R. 2193.—Amendment to Third Harrison Law Regulating Importation and Use of Opium.
H. R. 2287.—Amending Vocational Rehabilitation Act of June, 1918, as Amended July, 1919.
H. R. 2492.—Increase of Appropriation for Naval Hospital at San Diego, Calif. to $1,975,000.
H. R. 2501.—Increase of Age Limit of Officers in Medical Reserve Corps to 45.
H. R. 2918.—Creation of Osteopathic Board in District of Columbia.
H. R. 2920.—Establishment of Columbia Training School for Feebleminded Persons in District of Columbia.
H. R. 3186.—Provision for Pensioning Mothers Having Dependent Children under 16.
H. R. 3187.—Provision for Pensioning Aged Poor, Needy Blind and Others Permanently Disabled Whose Income Is Less than $500.
H. R. 4104.—Provision for Purchase and Free Distribution of Antirabic Virus.
H. R. 4109.—Provision for Destruction of Animals Affected with Diseases Endangering Human Health.
H. R. 4118.—Control of Venereal Disease in District of Columbia.
H. R. 4130.—Appropriation of Funds to Increase Compensation for all Enlisted Soldiers and Other War Workers.

Senate Bills

S. 322.—Provision for Naturalization of Aliens and Children of Aliens.
S. 408.—Establishment of Department of Social Welfare, Taking Over Public Health Service, Children's Bureau and Bureau of Industrial Housing and Transportation.
S. 416.—Provision for Physical Education.
S. 526.—Establishment of Department of Health.
S. 758.—Prohibition of Animal Experimentation in District of Columbia and Territories.
S. 802.—Incorporation of American Society for Control of Cancer.
S. 810.—Amendment to Medical Practice Act in District of Columbia.
S. 1039.—Provision for Protection of Maternity and Infancy by Means of Federal State Aid.
S. 2287.—Establishment of Vocational Rehabilitation for Disabled Soldiers.

Coordination of Voluntary Public Health Activities

Definite progress in this field has been made during the past year. Members of the House of Delegates will recall that one of the fundamental objects of the Council for eight years past has been the federation and amalgamation of the existing voluntary public health organizations with a view to securing better coordination in this field.

During the summer of 1920, a survey of existing organization was made by Dr. Donald B. Armstrong of the National Tuberculosis Association under the direction of the American Red Cross and the National Tuberculosis Association. Data regarding existing organizations were collected as well as the personal opinions of over one hundred individuals. Plans for coordination were discussed at conferences and by correspondence with the result that an informal conference was called at Washington on October 18, 1920, at the Red Cross headquarters, followed by a formal conference on December 10, attended by representatives of the American Red Cross; the National Tuberculosis Association; the American Social Hygiene Association; the American Public Health Association; the Council on Health and Public Instruction of the American Medical Association; the Mental Hygiene Association; the National Child Health Council; the National Association for Public Health Nursing; the State Health Officers Association, and the Rockefeller Foundation. At the December conference, the National Health Council was organized, a Constitution and By-Laws were adopted and the following officers elected: Chairman, Dr. F. Livingston Farrand, American Red Cross; vice chairman, Lee K. Frankel,

New York; secretary, Dr. C. St. Clair Drake, State Health Officers Association. An appropriation of $30,000 for two years has been made by the American Red Cross. Permanent headquarters have been established in Washington and a temporary business office at New York. The Service Committee of the National Health Council has leased two floors of the Penn Terminal Building, directly opposite the Pennsylvania Railroad Station and has sub-let office space to the organizations having headquarters in New York. The American Public Health Association has moved its headquarters from Boston to New York, so that all of the organizations composing the National Health Council with the exception of the American Medical Association, the American Red Cross and the State Health Officers Association have headquarters under the same roof, with mutual arrangements for cooperation and service among themselves.

The National Health Council is proceeding slowly and is developing a marked spirit of cooperation, which, it is hoped, will result eventually in working out a common plan of procedure. Applications for admission from a large number of organizations are now being considered and plans are being developed for securing financial support for a constructive program.

Vital Statistics Legislation

In this field, also, the Council on Health and Public Instruction is glad to report definite progress during the past year. In its report for 1920 the Council showed that in 1906, when this work was first undertaken, only ten states in the Union had effective laws for the registration of deaths and only eight states had any laws requiring the registration of births; that during the fourteen years from 1906 to 1920 the Model Bill, developed by the Council in cooperation with the Division of Vital Statistics of the United States Census Bureau and other contributing organizations had been adopted by forty-three states. During the past winter this bill was introduced in the state legislatures of South Dakota, Iowa and West Virginia and was adopted practically without opposition in Iowa and West Virginia, making forty-five states which now have adopted this measure; the largest number of states that have adopted any standard bill on any subject. The only three states that have not yet adopted it are Arizona, Nevada and South Dakota. The Arizona legislature meets in November and it is hoped that this bill can be introduced and passed at that time. The failure of this bill to pass in South Dakota was due largely to lack of education of the public and to a misunderstanding of its provisions. It is almost certain that this measure will be adopted at the next session of the legislature. Regarding Nevada, the large size and the scant population of this state may make it necessary to modify the standard bill somewhat, but as its population amounts to only 77,000 the absence of this state from the registration area will not impair the value of our national vitality statistics. With only three states still to adopt this measure, the end of this work to which the Council and Association has very materially contributed in the last eighteen years is now clearly in sight.

Anti-Vivisection Legislation

During the past winter, out of the forty-two states whose legislatures were in session bills for the prevention of animal experimentation were introduced in four states, viz., Massachusetts, New York, Indiana and Maine. In Maine the bill was dropped. In Massachusetts hearings on the bill were set, but as no one appeared in favor of it, the committee voted not to report it out. In Indiana and New York the bill was killed in committee.

For the first time in the history of efforts to abolish annual experimentation an appeal was made last November in California to popular vote through use of the initiative. The proposed legislation provided for strict abolition of all use of animals "for the purpose of experimental physiological or experimental pathological investigation in or at any university, school, society, college, hospital and institution, or other places within the state of California." The campaign was conducted intensively by both the proponents and the opponents of the measure. At the final vote, it was defeated by a majority of approximately 250,000 votes.

Organization of the Eye Sight Conservation Council

In the report for 1920, attention was called to the discussion then going on among representatives of the American Optical Association, large optical manufacturing companies, representatives from scientific organizations, etc., with a view to the inauguration of a campaign for the education of the public on the conservation of vision and the detection and correction of errors of vision, especially among school children, industrial employees, etc. The secretary and Dr. Cassius D. Wescott, chairman of the Council Committee on the Conservation of Vision, were invited to attend several of these conferences. In the fall of 1920, the Eye Sight Conservation Council was organized. Its membership is made up of various organizations devoted to human welfare and betterment, with a business committee to finance it, made up of the representatives from large manufacturers. Dr. Wescott was elected vice president and the secretary was asked to serve on the Board of Councillors. These appointments were accepted with the proviso that all literature and publicity material for public use should be passed on by the two representatives of the Council—a condition to which the Eye Sight Conservation Council agreed. Plans for the work of the Council are now being formulated.

Cooperation with the National Education Association

The Committee on Cooperation with the National Education Association has sent in a separate report which appears herewith. (See Appendix *A*.)

The Council wishes to call attention to the fact that in response to its request that the state societies appoint state committees on this subject to cooperate with the states' teachers' associations, special committees have been appointed in thirty-four states, as follows: Alabama, Arizona, Arkansas, Colorado, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Utah, Vermont and Wisconsin.

Arrangements for a meeting of the state committees during the time of the Boston Session of the American Medical Association have been made for conference purposes and for the development of uniform plans. A recent development in this field is the appointment by the American Public Health Association of a Committee on Health Teaching in the Public Schools, which may easily be expanded into a Committee on Health Problems in Education that will cooperate with the Joint Committee of the American Medical Association and the American Education Association.

Midwinter Conference

The Midwinter Conference was held March 7-10, 1921. On the fourth day of the conference a special program was presented by the Council, as follows:

Morning Program—9:30 A. M.

Rural Health Centers

Rural Health Centers as an Aid to General Practitioners, Victor C. Vaughan, M.D., Chairman, Council on Health and Public Instruction, American Medical Association, Ann Arbor.

What We Have Done in Iowa, F. E. Sampson, M.D., Creston, Iowa.

General Discussion opened by Frank Billings, M.D., Chicago.

Afternoon Session—2 P. M.

The Organization of the Public for Health Work

From the Standpoint of the Council on Health and Public Instruction of the American Medical Association, W. S. Rankin, M.D., Secretary, North Carolina State Board of Health, Raleigh, N. C.

From the Standpoint of the State Health Officer, S. J. Crumbine, M.D., Secretary, Kansas State Board of Health, Topeka, Kan.

From the Standpoint of the State Medical Society, F. C. Warnshuis, M.D., Secretary, Michigan State Medical Society, Battle Creek, Mich.

From the Standpoint of the State Public Health Association, Celestine J. Sullivan, Secretary, League for the Promotion of Public Health, San Francisco.

From the Standpoint of the Voluntary Public Health Association, Charles J. Hatfield, M.D., Secretary, National Tuberculosis Association, New York.

From the Standpoint of the Business Man, Lee K. Frankel, Third Vice President, Metropolitan Life Insurance Company, New York.

From the Standpoint of Women's Organizations, Lena L. Meanes, Woman's Foundation for Health, New York.

Proposed Amendments to the Harrison Law

No attempt has been made during the past year to amend the Harrison law which regulates the registration of physicians and the prescribing or dispensing of habit-forming drugs. On December 6, 1920, a bill was introduced in the Senate by Senator Jones of Washington (S. 4533) and in the House by Mr. Miller of Washington (H. R. 14500) amending Section 6 of the second Harrison law so as absolutely to prohibit any exportation of opium or cocaine or their derivatives from the United States to any foreign country or the shipment "in transit" through this country of any of these drugs, and to restrict importation of opium into this country to such amounts as shall be found necessary for actual medicinal use by the Surgeon-General of the United States Public Health Service. Following a large number of hearings before both the House and the Senate committees, Mr. Rainey introduced on Jan. 4, 1921, a substitute for the Jones-Miller bill, which on January 18 was introduced in the Senate by Senator Curtis (H. R. 15511, S. 4895). The Curtis-Rainey bill permits exportation to those countries which have adopted the provisions of Article 13 of the Hague Convention of 1912, and limits importation to such amounts as the Secretary of the Treasury and the Secretary of Commerce may find to be necessary for medicinal purposes.

In accordance with the instruction of the House of Delegates at the New Orleans meeting, the Council appointed as a subcommittee on this subject Dr. Haven Emerson of New York; Dr. A. C. Prentice of New York; Dr. George W. McCoy, United States Public Health Service, Washington, D. C.; Dr. Thomas S. Blair, State Health Department, Harrisburg, Pa. The report of this special committee is appended herewith (Appendix B).

The Treatment of Tuberculous Patients in General Hospitals

At the New Orleans Session a telegram from the Surgeon-General of the United States Public Health Service was presented urging the active participation by general practitioners and general hospitals in the treatment of tuberculosis. At the meeting of the Council, held November 11, 1920, a communication from the Surgeon-General on this subject was received and the Surgeon-General was requested to formulate the action which he wished the Council and the Association to take. In response to this request the following resolution has been submitted which is herewith referred to the House of Delegates for action with the recommendation that it be adopted:

Whereas, There is an unfortunate tendency in various parts of the United States to exclude patients even of tender years, with pulmonary tuberculosis from general hospitals; and

Whereas, This tendency results chiefly from incomplete knowledge of an earlier period when the simple prophylactic measures were not thoroughly understood and when the dangers of dissemination were greatly overestimated; and

Whereas, The exclusion of tuberculous patients from general hospitals has resulted in depriving large numbers of tuberculous patients from proper hospital care in emergencies and their exile against their wishes, to special institutions often remote from home and friends; and

Whereas, This practice has resulted in the relegation of tuberculosis largely to specialists, to the great detriment both of tuberculous patients who are compelled to seek in special places the necessary medical skill, and of the general practitioner who is thus deprived of the opportunity to acquaint himself with the diagnosis and treatment of tuberculosis; and

Whereas, It has been demonstrated in a rapidly increasing number of institutions that tuberculous patients may be admitted into separate wards in general hospitals without detriment to other patients; and

Whereas, The admission of tuberculous patients to general hospitals for temporary periods will tend to allay phthisiphobia, improve the home treatment of tuberculosis and popularize the home climates without in any way discounting the value and need of special tuberculosis sanatoria for patients suitable for and desiring treatment therein; be it

Resolved, That the American Medical Association recommends that general hospitals in all parts of the United States should provide separate wards or separate rooms for the care of tuberculosis patients, and that such patients be never denied admission, at least in emergency and for temporary periods, because of the character of the disease from which they are suffering.

Venereal Disease Control

At the meeting of the Council, held March 9, 1921, a communication was received from Surg.-Gen. Hugh S. Cumming regarding the teaching of medical students in the diagnosis and treatment of venereal diseases. At the request of the Council the Surgeon-General submitted the following resolution:

Resolved, That the venereal disease control movement cannot reach full effectiveness without the intelligent and sympathetic cooperation of the medical profession, and that this cooperation should include the rapid extension of teaching facilities for the use of medical students whereby the knowledge of the medical, social and public health aspects of these diseases may be taught by actual clinical contact with patients in the clinic, under the direction of qualified teachers.

While the Council realizes that this question, in so far as its educational problems are concerned, belongs to the Council on Medical Education and Hospitals, it also feels that there are sufficient public health features in the question to justify the presentation of this resolution to the House of Delegates with the recommendation that it be adopted.

Nature and History of Syphilis

At the New Orleans Session the House of Delegates referred to the Council a resolution from the Section on Dermatology and Syphilology regarding the need of more complete clinical records. At the meeting of the Council on July 9, 1920, Dr. Sanger Brown, who originated the resolution, was present, on invitation. After discussion of the question, the Council authorized Dr. Brown to consult the Interdepartmental Social Hygiene Board, the Rockefeller Foundation, the United States Public Health Service and the American Social Hygiene Association regarding his plans with the approval of the Council.

National Conference on Leprosy

At the New Orleans Session a resolution from the Section on Preventive Medicine and Public Health requesting the calling of a National Conference on Leprosy was referred to the Council. At the meeting of the Council on July 9, 1921, a communication from the Surgeon-General of the United States Public Health Service was presented, recommending the deferring of this conference until later, in order to give opportunity for the observation of the operation of the National Leprosarium, recently established.

Migration of Indigent Consumptives

At the New Orleans Session a resolution on this subject was presented and referred to the Council. Dr. Haven Emerson was appointed as a special committee on this subject. A preliminary report was presented at the time of the Council meeting on Nov. 7, 1920, but in view of the fact that the results of a study still in progress undertaken by the National Tuberculosis Association are not yet available, the presentation of a formal report on this subject is deferred until a later period.

Referendum on Health Questions in California

During the summer of 1920, there was presented for the consideration of the voters of California four propositions under the Initiative and Referendum law in the form of amendments to the state constitution. They appeared on the ballot as Proposed Amendments 5, 6, 7 and 8. Number 5 created a chiropractic board of examiners; No. 6 prevented any form of animal experimentation; No. 7 forbade compulsory vaccination or the exclusion from the public schools of unvaccinated children; No. 8 gave osteopaths the right to prescribe drugs. The Council at its meeting on July 11, 1920, voted to cooperate with the Medical Society of California and the California League for the Conservation of Public Health to the extent of its ability. At the November election all four of the propositions were defeated by majorities ranging from 200,000 to 350,000.

SOCIAL RELATIONS OF THE MEDICAL PROFESSION

At the New Orleans meeting of the Association, the House of Delegates adopted the following resolution:

Resolved, That the Council on Health and Public Instruction be instructed to investigate the relative adequacy of the medical service and the relation of the public to the profession and to report at the next annual session.

At the meeting of the Council, held July 7, 1920, there were present, in addition to the Council, on invitation, the following: Dr. Frank Billings, secretary of the board of trustees; Dr. George H. Simmons, general manager and editor of THE JOURNAL; Dr. George E. Vincent, president of the Rockefeller Foundation; Dr. J. W. Schereschewsky, representing the Surgeon-General of the United States Public Health Service; Dr. C. St. Clair Drake, director of public health of the state of Illinois and secretary of the State Health Officers' Association. The chairman of the Council presented the following statement:

PROPOSITIONS TO BE LAID BEFORE THE COUNCIL ON PUBLIC HEALTH AND LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION TO BE HELD IN CHICAGO, JULY 9, 1920

I assume that the chief aim of the medical profession is to reduce the morbidity and mortality to a minimum.

On this assumption the medical profession should ask itself to what extent it is now accomplishing this aim and what should be done to improve its work in this direction. I am therefore submitting to the Council for debate the following propositions:

1. Have we enough doctors in this country?
2. Are they doing the work as it should be done?
3. What steps should be taken to induce our medical schools to better prepare our doctors?
4. It is generally admitted that the best medical schools do not give adequate instruction in preventive medicine. What shall be done to improve education in this line?
5. It is generally admitted that the average physician deteriorates after leaving the medical school. What can be done to prevent this?
6. Is the American Medical Association manifesting sufficient interest either in preventive medicine or improving the conditions under which the average doctor practices his art?
7. What steps can the American Medical Association take to secure better qualified physicians and to stimulate those now in practice to better work?
8. Should the American Medical Association devote more time, energy and money to preventive medicine?
9. Should the Council advise the House of Delegates at its next meeting to request the Board of Trustees to publish a public health journal with some such title as the following: *Journal of Preventive and Curative Medicine?*
10. What should the attitude of the American Medical Association be toward community medicine and the establishment of community hospitals?
11. What should be the attitude of the American Medical Association toward the various voluntary health organizations now operating in the country, such as the International Health Board, the American Red Cross, the National Tuberculosis Association, Child Welfare Society, etc.?
12. Should not the Council on Public Health and Legislation attempt to present to the House of Delegates at its next meeting a definite program showing the attitude of the Association toward all preventive agencies and to the improvement of conditions under which the practice of medicine is now proceeding in this country?

Following a lengthy discussion a committee was appointed consisting of five members of the Council, with the following additional members: Dr. Frank Billings, Chicago; Dr. Herman Biggs, New York; Dr. Hugh Cabot, Ann Arbor, Mich.; Dr. F. E. Sampson, Creston, Iowa. This committee held a meeting on November 11, 1920. At this meeting there were present, besides the members of the committee: Dr. Hubert Work, president-elect of the American Medical Association; Dr. Wendell Phillips of the board of trustees and others. After a lengthy discussion the following statement was formulated and published in THE JOURNAL for December 4, 1920:

1. The Council believes it highly desirable that the nature and transmission of communicable diseases should be taught in the public schools of the country. This is already a legal requirement in a few states. In other states such instruction is confined to tuberculosis. The secretary of the Council was requested to gather such information as he may be able to find bearing in this matter and to have framed a model bill for introduction into the legislatures of the states which do not already provide for such instruction.

2. The Council believes that teachers in our public schools should know something about the communicable diseases and what should be done with pupils under their charge developing these diseases. The Council believes that a course in epidemiology should be required in all normal schools and in schools of education in our universities; in short, that no one should be licensed to teach without having had instruction in epidemiology. The secretary of the Council was requested to have formulated a model bill bearing upon this subject.

3. The Council is of the opinion that there should be a closer cooperation between the medical profession and laymen who are interested in public health, and the Council recommends that sections on public health and sanitation be organized in state and local medical societies, and that laymen interested in public health be admitted as associate members of this society and referred to the sections. In the opinion of the Council, this matter should be discussed more fully at the next meeting of the Council in March, 1921.

4. In the opinion of the Council, it is highly desirable that the American Medical Association should, as soon as possible, begin the publication of a popular, up-to-date journal on sanitation and epidemiology, which should give to the public the latest, most complete and most scientific information concerning the prevalent and communicable diseases. It is the wish of the Council that this matter be referred to the Board of Trustees of the American Medical Association.

5. The Council on Health and Public Instruction believes that the American Medical Association should take steps to secure the following results:

(*a*) To assist local medical practitioners by supplying them with proper diagnostic facilities.

(*b*) To provide for residents of rural districts, and for all others who cannot otherwise secure such benefits, adequate and scientific medical treatment, hospital and dispensary facilities and nursing care.

(*c*) To provide more efficiently for the maintenance of health in rural and isolated districts.

(*d*) To provide for young physicians who desire to go to rural localities, opportunities for laboratory aid in diagnosis.

(*e*) The Council believes that these results can be best secured by providing in each rural community a hospital with roentgen-ray and laboratory facilities to be used by the legally qualified physicians of the community. The secretary of the Council was requested to study the laws of the different states bearing upon this subject and to prepare a model bill to be studied more fully at the meeting of the Council in March, 1921.

At the Midwinter Conference the morning program was devoted to a discussion of health centers and rural hospitals and the afternoon to the organization of the public for health work.

At the meeting of the Council, held March 9, 1921, the secretary presented a report on state enabling acts for the erection of county hospitals, showing the present condition of state legislation on these subjects. This report is submitted in Appendix C.

The Council also voted to use the Iowa law as a basis for discussion and criticism. The text of the Iowa law is submitted in Appendix D.

The Iowa law with the abstract of the state legislation on the subject of rural hospitals has been printed in pamphlet form and distributed widely for criticism and suggestion throughout the country. During the winter of 1921-1922 state legislatures will meet in only a few states, so that we have a year and a half in which to prepare a model bill on a constructive public health plan which will carry out the plans of the Council as expressed in its formal statement.

TEACHING OF HEALTH IN THE PUBLIC SCHOOLS

In accordance with the instruction of the Council the secretary sent a letter to the secretary of the state board of health in each state, asking whether there was any law requiring the teaching of communicable diseases in the public schools or requiring the instruction of teachers on the subject of communicable diseases and their prevention. Replies from twenty-eight states showed that laws had been adopted in five states—Idaho, Kentucky, Utah, Michigan and Virginia. All five of the laws are largely modeled on the Michigan Act of 1895, which is submitted in Appendix E. The Council has taken this law as the basis for a model law and has had copies of it printed and distributed for criticism and suggestion.

ATTITUDE OF THE ASSOCIATION TOWARD SECTARIANISM

During the past year the efforts of the so-called "chiropractors" to secure the passage of bills creating independent boards for examining and licensing followers of this cult, have created considerable disturbance in the ranks of the medical profession, especially in some of our western states. Apparently, this cult is about to repeat the experience of homeopathy, osteopathy and other sects. The natural history of each of these cults is the same. Originating as a fantastic method of treatment, generally conceived by some individual without scientific training but with marked evangelistic ability, it has been taken up as the central idea of a cult and preached with a zeal and fanaticism equaled only by religious devotees. Supported by that portion of the public that is attracted by anything new and fantastic; growing on oppo-

sition and discouragement, and developing a fervor, devotion and influence far out of proportion to their numbers, each sect has risen, gathered adherents and flourished for a little while, and eventually dropped its peculiarities, discarded its distinctive and absurd doctrines and finally either disappeared or has been absorbed into the ranks of the general medical profession. This has been the history of the sects of the past. Such a process is now going on in osteopathy. Each generation of physicians regards the sects and cults of their day as entirely unique, forgetting that many sects in medicine have existed and disappeared in the past and that many more will probably appear in the future. Each generation attempts to suppress the sects of its day by much the same methods, and with about the same degree of success. In spite of all our efforts and often aided by our mistakes, each sect goes through the same cycle and its duration is usually limited to a generation or two. Stimulated partly by personal motives and partly by a desire to protect the public, physicians have at all time sought to suppress these sects. But the methods used have often been short-sighted and ill-advised, and as a result, the attitude of the medical profession on sectarianism has been in the past, and is at present, confused and impractical, often defeating the purposes in view, viz., the protection of the public from fraud and charlatanism and the maintenance of professional standards. Physicians have always insisted on discussing sectarianism from the standpoint of its scientific claims, forgetting that both the public and the legislators are unfitted to appreciate or decide scientific questions. The question is not a scientific one, neither is it one which can ever be settled even temporarily by the use of partisan or repressive measures. It is essentially a question of popular psychology, and the remedy lies in education and not in legislation. Until the public is taught to distinguish between true scientific progress and pseudo-scientific propaganda, cults and sects in medicine will have a certain amount of popular support. Our efforts to control the situation in the past has been largely ineffective, because we have not attempted to enlighten public ignorance, which is the essential factor, but have attacked the cults themselves, which are the result and not the cause. Our efforts have not only been futile but they have been irritating and have consumed time and energy which could much better be devoted to other purposes. The attitude of physicians towards sects in the past has been neither dignified nor effective. This is the situation which organized medicine must meet, and which, so far, it has not met intelligently. The Council, therefore, recommends that it be instructed to appoint a committee to study the entire question of sects in medicine and the attitude which the American Medical Association should adopt regarding them and to report at a future session.

The Value of Vaccination

Another subject of much controversy at present is that of compulsory vaccination. For many years the value of vaccination as a means of preventing smallpox has been so universally recognized by all intelligent physicians and competent health officials, that little attention has been given to the collection and tabulation of statistics on smallpox and vaccination. In a number of states, especially those western states which have adopted the initiative and referendum, there has developed an organized effort to repeal all laws providing for compulsory vaccination. The literature used in this campaign contains the most exaggerated and misleading claims regarding the character of smallpox, the reasons, other than vaccination, for its reduction, the nature and dangers of vaccination, etc. The statements made are often so general, so sweeping and so misleading as to require a discussion of the entire subject to answer them specifically. It is impossible for the individual physician to devote the time and labor required for such a task. Educational material covering the entire subject, tabulating all the available statistics, and especially specifically replying to and refuting the statements made in the antivaccination literature, is needed to meet the situation. This is a work which must be done, partly by health officers, partly by the statistician and partly by educators. To accomplish this purpose, the Council requests that it be authorized to appoint a committee to survey the entire subject and to prepare suitable material for educating the public on this question.

Organization of the Public for Health Work

But both of these subjects are part of a greater question, namely, the effective education of the public in securing better conditions for its own protection. The people can only protect themselves as they become better informed regarding the advance in our knowledge of the cause of disease and its prevention. This requires public education on a large scale. Even if physicians were fitted for such work and could afford to take the time necessary for it, the cost of such education, if properly carried on, is far beyond the resources of the medical profession. Neither is there any reason why we should be expected to pay for the education of the public. Yet the public must be properly taught and properly guided, and whatever form such guidance may take, a certain amount of organization of the public is necessary in order to carry out such instruction effectively. In the numerous organizations now in this field, we may see the results of efforts along this line which have been made without any definite plan or effort at coordination. Out of the existing chaos which has been developing for the last twenty-five years, there must come some kind of order and coordination. The public must be organized in some effective fashion for the conservation of health. What is going to be the character of such organization? Does the solution lie in the admitting of selected laymen to membership in our medical organizations, as suggested by the chairman, in the continued organization and multiplication of individual voluntary organizations in the health field such as now exist; in the gradual conversion of the most vital of these special organizations into public health organizations with an unlimited field; in the concentration of all public efforts into some one existing organization, as was suggested in the case of the American Red Cross; in the organization of state public health leagues de novo; in professional bodies such as the League for the Conservation of Public Health which achieved such a signal victory in California last November; or in some new and as yet unformulated plan of organization?

These are questions which at present no one can answer. The discussion which developed on this subject at the Mid-winter Conference and the interest manifested seems to warrant further consideration. The Council, therefore, requests the House of Delegates to authorize it to call a conference in Chicago during the coming summer, probably in July, to which shall be invited the general officers of the American Medical Association; the presidents and secretaries of the constituent state associations; the presidents and secretaries of county and local medical organizations; the presidents and secretaries of the various voluntary state and national public health organizations, and the health officers of the various states for the discussion of the present situation with a view to formulating a plan for the organization of the public for health work.

Educational Material Issued from March 17, 1920, to May 1, 1921

The following pamphlets, cards, charts,. etc., have been printed:

Baby Welfare		
Score Cards	20,000	
Record Sheets	26,000	
Antropometric Tables	500	
Posters	1,600	
		48,100
Rules Regarding Animals	200	
		200
Vision Charts	500	
		500
Total cards		48,800
Protection of Research		
I	1,000	
IX	1,000	
XXVII	1,000	
		3,000
Conservation of Vision		
II	1,000	
IX	1,000	
XI	1,000	
XX	1,000	
		4,000
Health and Education		
Minimum Health Requirements	1,000	
Health Charts	500	
Health Essentials	2,500	
		4,000

SEX EDUCATION		
Boys' Venereal Peril	5,000	
		5,000
BABY WELFARE		
Save the Babies	140,500	
Summer Care of the Baby	2,000	
How to Hold a Baby Welfare Conference	1,000	
		143,500
PUBLIC HEALTH		
Smallpox	2,000	
The House-fly	1,000	
Typhoid	4,000	
Pure Water	1,000	
Measles	4,000	
Scarlet Fever	3,000	
What You Should Know About Tuberculosis	370,000	
Child Welfare	1,500	
Cancer		
I	1,000	
VI	1,000	
X	12,000	
		400,500
MISCELLANEOUS		
Why Should Births and Deaths Be Registered?	4,000	
Health Insurance	2,000	
Narcotic Drug Situation	5,000	
Rural Health Centers as Aid to General Practitioners	5,000	
Enabling Acts and Digest of Michigan Law	5,000	
		21,000
Total pamphlets		581,000

Respectfully submitted,

VICTOR C. VAUGHAN, Chairman,
W. S. RANKIN,
HAVEN EMERSON,
MILTON BOARD,
W. B. CANNON,
FREDERICK R. GREEN, Secretary.

REPORTS OF SUBCOMMITTEES OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

APPENDIX A

COMMITTEE ON HEALTH PROBLEMS IN THE PUBLIC SCHOOLS

To the Council on Health and Public Instruction:

Your Committee on Health Problems in the Public Schools submits the following report of its activities for the year ending January 31, 1921:

1. At the summer meeting of the National Education Association, held in Salt Lake City in July last, one one-half day session was given for a public meeting on "Health in Our Schools" which was addressed by Dr. Wood, chairman of the Joint Committee, and others.

2. The tenth annual meeting of the Joint Committee of the National Education Association and the American Medical Association was held on Tuesday, March 1, at Atlantic City —the Hotel Traymore. Copy of the minutes of this meeting accompanies this report, and also a copy of the annual report of the chairman, Dr. Wood, which was by action of the committee approved.

We would call attention to item No. 10 of the report of the meeting at Atlantic City. We are confident that the officials of the National Council of Education and the National Education Association will use every possible effort to secure the cooperation of the several state teachers' associations with the state medical societies to extend and localize this movement for the betterment of health conditions in the schools of the several states.

Attention is also called to the report of the special committees (*a*) on school lighting and conservation of vision, of which committees Dr. Edward Jackson was chairman, and prepared a report, and (*b*) on ventilation and heating, of which committee Dr. R. W. Corwin was chairman. Copies of these reports are transmitted herewith.

In the afternoon of March 1, a public meeting was held in the First Presbyterian Church with an audience of about 200, Dr. Wood presiding. Brief addresses were made by Dr. Wood and Dr. Dodson of your committee, Dr. Bolt of the National Child Welfare Association, Miss Katharine D. Blake of New York, Dr. Frankwood D. Williams of the National Committee for Mental Hygiene, and Mr. Thomas Finegan, commissioner of public instruction of the state of Pennsylvania.

3. The movement inaugurated by action of the House of Delegates in April, last, to extend this activity to the several states has progressed very satisfactorily.

In May, last, a letter was sent to the secretary of each state medical society reporting this action of the House of Delegates and urging that each society appoint, at its next meeting, a committee on health in the public schools, this committee to attend the next meeting of the State Teachers' Association, and ask for a similar committee from that body to form, with the committee of physicians, a joint committee. It was suggested that on the committee of (preferably five) physicians there be included, if possible, an oculist, a pediatrician, one who has been engaged in health work and one who has been actively interested in the public schools as a member of the school board or in some other way.

Up to the date of this report, the following state societies have indicated their purpose to appoint such committees: *Alabama, Arizona, Arkansas,* California, *Colorado, Connecticut, Georgia, Idaho, Illinois, Kentucky,* Louisiana, *Maine, Maryland, Massachusetts, Michigan,* Minnesota, Missouri, Mississippi, *Montana, Nebraska, Nevada, New Hampshire, New Mexico,* North Carolina, *Ohio, Oklahoma, Pennsylvania,* South Dakota, Tennessee, *Texas,* Utah and *Wisconsin.*

The states italicized have reported the personnel of their committee to the secretary of your Council.

When the personnel of a state committee has been reported to the Council a letter of suggestion as to the mode of procedure has been sent to each member. Copy of this letter is transmitted to the Council with this report.

4. Arrangements have been made to hold a conference of the members of the state medical society committees in Boston on the afternoon of Tuesday, June 7, just preceding the opening meeting of the American Medical Association, which is set for the evening of that day. It is believed that such a conference will be of material aid in promoting the extension and more effective conduct of this school health movement in the several states.

If in every state of the Union such a committee of physicians be appointed, cooperating with a similar committee of teachers, there will be constituted a body of 800 or 900 persons seeking the betterment of health conditions and health education in the public schools. Kept in touch with each other and assisted by the National Joint Committee in the matter of securing information and material for a campaign of education, and, where necessary, legislation, these state committees should accomplish important results in this campaign.

It is recommended that this subcommittee be continued.

It is recommended that such sum as may be appropriated by the National Education Association for this work be duplicated by your Council, as has been the custom since the organization of the committee.

JOHN M. DODSON, Chairman,
R. W. CORWIN,
GEORGE W. GOLER,
EDWARD JACKSON.

April 8, 1921.

MINUTES OF THE ANNUAL MEETING OF THE JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION AT BREAKFAST CONFERENCE, HOTEL TRAYMORE, ATLANTIC CITY

In attendance: President Seerley, National Council of Education; P. P. Claxon, R. W. Corwin, John M. Dodson, Ada Van Stone Harris, John F. Keating, William B. Owen, Mrs. Ira Couch Wood, Dr. Bolt (present by request in place of Dr. L. K. Shaw); Thomas D. Wood, chairman.

The following motions were passed by the Joint Committee:

1. That the committee bulletin, "Health Essentials for Rural Schoolchildren," be revised by the chairman and then submitted to the members of the Joint Committee for criticism and approval.

2. That when revised and approved the bulletin on "Health Essentials" be reprinted through arrangement made by the chairman and Dr. Claxton.

3. That the manuscript on "Health Improvement in Rural Schools" be left in the hands of the special subcommittee and the chairman for revision and approval.

4. That, when completed and approved, arrangements for printing the report, "Health Improvement in Rural Schools," be made by the chairman and Commissioner Claxton.

5. The chairman is authorized to represent the Joint Committee in matters affecting reasonable forms of cooperation with the National Child Health Council.

6. That the chairman communicate with Dr. Edward Jackson, to express the appreciation of the Joint Committee to Dr. Jackson and his subcommittee for the very valuable report on "School Lighting" and arrange with Dr. Jackson for the publication of this report in full in such periodicals as THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, the *School Board Journal, School Life,* the *New England Journal of Education* and an architectural journal.

7. That the Committee on Ventilation of Schools be continued and that the committee be requested to complete a report, if possible for the next annual meeting, on Ventilation and Heating of Schools, to cover the needs of schools in city and country.

8. That the provisional bulletin on "The Teachers' Share in Social Hygiene" be submitted to the members of the Joint Committee, and, after twenty or thirty days, the chairman, on the basis of suggestions and criticisms received, is authorized to make arrangements with the American Social Hygiene Association for printing this bulletin.

9. The chairman is authorized and requested to present to the officers of the National Education Association and the Department of Superintendence, the following resolution and recommendation from the Joint Committee, viz.:

In view of the great importance of health in education and the present significant recognition of, and focusing of attention upon, this subject, the Joint Health Committee strongly recommends that for two or three years one general session of each National Education Convention and each meeting of the National Department of Superintendence be devoted to the presentation of topics relating to health.

10. That the Joint Committee heartily approves the fullest possible cooperation, in the various states, of state educational and state medical organizations for the promotion of the health interests of the public schools.

11. That Dr. Bolt be thanked for his attendance (at the request of Dr. Shaw) at the meeting of our committee and for the valuable information given by Dr. Bolt regarding cooperation of organizations interested in child health.

THOMAS D. WOOD, Chairman.

APPENDIX B

REPORT OF COMMITTEE ON NARCOTIC DRUGS OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

The Committee on Narcotic Drugs has met in Washington, and in New York City, and has pursued inquiries by correspondence and in person of the chairman among its members and with others.

The Committee made its first business to carry out the directions given at the time of its appointment by the Council on Health and Public Instruction, which are as follows:

WHEREAS, The Harrison Narcotic Law provides that cocaine and the opiate drugs may be dispensed by a physician "in the course of his professional practice only," and may be dispensed by a dealer on the "prescription" of a physician; and

WHEREAS, The Supreme Court has decided that these provisions of the law do not permit the supplying of these drugs to habitual users under certain conditions, but has not defined the meaning of the words "course of his professional practice" and "prescription," as used in the law, with sufficient definiteness and precision to enable physicians to decide with certainty what acts are lawful and what are unlawful in dispensing and prescribing such drugs; and

WHEREAS, It is desirable and important that the meaning of the law be made so clear that any physician dispensing or prescribing such drugs in any given case can know whether or not he is violating the law; and

WHEREAS, A clear and concrete knowledge of the acts which constitute a violation of the law will not only enable physicians to avoid its violation, but will also materially aid in the enforcement of the law against those who abuse their professional privileges; be it

Resolved, That a special committee be appointed for the purpose of calling upon the Attorney General of the United States and conferring with him as to the practicability of obtaining decisions from the United States Supreme Court which will remove existing uncertainties as to the meaning and application of the provisions of the Harrison Law above referred to; and further

Resolved, That Doctors Emerson, McCoy, Prentice and Blair be and they hereby are designated as such committee, and are hereby authorized and instructed to take the necessary steps to carry out the purpose of this resolution.

At a conference with a representative of the Attorney-General, in his office at Washington, the committee presented the problems stated in the above resolution. As the result of this conference, it was agreed by the Attorney-General's Office that a case would be prepared, by which it is hoped that a definition of medical practice will be reached, which will make clear the purpose and intent of the Harrison Law not to interfere in any way with the proper use of narcotic drugs in the legitimate practice of medicine, but equally not to permit the supplying of narcotic drugs to addicts, even under the guise of medical treatment to cure addiction.

Your committee also called on Mr. L. G. Nutt, director of the Narcotic Field Force of the Bureau of Internal Revenue of the Treasury Department, and transmitted to him the opinion of the Council on Health and Public Instruction, to the effect that the medical profession emphatically condemns the practice of distribution of the habit-forming narcotic drugs to addicts, in the course of their treatment for addiction, in such manner that the addicts may administer the drug themselves. Briefly, the so-called ambulatory treatment of addicts was condemned, whether practiced by the private physician, or in a public institution such as the so-called "narcotic clinic," and the director was urged to make use of the full powers of the Internal Revenue Bureau, under the law, to put an end to this practice.

It was learned that a survey was being made by the Internal Revenue Bureau, for the purpose of determining the amount of narcotic drugs actually imported, manufactured and distributed in the United States. This is regarded as a necessary first step to any accurate estimation of the probable need of habit-forming narcotic drugs in the practice of medicine in the United States.

A study was made of the work of Dr. Thomas S. Blair, chief, Bureau of Drug Control of the Department of Health of Pennsylvania, relating to the amount of habit-forming narcotic drugs, estimated on a per capita basis of opium or its equivalent, annually used in that state by physicians in private practice and in hospital practice.

On inquiry of the Council on Pharmacy and Chemistry of the American Medical Association, the following opinion regarding the therapeutic uses of habit-forming narcotic drugs was obtained:

"The principles governing the use of habit-forming drugs of this type may be stated as follows:

1. They should never be used unless they are deemed essential. In other words, they should not be used for minor affections.

2. No single habit-forming drug should be used continuously in the form of a preparation which the patient may use without the advice of a physician.

3. Morphin and heroin should not be used for symptoms which may be relieved by codein or other less actively habit-forming drugs.

4. The physician should take steps to insure a rigid control of the administration of any habit-forming drugs which he considers it essential to employ, in any particular instance.

5. Especial caution should be observed regarding the use of habit-forming narcotics in chronic conditions, other than those which are incurable, and in which morphin and other opium derivatives are indispensable."

In view of the information at hand, it was deemed wise to defer to a later date attempts to arrive at any quantitative estimation of the needs of habit-forming narcotic drugs in the United States.

Approaching the problem of the narcotic drug situation in its broad aspect, your committee respectfully presents for consideration, the following statement of facts and expressions of its opinions:

1. The International Treaty, known as one of The Hague Conventions entitled, "Suppression of the Abuse of Opium and Other Drugs," was concluded between the United States and other leading world powers in 1912, and was ratified by the Senate and proclaimed by the President of the United States in 1915. Such a fundamental undertaking appears to have been necessary before any individual nation, however remotely isolated geographically or commercially, could effectively guard its own citizens or residents against the introduction and distribution among them of the habit-forming narcotic drugs.

2. The Harrison Law was one of the Acts of Congress, enacted for the purpose of carrying out in good faith its international treaty obligations under The Hague Convention above-named. While technically a tax measure, the purpose and scope of the Harrison Law are such that it is in effect an excellent and desirable means of control by the government of the abuses incident to trade in the habit-forming narcotic drugs. There should be no ambiguity in the interpretation of its requirements by the medical profession, though under cover of the words, "in the course of his professional practice only," some have maintained that exemption is granted to physicians to prescribe or dispense the habit-forming narcotic drugs to addicts, alleging that they were so doing in an attempt to cure addiction; in reality, they were merely maintaining the addict in his customary use of narcotic drugs. Decisions of the courts thus far rendered

have uniformly served to strengthen the obvious conclusion that such use of the professional privilege does not constitute proper professional practice.

3. There should be made an important modification of the law by Congress, to remove the tax burden on the medical profession (the annual tax for registration to permit physicians to prescribe certain habit-forming narcotic drugs was increased from $1 to $3, such increase having been excused at the time of the amendment of the law as a justifiable war-revenue measure, but unfortunately this remains still effective at the present time), which is imposed on physicians without compensatory return. Since the purpose of the Harrison Law is the interest of the public generally, and not taxation of physicians as a class, such class legislation is unfair to the medical profession as well as an unsound economic policy.

The amount of money collected under the Harrison Law during 1920, was $1,513,919.15, a sum far in excess of the amount appropriated by Congress for its enforcement. Furthermore, less than the amount appropriated was actually used in the operations for its enforcement during that year with a total field force of only 170 for the entire United States. To some extent, at least the reason for complaint that the Harrison Law has been ineffective, is obviously the failure to provide adequate funds and personnel for its enforcement, and to use such appropriations to their full extent. Since it was not intended that the Harrison Law should be a revenue producing measure, but that the registration fees of physicians licensed under this act should in part assist in defraying the cost of administration of the law, therefore, your committee recommends that the American Medical Association respectfully urge on Congress that the physician's registration fee be reduced to the nominal sum of $1, and that at least the entire amount received from these fees, fines and other sources of income under the law be appropriated and expended by the government in the strict enforcement of this law.

4. The use of apomorphin and codein rarely if ever leads to the development of addiction to these drugs. Their physiological effects are such as to preclude the probability of their becoming of any importance as habit-forming narcotic drugs. The committee recommends that the American Medical Association respectfully urge on Congress such amendment of the Harrison Law as will permit the prescribing of apomorphin and codein by physicians without the limitations which it is recognized as suitable to impose on those prescribing other habit-forming narcotic drugs.

5. In view of the fact that enforcement of the prohibition laws is at present assigned to the same unit of the Internal Revenue Bureau of the federal government that is also charged with the enforcement of the Harrison Narcotic Law, and since prohibition enforcement necessitates a much larger appropriation of funds and a greater field force, and occupies a larger share of the public attention, it is feared that the important duty of efficient enforcement of the narcotic law may be neglected. Therefore, your committee recommends that the American Medical Association urge the appointment by the Commissioner of Internal Revenue of a special deputy commissioner in charge of a separate unit for the enforcement of the narcotic law, and that due prominence be given to that service in the accomplishment of its effective functioning.

6. Your committee recommends that the Harrison Law be supplemented in the several states by uniform state laws, in harmony with and supplemental to the Harrison Law, which shall base their control of any medical abuse of narcotic drugs on those powers possessed by the states to punish crime as well as to revoke the license to practice medicine, dentistry, pharmacy or veterinary medicine.

The committee recommends that it be authorized to invite the appointment of committees by organizations representing the professions of dentistry and veterinary medicine, pharmaceutical organizations, and organizations representing the various branches of the drug trade, and to cooperate with such committees, when appointed, in the preparation of a model state narcotic law; it further recommends that it be authorized to request the appointment of a Committee on Uniform State Narcotic Law by the National Conference of Commissioners on Uniform State Laws, and to cooperate with such committees, when appointed, in the preparation of such a law; it further recommends that state narcotic laws should follow the general principles set forth below:

A model state law need not be a tax law; and in fact, the taxing feature should be abolished. Its clear purpose, like that of the federal statute, should be definitely the control of distribution of the narcotic drugs, limiting to the utmost every possible abuse, while conserving the absolute right and duty of the practitioner to exercise his judgment regarding their proper use in the lawful practice of his profession. Such state law should closely follow, and not in any way conflict with the provisions of the federal law of paramount authority. The regulations and details of administration under the two laws should, therefore, be parallel, in order to avoid confusion and to facilitate compliance therewith; and the machinery of enforcement of a state law should be as simple as possible consistent with effective operation.

Unnecessary duplication of records under the federal and state laws should be eliminated, the state accepting the records kept under the Harrison Law.

Power to make and enforce special regulations of any sort, except those absolutely necessary in administrative application of the law, should not be entrusted to state officials. Those regulations considered necessary should be submitted for approval, before being promulgated, to the State Medical Board or other professional body of competent jurisdiction, and to the Attorney-General of the state.

A state law should embrace recognition of the clear purpose and intent of the Harrison Law, evidenced by the words, "in the course of his professional practice only," to prohibit distribution of narcotic drugs through physicians prescribing or dispensing them to addicts for self-administration, under the guise of administering the so-called "ambulatory reductive method of treatment" (since such method does not constitute treatment in good faith, nor has it the sanction of professional practice). Such proper control should be the basis of both state and federal laws. This intent ought to be clearly defined in a state law, i. e., by definitely prohibiting the "ambulatory treatment" of addiction, either by the private physician, or in institutions such as the so-called "narcotic clinic."

Unlawful possession of narcotic drugs should be made "prima facie evidence" of violation of the narcotic law, as in the Harrison Law.

Legal commitment of addicts on their own application, as well as their penal commitment, should be made equally effective in order to insure complete control of them while under treatment for the cure of their addiction.

Provision should be made by the state law for the treatment of those addicted to the use of narcotic drugs, in suitable institutions, existing or proposed for that purpose, or by private physicians, in either case, under the most rigid regulations.

Institutional care and treatment of addicts unable to pay for such care and treatment should be provided for through a state law. In case special institutions are provided for this purpose by the state, the industrial colony plan will approach nearest to the ideal solution of that problem.

All institutions should be required to maintain complete records and make annual reports to the State Department of Health, including all items called for by that body.

Administrative provisions of the narcotic laws in each state should be assigned properly to the State Department of Health, or to a special bureau under its jurisdiction. The department of health in each state should be clothed with plenary police powers in dealing with narcotic addiction as a menace to the public, as power is vested in it for the control of communicable diseases. Public sentiment should demand their effective application.

Penalty for violation of the narcotic laws, or narcotic addiction on the part of a physician, dentist, veterinary surgeon, nurse, druggist, or other practitioner, should include suspension or revocation of the license to practice his, or her, profession, in addition to the legal penalty for the criminal offense imposed by the court, on legal proof of such violation or addiction.

7. Your committee is of the opinion that a study of the need for habit-forming narcotic drugs in the practice of medicine should be undertaken and pursued through the channels of the organized medical profession, as well as by the federal and state authorities. On the basis of such study, it may be determined whether or not the necessity exists, for the limitation of the amount of narcotic drugs imported, manufactured or prepared in the United States. It is the unanimous opinion of the committee that there are, at present, no available data on which could be based any practical plan for limiting imports, or for establishing a government monopoly in the importation, manufacture, preparation and distribution of the habit-forming narcotic drugs (if such plan could be legally adopted by the government, except by an amendment to the Constitution of the United States); and further, that such study could attain results of value, only after a considerable period of years, or when the members of the medical profession shall have been educated to supply accurate records of their actual needs for these drugs in the treatment of disease and the relief of pain and suffering.

8. Your committee desires to place on record its firm conviction that any method of treatment for narcotic drug addiction, whether private, institutional, official or governmental, which permits the addicted person to dose himself with the habit-forming narcotic drugs placed in his hands for self-administration, is an unsatisfactory treatment of addiction, begets deception, extends the abuse of habit-forming narcotic drugs, and causes an increase in crime. Therefore, your committee recommends that the American Medical Association urge both federal and state governments to exert their full powers and authority to put an end to all manner of such so-called ambulatory methods of treatment of narcotic drug addiction, whether practiced by the private physician or by the so-called "narcotic clinic" or dispensary.

In the opinion of your committee, the only proper and scientific method of treating narcotic drug addiction is under such conditions of control of both the addict and the drug, that any administration of a habit-forming narcotic drug must be by, or under the direct personal authority of the physician, with no chance of any distribution of the drug of addiction to others, or opportunity for the same person to procure any of the drug from any source other than from the physician directly responsible for the addict's treatment.

9. Your committee recommends, in view of the fact that habit-forming narcotic drugs have definite, valuable and indispensable uses in the practice of medicine, there should be permitted no encroachment on the right and duty of the physician to exercise his judgment unhampered in the legitimate use of such narcotic drugs. Therefore, your committee recommends that the bills now before Congress which propose to limit the total amount of narcotic drugs which may be imported into the United States be disapproved, and their passage opposed by the American Medical Association, for the reason that such limitation, at the present time, would inevitably make these drugs more expensive and difficult to obtain for proper medical purposes; and that such limitation of the total supply would certainly encourage smuggling of habit-forming narcotic drugs into the United States.

10. Your committee also recommends that the several state and county medical societies, constituent to the American Medical Association, be urged to obtain on their own initiative and through their own officers, such information as may be necessary to bring about the effective prosecution by local, state and federal authorities, of that small number of the members of the medical profession who are now acting in violation of the federal or state narcotic laws.

Respectfully submitted by the Chairman, for the Committee on Narcotic Drugs:

HAVEN EMERSON, M.D., Chairman,
GEORGE A. MCCOY, M.D.,
THOMAS S. BLAIR, M.D.,
ALFRED C. PRENTICE, M.D.

[NOTE.—Appendixes C, D and E, containing a list of state laws authorizing county and city hospitals, the text of the Iowa law for county public hospitals and the text of the Michigan law on teaching disease prevention in the public schools, are omitted from THE JOURNAL on account of lack of space.—ED.]

Report of the Council on Medical Education and Hospitals

Dr. A. D. Bevan, Illinois, Chairman, presented the report of the Council on Medical Education, which was referred to the Reference Committee on Reports of Officers.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

Since 1904, when the Council on Medical Education was created, one of its most effective methods of procedure has been the conducting of an annual conference on medical education. The first conference was held in 1905 in Chicago where the conference has been held each year since that time. To these annual conferences have been invited representatives of medical schools, universities, state licensing boards, government medical services, educational foundations and others interested in medical education. These annual conferences have profoundly influenced medical education in this country. In no other field of education in this country have such great advances been made as in medical education in the last fifteen years.

COUNCIL'S WORK MERELY BEGUN

The task undertaken in 1905—the securing of uniform and acceptable standards—has in large part been completed. The accepted American standard is now two years of pre-medical work in an approved college or university, a four year medical curriculum and a year's internship in a hospital, forming as high a standard of medical requirements as that adopted by any other country. But a broad view of the situation shows that instead of being complete, our task has only begun. In New Orleans last year your honorable body added to the duties of the Council that of studying the hospitals of the United States. This increased function came naturally enough, since the addition of a hospital intern year to the medical curriculum had already made it necessary for the Council to investigate hospitals from the educational standpoint.

The work of the Council has grown to include a study of the problems of preliminary education; the undergraduate medical curriculum; the hospital in its relation to clinical teaching and the intern year; graduate medical education and provision for the training of specialists; the development of so-called group practice and the extent to which medical practice is done in hospitals. With this expansion of the Council's work there has gradually grown in the minds of many of us the recognition of a large and complex problem and, whether we desire it or not, our duties have grown far beyond the original idea of merely elevating the standards of medical education. It has become clear that the efforts of the Council and of the organized profession to elevate the standards of medical education; to improve postgraduate medical work; to train specialists, and to improve hospital work, are all for the purpose of providing for the public the best possible facilities offered by modern scientific medicine for the diagnosis, cure and prevention of disease.

ORGANIZED MEDICINE PREFERABLE TO STATE MEDICINE

The possibilities of modern medicine are so great that, like education, it has become one of the great functions of modern civilization. The people of our country, rich and poor alike, are entitled to the great benefits of modern medicine and some plan should be devised to secure these for them. There has been much discussion regarding compulsory health insurance and state medicine. Fortunately for us, other countries have experimented with these methods and the results are not such as to encourage us to follow their example. As our knowledge of the situation has grown it has become more and more evident that these medical problems must be solved and the medical work done by the medical profession itself. In our democratic form of government the medical functions of the city, of the state and of the nation must be developed and carried on largely by those who are best qualified to do it—the medical men themselves. The American medical profession has a thoroughly democratic and representative organization in the American Medical Association, with its county and state medical societies. It covers the entire country and can be made to reach every community.

The medical profession must be awake to its greater opportunities and responsibilities, which means the organization of the profession for further developing the practice of modern scientific medicine.

MANNER OF PROCEDURE

Is this to be accomplished by creating out of the medical profession a huge political machine which shall enter into every town, county and state and which shall enforce laws providing for the medical care to all individuals? Not at all. It is not necessary to alter in any way our present laws or our present organization. The organized profession should simply recognize the fact that its most important function is to secure for all the public the benefits of modern medical practice and to develop intelligent practical plans to furnish the best medical service possible in each community. This program means a cooperation of the profession with the municipal, state and national authorities. It means an intelligent and energetic propaganda for the education of the people and the profession. It means the creation of a public opinion which will demand an efficient, sound, universal medical practice and it means providing the essential equipment.

GENERAL ADVANCEMENT MAKES CHANGES NECESSARY

The advancement in modern medicine during the last forty years has been so great in both the diagnosis and treatment of disease that the practice of medicine has been revolutionized. Forty years ago the practice of medicine was a comparatively simple matter. A general practitioner with good training and with little in the way of instruments and equipment—such as he could carry about with him from house to house, in his saddle bags or in his doctor's buggy—could give to his patients the benefit of the medical knowledge of his time. Today the practice of scientific medicine requires much more. It requires the services not only of the general practitioner but also of specialists trained in limited fields of diagnosis and therapy. It requires extensive plants, equipment and appliances, clinical laboratory facilities, X-ray laboratory facilities, facilities and equipment for employing diagnostic and therapeutic measures in the office, in the clinic and in the hospital. It requires an extensive public health organization to secure the benefits of preventive medicine.

IMPORTANCE OF GENERAL PRACTITIONERS

The development of this complex scheme has brought with it the necessity of educating two classes of medical men, the general practitioner and the specialist. The general practitioner is and will always remain the most important single factor in the practice of medicine. The profession should recognize this and realize that the most important function of our medical schools is to train well-qualified general practitioners and that the undergraduate medical course should be planned with that end in view. The time has arrived when we must reorganize our course of medical study so as to give a broader and less specialized training to the men who graduate in medicine and who are to become general practitioners. The training of specialists should come later, such special preparation to be given to a limited number of men—10 per cent. or more of the practitioners of the community—who are to provide expert medical services in limited fields of practice. The undergraduate course in most medical schools is now being given by a group of specialists, each of whom endeavors to cover pretty fully his subject and to give his students a training in his special field. This is true of all departments. They forget the fact that the medical school cannot perform the impossible task of making expert anatomists, physiologists, ophthalmologists, or orthopedic surgeons, but they can make broadly trained general practitioners whose function is to take care of the ordinary illnesses and surgical emergencies, the obstetric work and the family practice in the communities in which they live. Too often medical faculties do not include teachers broadly trained in general medicine and general surgery, often the professor of obstetrics is a celebrated gynecologist who is immersed in operative work, who devotes the major part of his course to abdominal surgery and the cesarean sections, and who slights his real duty of training his students in the common every day obstetrics which they will need in actual practice.

REVISION OF UNDERGRADUATE CURRICULUM

The undergraduate medical course should be reorganized in several ways:

1. The student should begin clinical work somewhat earlier in his course.

2. The anatomy and physiology and pathology and pharmacology taught should cover the portions of these sciences which will be of service to the student in his clinical work. Anatomy and physiology should not be completed at the end of the second year but should be carried into the hospital and clinic.

3. The clinical work of the ten or more special departments should be simplified and given by the three departments, general medicine, general surgery and obstetrics. Whatever work is given in medical and surgical specialties should be limited to the work required by the student as a general practitioner. The place of the specialist in medical education is in the graduate medical course and his function is the training of specialists. We must give to the position of the general practitioner the importance which it deserves in the whole medical scheme.

WORK OF THE GENERAL PRACTITIONER

To those who have followed the development of medical education and medical practice during the last twenty-five years and noted the great increase in the number of specialists, the overshadowing importance of the broadly trained practitioner in modern scientific practice has become more and more evident. For example, one medical man can take care of the general practice in a community of one thousand people. Ninety per cent. of the illnesses which occur in such a community are the ordinary things in practice—the colds, the infantile diseases, the pregnancies and abortions, the pneumonias and typhoids, the sore eyes and shingles, the broken arms, the epilepsies, the cases of insanity, the heart lesions, the cases of Bright's disease, the gallstone colics, and the cases of appendicitis, the hernias and hemorrhoids. All these cases can be better taken care of by a broadly trained general practitioner who lives in the community and who is always accessible, than they can possibly be by any scheme which employs specialists only. One of the most important functions of the well trained general practitioner is to decide when the services of a specialist are needed. This decision cannot be left to the patient nor to the patient's family; they are not competent to decide.

ADVANTAGES OF GENERAL PRACTICE

In his daily practice the general practitioner has a great and unique opportunity to study disease and to carry on clinical research of greater importance. He sees the complete picture of disease unroll before him; he sees its beginnings; he sees disease when it is most curable; he sees it to the end; he sees disease not only in the individual but also in the family and in the community in which he lives. The specialist does not get this broad and complete view. These facts need special emphasis at this time which is witnessing such an increase of specialism. One of our modernly trained internists said recently: "There is something wrong with our present scheme of medical education. In the group of young men with whom I have trained there are no broadly trained men like Osler and Billings; we are each pursuing some narrow field of work and see nothing beyond that field."

FIELD FOR SPECIALISTS AND DANGERS

As to the specialist trained in a limited field of practice, *there is and there can be but one science of medicine. It cannot be subdivided into specialties;* it is not limited to the eye, the heart, the stomach or the ovary but covers the entire human body in health and in disease. The *art, or practice* of medicine, on the contrary can be and has been very properly divided into a number of the specialties, and with sound reason. The practice of medicine has become so extensive that no one man can master all its details. The division of practice into specialties enables a man to devote intensive study to a limited field, in which he can become expert in the use of special instruments and measures employed in diagnosis and therapy and by intensive research add to our knowledge of the diseases of that field. There are, however, great dangers in specialism. Unless specialists have a broad training and experience in

general medicine as a foundation, they are not safe practitioners. They are apt to limit their observations and therapy to the findings in their special field and to overlook other abnormalities in the individual which may be the essential cause of his illness. The narrow specialist may do a great deal of artificial and unnecessary work and if uncontrolled may be a menace to his patients and to sound medical practice.

There are two safe plans for the practice of a specialty, first, by one who has obtained a broad view of medicine as well as the special training required in his limited field; second, by a specialist who, although he lacks the broad training of the general practitioner, acts as a member of a group well organized for group practice, so that patients referred to him have been first carefully examined by one who is broadly trained in general medicine, who acts as captain of the group; makes a diagnosis of the general condition of the patients; decides what cases require the services of this or that particular specialist, and who controls in a general way the diagnosis and therapy in the case. Some such general control is necessary in the safe practice of any specialty.

BETTER TRAINING OF SPECIALISTS NEEDED

The inspection of the graduate medical schools made by the Council last year revealed the fact that the graduate work being done in this country was entirely inadequate. It was found that many physicians began the practice of some specialty after a short graduate course of six weeks or less. It was noted that a very large number of these short course specialists were learning the technic of tonsillotomy and submucous resections. The Council was convinced by its investigations that it was exceedingly important for the American Medical Association to formulate some plan for the proper training of specialists.

MINIMUM TRAINING FOR SPECIALISTS

With that object in view, during the last year a committee of nine prominent specialists was appointed in each of the laboratory and clinical subjects of the medical curriculum and instructed to formulate a reasonable minimum requirement for men preparing to specialize in that particular field. Outlines of these plans were submitted to the annual conference last March. On the basis of these reports and the general discussion given to them, the Council submits the general plan of graduate training for specialists to the House of Delegates for its approval. If this plan is approved by the American Medical Association, outlines of the minimum requirements in each of the various specialties will then be submitted to twenty or more of our strongest universities having medical departments, with the request that they undertake to provide the required courses of graduate instruction. After such courses have been established, the state licensing boards may find it possible to restrict practice in the specialties to men who have received adequate training in their limited fields. The Council believes it is clearly the duty of the medical profession to protect the public against ill-trained and incompetent medical specialists by securing some such action by the universities and the state licensing boards.

A LARGE AND IMPORTANT TASK

The organization of medical practice by which the public may be benefited by the great possibilities of modern medicine is a problem which involves not only the education of the general practitioner and the specialist but also the establishing of general hospitals, outpatient departments, special hospitals and group clinics, wherever they are needed. It includes also the proper training of nurses, proper public health service and all this work should be combined with the practice of medicine in the most effective way.

The solution of this problem will require the cooperation of many agencies; it will require much, time, imagination and hard work. If the organized medical profession in each state and in each county, recognizes and assumes this task as its most important and basic function; if the medical profession endorses, undertakes and carries on this work, it will be much better both for the public and the profession than to have the task assumed by the state and developed into some scheme of state medicine.

RECOMMENDATION

The Council would respectfully recommend that the American Medical Asssociation undertake the further organization of the medical profession of this country, so as to provide the benefit of modern medicine for all our people.

Other Work of the Council During the Year

The preceding part of the report sets forth the activities of the Council in the establishing of minimum standards of graduate training in the various specialties, reports of which were emphasized at the annual conference in March, 1921. Other activities of the Council during the year and reports of progress are as follows:

Hospital Statistics

Tabulated statistics showing the supply of hospitals in the United States were given in the first "Hospital Number" of The Journal of the American Medical Association, that of

TABLE 1.—COUNTIES WITH AND WITHOUT HOSPITALS

State	Total Counties	Counties Having Hospitals			Counties Having No Hospitals	Percentage Having No Hospitals
		Over 25 Beds	Under 25 Beds	Total		
Alabama	67	14	3	17	50	74.6
Arizona	14	10	2	12	2	14.3
Arkansas	75	10	8	18	57	76.0
California	58	41	5	46	12	20.7
Colorado	63	20	9	29	34	53.9
Connecticut	8	8	0	8	0	0.0
Delaware	3	1	0	1	2	66.7
Dist. of Columbia	1	1	0	1	0	0.0
Florida	54	13	0	13	41	76.0
Georgia	152	21	7	28	124	81.6
Idaho	41	11	4	15	26	63.4
Illinois	102	51	10	61	41	41.2
Indiana	92	37	16	53	39	42.4
Iowa	99	37	19	56	43	43.4
Kansas	105	33	12	45	60	57.1
Kentucky	120	21	11	32	88	73.3
Louisiana	64	10	6	16	48	75.0
Maine	16	12	2	14	2	12.5
Maryland	24	12	1	13	11	45.8
Massachusetts	14	12	1	13	1	7.2
Michigan	83	30	18	48	35	42.2
Minnesota	86	40	23	63	23	26.7
Mississippi	82	17	5	22	60	73.2
Missouri	115	20	6	26	89	77.4
Montana	44	21	7	28	16	36.4
Nebraska	93	19	16	35	58	62.4
Nevada	16	7	6	13	3	18.7
New Hampshire	10	10	0	10	0	0.0
New Jersey	21	17	2	19	2	9.5
New Mexico	28	11	4	15	13	46.4
New York	61	48	5	53	8	13.1
North Carolina	100	31	9	40	60	60.0
North Dakota	53	13	11	24	29	54.7
Ohio	88	46	9	55	33	37.5
Oklahoma	77	18	9	27	50	65.0
Oregon	36	17	6	23	13	36.1
Pennsylvania	67	52	2	54	13	20.9
Rhode Island	5	3	0	3	2	40.0
South Carolina	45	17	1	18	27	60.0
South Dakota	69	15	6	21	48	69.6
Tennessee	96	14	8	22	74	77.1
Texas	251	43	21	64	187	50.6
Utah	29	6	3	9	20	69.0
Vermont	14	7	3	10	4	28.6
Virginia	100	23	6	29	71	71.0
Washington	39	20	4	24	15	38.4
West Virginia	55	23	4	27	28	50.9
Wisconsin	71	33	12	45	26	36.6
Wyoming	21	6	8	14	7	33.3
Totals	3,027	1,002	330	1,332	1,695	56.0

April 16, 1921. These statistics provide information of special value at this time, since from the data published it is easy to ascertain whether or not any particular community is adequately provided with hospital facilities. Table 1 shows the number of counties in each state which are entirely without hospitals and it is interesting to note that in the entire United States 56 per cent. of all counties are without hospitals.

In calculating the supply of hospitals for the various states only the private general and special hospitals were considered which care for patients with acute and subacute cases. Government hospitals, which are limited to the care of soldiers, sailors, marines and other government employees, and state institutions, asylums and other institutions providing largely for the custodial care of severe cases of tuberculosis, and of

insane and other incurable cases, are not included in the calculation, but are dealt with separately.

In collecting these data for publication, unusual efforts were made to obtain information by which all institutions having more than 25 beds could be named in the list, and that all others having between 10 and 25 beds could be included in the calculations. The publication of the report has already had good results, in that several other hospitals, the existence of which was entirely unknown, have since sent in reports, and still others have reported enlargements of their bed capacity, so that our list and data are now more complete.

HOSPITALS PROVIDING GENERAL CARE FOR THE PUBLIC

There are 4,013 private, general or special hospitals open to the public for the general care of the sick. Of these, 2,926 have twenty-five or more beds, while 1,087 have less than twenty-five beds each. Of the 2,926 hospitals having twenty-five or more beds, 483 have been approved for the training of interns. Those marked with an asterisk (*) are general hospitals, while those marked with a dagger (†) are approved for interns who wish to secure clinical training in the specialty which the hospital emphasizes. The fact that a hospital is not approved for the training of interns should not be misinterpreted to mean that the hospital is not providing satisfactory care for its patients. On the contrary, there are many hospitals rendering a very excellent service to their patients which do not seek or utilize interns, and which are undoubtedly worthy of approval as non-intern hospitals.

FACTORS INDICATING NEED AND PRESENT SUPPLY OF HOSPITALS

There are four factors to be considered in determining whether or not any given district, state or community has an adequate supply of hospitals. These are (*a*) the ratio of square miles of area to each hospital; (*b*) the ratio of hospital beds to population; (*c*) the percentage of beds on the average which are in constant use, and (*d*) the percentage of counties which have no hospitals. There are at present 4,013 of these hospitals in the United States with a total of 311,159 beds—one bed to every 340 persons—and of these beds 206,024, or 67 per cent., are in use. There is one hospital on the average to every 741 square miles, ranging from one to every forty-two square miles in Massachusetts to one to every 5,780 square miles in Nevada. The situation in Nevada appears to be less serious, however, than in Mississippi, where there is one hospital to every 1,104 square miles. The latter state is more thickly populated and has only one hospital bed to every 1,054 persons, while Nevada has one bed to every 139. Of the 3,027 counties in all states, 1,695, or 56 per cent., have no hospitals. Table 2 shows the supply of all states arranged by districts. The North Atlantic district is fairly well supplied with hospitals as compared with the South Central and the Western Districts. But a study of the figures shows that in the North Atlantic, as well as in other districts, owing to a poor distribution, some portions have an abundance of hospitals while other sections are entirely lacking.

HOSPITALS UNEQUALLY DISTRIBUTED

As to the adequate proportion of hospital beds to population, estimates by experts vary in stating that there should be one bed to every 300 to 500 persons. These statistics show one bed to every 340 persons, which would indicate an adequate supply, but since 56 per cent. of all counties are without hospitals, it is evident that the supply is poorly distributed. With a better distribution, it is quite probable that the proportion of beds in use would be much larger than 67 per cent., as shown in the statistics. An investigation of the supply in Delaware shows that the seven hospitals in that state are all located in the extreme north end—a part where the public has also the easiest access by rail to the hospitals of Baltimore and Philadelphia—while four fifths of the state have no hospitals. [Charts showing the hospital supply for all states have been prepared and are shown in the Scientific Exhibit.]

The lesson to be learned from the figures published in the Hospital Number of THE JOURNAL is that in the establishing of hospitals hereafter, communities should be selected which are not already abundantly or overabundantly supplied. From these statistics it can be ascertained which communities are in greater need of hospitals.

MEDICAL COLLEGES

As shown in previous reports, the Council's work with medical colleges has aided largely in reducing an abnormal oversupply to a number which is still more than adequate to meet the requirements of the country. Instead of there being 162 medical schools, which was the case in 1906, there are now 84 institutions. This reduction was brought about

TABLE 2.—HOSPITALS SHOWN BY STATES IN DISTRICT GROUPS

State	Area, Square Miles	Square Miles per Hospital	Ratio of Beds to Population	Percentage of Beds Occupied	Percentage of Counties With No Hospitals
North Atlantic States					
Maine	29,895	695	389	60	12.5
New Hampshire	9,031	291	328	60	0.0
Vermont	9,124	415	470	69	28.6
Massachusetts	8,039	42	254	63	7.2
Rhode Island	1,067	56	288	75	40.0
Connecticut	4,820	100	312	73	0.0
New York	47,654	128	185	68	13.1
New Jersey	7,514	77	320	59	9.5
Pennsylvania	44,832	165	286	69	20.9
Totals	161,976	148	242	67	15.3
South Atlantic States					
Delaware	1,965	281	444	66	66.7
Maryland	9,941	203	231	71	45.8
Dist. of Col.	60	3	165	73	0.0
Virginia	40,262	559	484	67	71.0
West Virginia	24,022	429	400	50	50.9
North Carolina	48,740	625	761	63	60.0
South Carolina	30,495	782	881	63	60.0
Georgia	58,725	1,032	897	65	81.6
Florida	54,861	1,483	583	58	76.0
Totals	269,071	650	508	65	68.4
North Central States					
Ohio	40,740	229	388	66	37.5
Indiana	36,045	337	500	66	42.4
Illinois	56,043	228	282	66	41.2
Michigan	57,480	414	398	69	42.2
Wisconsin	55,256	428	348	66	36.6
Minnesota	80,858	484	236	65	26.7
Iowa	55,586	456	377	65	43.4
Missouri	68,727	739	431	64	77.4
North Dakota	70,183	1,755	393	64	54.7
South Dakota	76,868	2,261	321	61	69.6
Nebraska	76,808	1,113	369	66	62.4
Kansas	81,774	919	465	62	57.1
Totals	756,368	536	355	66	62.0
South Central States					
Kentucky	40,181	638	653	64	73.3
Tennessee	41,687	744	679	66	77.1
Alabama	51,279	1,047	767	49	74.6
Mississippi	46,362	1,104	1,054	66	73.2
Louisiana	45,409	1,195	507	74	75.0
Texas	262,398	1,874	617	58	50.6
Arkansas	52,525	2,529	857	48	76.0
Oklahoma	69,414	1,262	980	58	65.0
Totals	609,255	1,248	705	61	73.8
Western States					
Montana	146,201	3,178	220	59	36.4
Wyoming	97,594	4,436	278	72	33.3
Colorado	103,658	1,481	198	72	53.9
New Mexico	122,503	3,403	237	66	46.4
Arizona	113,810	2,529	196	59	14.3
Utah	82,184	5,479	430	63	69.0
Nevada	109,821	5,780	139	48	18.7
Idaho	83,354	2,977	430	54	63.4
Washington	66,836	786	243	66	38.4
Oregon	95,607	2,078	313	67	36.1
California	155,652	741	210	76	20.7
Totals	1,177,220	1,893	211	69	41.4
All states	2,973,890	741	340	67	56.0

largely through the merger of two or more schools existing in each of several cities and in the closing of others, most of which were of low grade. As to entrance requirements, however, instead of there being only four institutions requiring for admission any college work, now seventy-six of the eighty-four require two or more years of collegiate work in addition to a high school education. This increase in entrance requirements, meanwhile, is merely an index of the improvements which have taken place in other respects. The educational standards of medical colleges in the United States are now on a par with, or in excess of, those in other leading nations. This country also has an increasing number of medical schools which, from the standpoint of teachers, laboratories, equipment and clinical facilities, are fully equal to the best medical schools abroad. Reports indicate that three other medical schools will not reopen next fall which will further reduce the number of medical colleges to eighty-one.

MEDICAL STUDENTS

Under the low education standards which were so general among medical schools in 1904 under the special efforts and inducements to increase the enrolments, and the sharp competition between various schools for students, it was not surprising that the total registration in medical schools in that year reached the maximum and 28,142 students were enrolled. Here, as in the case with medical colleges, the supply was abnormally large. With the rapidly increasing entrance requirements and the marked reduction in the number of medical schools it was expected that the number of students would be greatly reduced. The enrolment reached its lowest ebb in 1919 when 13,052 students were enrolled. The enrolment for 1920 was 14,088 and, on the basis of reports received from all but five colleges, the enrolment for 1920-1921 is approximately 14,850.

TABLE 3.—LOWEST EBB IN ENROLMENTS OF MEDICAL STUDENTS

	1st Year	2d Year	3d Year	4th Year	5th Year	Total
1913-14	4,684	3,981	3,807	3,955	...	16,502
1914-15	3,373	3,919	3,675	3,864	...	14,891
1915-16	3,582	3,094	3,559	3,727	...	14,022
1916-17	4,107	3,117	2,866	3,674	...	13,764
1917-18	4,283	3,521	2,893	2,933	...	13,630
1918-19	3,104	3,587	3,272	2,967	122	13,052
1919-20	3,234	2,837	3,464	3,262	290	14,088
1920-21	4,860	3,584	2,644	3,370	392	14,850

As shown in Table 3 the lowest ebb in the numbers of medical students, which can be calculated as due to the increased requirements for admission to medical schools, began with the first-year class in 1914-1915, ending with the lowest total enrolment in the session of 1918-1919. This low ebb is indicated by the heavy line under the totals in the various classes between those two dates. A still lower ebb in the individual classes, indicated by the light line underscoring, began with the freshman class in the session of 1918-1919. This was due clearly to the volunteering or drafting of medical students during the war. This reduction, however, was not sufficient to affect the total enrolment, which shows a continued increase since 1918-1919.

AGE OF STUDENTS ENTERING MEDICAL SCHOOLS IN 1920

Reports obtained from the first year medical students enrolled in seventy-six of the eighty-four colleges in the fall of 1920 totaled 4,532, and of these 1,076, or 24 per cent., were between the ages of 17 and 20; 2,130, or 47 per cent., were between the ages of 21 and 23; 1,013, or 22 per cent., were between the ages of 24 and 27, and 313, or 7 per cent., were 28 years of age or over. Three thousand two hundred and six, or 71 per cent., therefore, were under 24 years of age. This indicates that four years later on completing their medical course, 3,206 students will be from 24 to 27 years of age, while 1,326 or 29 per cent., will be 28 years of age or over. In this connection it is interesting to know that of these 4,532 students 2,472, or 55 per cent., presented in addition to a four-year high school education two years of premedical college work; 1,059, or 23 per cent., presented three years of college work, and 1,002, or 22 per cent., presented four years of college work or had obtained degrees. Every one of the 4,532 reported had two or more years of premedical college work.

TABLE 4.—AGES OF FIRST YEAR STUDENTS ENTERING MEDICAL COLLEGES IN THE SESSION OF 1920-21

Ages on Entering	Number of Students	Percentage of All 1st Year Students	Minimum Age at Graduation
17 to 20	1,076	24	21 to 24
21 to 23	2,130	47	25 to 27
24 to 27	1,013	22	28 to 31
28 and over	313	7	32 and over
Total.....	4,532	100	

MEDICAL GRADUATES

Under the low requirements and general conditions prevailing among medical schools in 1904 the number of graduates in that year reached the maximum when 5,747 medical students were graduated. Here, again, under the higher entrance requirements and the reduced number of medical schools, a rapid reduction took place until in 1919 the lowest ebb was reached and in that year 2,656 were graduated. The total number of graduates in 1920 was increased to 3,047 and an estimate for the year 1920-1921 indicates that approximately 3,350 medical students will receive their degrees. It is interesting to know, however, that the percentage of graduates from Class A medical schools[1] has increased from 64 per cent. in 1913 to 88 per cent. in 1920; that the percentage of graduates from Class B colleges has decreased from 24 per cent. in 1913 to 5 per cent. in 1920, and from Class C colleges the reduction has been from 26 per cent. in 1913 to 5 per cent. in 1920. Seven Class C medical colleges still exist, of which three are in Missouri, two in Massachusetts and one each in Illinois and Tennessee.

MEDICAL LICENSURE

During the last four years in the State Board Number of THE JOURNAL, the Council has included a table (See Table 5) showing for each state the numbers of physicians registered who graduated from medical schools rated, respectively, in Classes A, B and C. This table deserves careful study by the members of the House of Delegates, so that the attention of each state medical association may be called to the conditions found. Six states stand out prominently as having registered large numbers of graduates from Class C medical schools or as having granted physicians' licenses to osteopaths. These are Arkansas, California, Colorado, Illinois, Massachusetts and Texas. In Arkansas, the fault is with the medical practice act which has divided the authority for the licensing of physicians between three separate boards and the graduates of Class C colleges were all registered by the Board of Eclectic Medical Examiners. The numbers in California, Colorado and Texas are increased considerably by the granting of physicians' licenses to osteopaths regardless of their lower educational and professional qualifications. In Illinois and Massachusetts the numbers are due to the presence in those states of Class C medical schools which are still recognized by the licensing boards of those states. In Massachusetts, however, the board has no option in the matter, in spite of repeated attempts which have been made to secure that authority. In Missouri, unfortunately, an amendment to the practice act was passed this spring and signed by the Governor, in spite of most vigorous protests on the part of the medical profession, the universities and many prominent citizens of that state, which takes away from the licensing board the authority to refuse recognition to the three Class C medical schools in that state. Meanwhile, the number of states in which the licensing boards are refusing recognition to low type medical colleges has increased since 1914 from thirty-two to forty-four states. In Table 5, candidates who graduated prior to 1907 are classed as miscellaneous since medical schools were not rated by the Council

1. See THE JOURNAL A. M. A., Aug. 7, 1920, Table 12, p. 387.

until 1907. Graduates of foreign medical schools are also included among miscellaneous excepting those of Canadian colleges which are included in the Council's classification.

It is encouraging to note (see Table 6) that during the last four years both the number and percentage of Class A graduates who have been registered have considerably increased while for the Class B and Class C graduates the numbers and percentages have decidedly decreased. The percentage of miscellaneous graduates remains about the same for the last three years.

MEASURES NEEDED TO INSURE PERMANENCY

The success in bringing about the reorganization of medical education has been due largely to the united action of all agencies interested in developing medical education through the Council's Annual Conferences on Medical Education and Licensure but more particularly to the splendid cooperation and aid which the Council has received from officers of medical schools and the secretaries of state licensing boards. Along with the improvements in medical education there has been a gradual improvement in the educational standards of state licensing boards and a better enforcement of medical practice laws.

TABLE 6.—SOURCE OF PHYSICIANS LICENSED IN THREE YEARS

Year	Medical Colleges in Class A		Medical Colleges in Class B		Medical Colleges in Class C		Miscellaneous and Foreign Colleges		Total
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	
1917	3,369	62.1	988	18.2	297	5.3	769	14.4	5,423
1918	2,456	58.7	682	16.3	342	8.2	705	16.8	4,185
1919	4,368	66.4	872	13.2	278	4.2	1,066	16.2	6,584
1920	4,597	70.2	631	9.6	275	4.2	1,054	16.0	6,557
Totals	14,790	65.0	3,173	14.0	1,192	5.2	3,594	15.8	22,749

TABLE 5.—CHARACTER OF PHYSICIANS LICENSED IN 1920

Marginal Number	STATES	By Examination: Medical Colleges in Class A	B	C	Misc.	Totals	By Reciprocity or Credentials: Medical Colleges in Class A	B	C	Misc.	Totals	Totals Registered from Medical Colleges in Class A	B	C	Misc.	Grand Totals	Marginal Number
1	Alabama	27	6	1	0	34	12	4	2	2	20	39	10	3	2	54	1
2	Arizona	21	3	0	9	33	0	0	0	0	0	21	3	0	9	33	2
3	Arkansas	15	3	26[1]	4	48	21	13	0	15	49	36	16	26[1]	19	97	3
4	California	79	27	28[2]	16	150	186	42	33	240	501	265	69	61[2]	256	651	4
5	Colorado	20	1	32[3]	3	56	37	6	1	38	82	57	7	33[3]	41	138	5
6	Connecticut	90	3	0	4	97	3	1	1	6	11	93	4	1	10	108	6
7	Delaware	3	3	0	0	6	0	0	1	0	1	3	3	1	0	7	7
8	District of Columbia	54	4	1	2	61	12	0	0	4	16	66	4	1	6	77	8
9	Florida	33	5	3	31	72	0	0	0	0	0	33	5	3	31	72	9
10	Georgia	52	15	0	3	70	24	10	1	9	44	76	25	1	12	114	10
11	Idaho	19	2	0	6	27	12	0	0	2	14	31	2	0	8	41	11
12	Illinois	324	34	33	13	404	46	20	0	12	78	370	54	33	25	482	12
13	Indiana	59	5	0	0	64	44	22	2	26	94	103	27	2	26	158	13
14	Iowa	71	2	0	3	76	32	13	2	9	56	103	15	2	12	132	14
15	Kansas	31	0	0	1	32	31	10	2	21	64	62	10	2	22	96	15
16	Kentucky	24	6	0	0	30	11	2	3	5	21	35	8	3	5	51	16
17	Louisiana	73	4	0	4	81	9	2	0	1	12	82	6	0	5	93	17
18	Maine	21	0	0	3	24	2	0	0	4	6	23	0	0	7	30	18
19	Maryland	103	1	0	3	107	27	2	3	25	57	130	3	3	28	164	19
20	Massachusetts	184	9	19	5	217	0	0	0	0	0	184	9	19	5	217	20
21	Michigan	145	11	1	4	161	70	13	0	43	126	215	24	1	47	287	21
22	Minnesota	89	0	0	1	90	57	14	1	12	84	146	14	1	13	174	22
23	Mississippi	24	4	1	1	30	10	0	0	7	17	34	4	1	8	47	23
24	Missouri	94	14	4	5	117	33	18	1	8	60	127	32	5	13	177	24
25	Montana	17	2	1	5	25	1	0	0	0	1	18	2	1	5	26	25
26	Nebraska	25	1	0	1	27	19	16	2	11	48	44	17	2	12	75	26
27	Nevada	6	1	3	4	14	4	1	3	9	17	10	2	6	13	31	27
28	New Hampshire	6	0	0	0	6	11	0	0	4	15	17	0	0	4	21	28
29	New Jersey	33	2	1	2	38	78	9	6	40	133	111	11	7	42	171	29
30	New Mexico	0	3	0	0	3	14	4	0	25	43	14	7	0	25	46	30
31	New York	641	46	0	16	703	34	9	0	33	76	675	55	0	49	779	31
32	North Carolina	64	6	0	0	70	27	6	2	9	44	91	12	2	9	114	32
33	North Dakota	10	2	0	1	13	13	1	0	1	15	23	3	0	2	28	33
34	Ohio	144	33	0	2	179	84	11	0	37	132	228	44	0	39	311	34
35	Oklahoma	10	1	2	1	14	25	12	3	17	57	35	13	5	18	71	35
36	Oregon	40	5	2	14	61	1	1	1	1	4	41	6	3	15	65	36
37	Pennsylvania	266	16	1	5	288	23	0	0	5	28	289	16	1	10	316	37
38	Rhode Island	20	1	1	3	25	0	0	0	0	0	20	1	1	3	25	38
39	South Carolina	29	0	1	3	33	7	1	0	0	8	36	1	1	3	41	39
40	South Dakota	25	2	2	9	38	8	1	0	2	11	33	3	2	11	49	40
41	Tennessee	53	24	2	3	82	1	0	0	0	1	54	24	2	3	83	41
42	Texas	100	0	3[4]	0	103	59	16	25	68	168	159	16	28[4]	68	271	42
43	Utah	15	0	2	1	18	9	0	0	5	14	24	0	2	6	32	43
44	Vermont	18	0	0	0	18	2	0	0	0	2	20	0	0	0	20	44
45	Virginia	50	3	1	1	55	20	4	0	6	30	70	7	1	7	85	45
46	Washington	16	1	1	6	24	44	7	2	50	103	60	8	3	56	127	46
47	West Virginia	34	5	1	1	41	37	5	2	10	54	71	10	3	11	95	47
48	Wisconsin	38	3	0	5	46	40	10	1	9	60	78	13	1	14	106	48
49	Wyoming	4	2	0	3	9	13	4	1	7	25	17	6	1	10	34	49
50	U. S. Territories and Possessions	25	0	1	7	33	0	0	0	2	2	25	0	1	9	35	50
	Totals	3,344	321	174	214	4,053	1,253	310	101	840	2,504	4,597	631	275	1,054	6,557	

1. Of the 97 physicians licensed in Arkansas, the Regular Board licensed by examination 15 Class A, 3 Class B and 2 miscellaneous graduates and by reciprocity 21 Class A, 13 Class B and 15 miscellaneous graduates, a total of 69. The Eclectic Board licensed by examination all of the 26 Class C graduates and 2 of the miscellaneous graduates. The Homeopathic Board reported no candidates licensed either by examination or by reciprocity.

2. Of the 61 graduates of Class C colleges licensed in California, 12 were graduates of osteopathic colleges which are not generally recognized as medical colleges by state licensing boards. Altogether, 27 osteopaths were admitted to the examination for licensure as physicians and 12 were licensed.

3. Of the 33 graduates of Class C colleges licensed in Colorado, 17 were graduates of osteopathic colleges, institutions inferior in most respects to Class C medical schools which are reported as not recognized in Colorado. Thirty-two osteopaths were admitted to the examination for physicians and 17 were so licensed.

4. Texas licensed 3 Class C graduates by examination (although Class C colleges are reported as not recognized) and 25 Class C graduates (excluding 26 osteopaths) were licensed by reciprocity, a total of 28.

This table shows the classification of the colleges from which most of the physicians graduated who were licensed in 1920. Graduates of colleges which became extinct prior to 1907 who were examined, and all reciprocity licentiates who graduated prior to 1907, are unclassified and included under "miscellaneous" since it was in 1907 that the Council on Medical Education and Hospitals completed its first classification of all medical colleges.

It will be seen that twelve states accepted altogether 31 Class C graduates through reciprocity where they did not license any by examination. On the whole, however, 174 Class C graduates were licensed by examination and 101 were registered through reciprocity.

By both examination and reciprocity, the largest numbers of Class C graduates were licensed in California, 61; Colorado and Illinois, each 33; Texas, 28; Arkansas, 26, and Massachusetts, 19. The Texas figures would be increased by 26 if the osteopaths who were registered by reciprocity and granted licenses as physicians were included. The largest numbers of Class B graduates were licensed in California, 69; New York, 55; Illinois, 54; Ohio, 44, and Missouri, 32.

Of all physicians licensed 4,597, or 70.2 per cent., were graduates of Class A medical schools; 631, or 9.6 per cent., from Class B schools; 275, or 4.2 per cent., from Class C schools, and 1,054, or 16 per cent., from foreign and miscellaneous colleges.

The extensive improvements in medical colleges since 1904 have encouraged the hope that after a few more years the entire output from medical colleges will be limited to physicians thoroughly qualified as regards both preliminary and professional education. An increasing number of licensing boards have refused recognition to extremely low-grade medical colleges and all but a few which are strongly entrenched politically have been exterminated.

MENACE OF MEDICAL CULTS

In recent years, however, the progress in medical licensure has been menaced by the efforts of certain cults, the more aggressive of which have been the osteopaths and chiropractors. Under the claim that since they "did not use drugs or perform surgical operations" they "were not practicing medicine," these healers have succeeded in securing legislation in a number of states providing for separate boards of examiners, or special clauses in the medical laws, permitting them to practice and exempting them from the educational qualifications which physicians are required to possess. Through their central organizations also these cults are carrying on a systematic and persistent campaign of advertising in order to create public sentiment in their favor. The medical profession is the only organization which is in position to expose the fallacies of their claims and point out their lack of the essential knowledge and training required for any intelligent care of the sick. This is why much of their advertising is devoted to efforts to discredit the medical profession. The only logical and effective argument against them is not to the osteopaths and chiropractors as such, but to their lack of adequate educational qualifications—to their lack of training in the modern methods of diagnosis, treatment and prevention of diseases. Such good as there may be in the character of treatment they employ will in no way be reduced if those using such methods are first required to possess the educational qualifications which will make them safe practitioners of the healing art.

The chief danger from these cults at present—and which is the chief reason for referring to them—is through their efforts to break down medical practice laws and the confusion that they are causing in medical licensure. As might be expected, the osteopaths, after having secured authority to practice under limited licenses, are now demanding all the privileges which physicians enjoy. Although licensed under the claim that they "did not use drugs," they later have sought registration under the Harrison Law for permission to use narcotics—the most dangerous of drugs. During the recent session of the various legislatures they have been demanding the right to perform surgical operations and exercise all other functions now exercised only by qualified physicians, including the right to sign death certificates. These demands cannot logically be objected to if at the same time they are willing to show that they possess the same educational qualifications as are required of physicians. But this is not the case; they are still insisting on lower standards of both preliminary and professional training.

Logically, no one should be authorized to treat the sick by any method unless he has had a thorough training in the fundamental medical sciences. No one should be granted "limited licenses." When a patient in an emergency calls a "doctor" he needs one who is competent to use whatever remedies or method of treatment the particular ailment requires. These essentials are not provided in a practitioner who is neither qualified nor legally authorized to practice medicine in all its branches. The legal error was made when these cultists were authorized by legislation to practice under limited licenses. We know of no parallel to this in the medical practice laws of any other country.

CORRECTIVE LEGISLATION ESSENTIAL

During the last year, however, there have been evidences of a clearer vision on the part of our legislators, and the laws enacted in several states have been favorable to medical education. Efforts to secure separate boards in several states were defeated, while in New Jersey a law was passed abolishing a chiropractic board which had been illogically established by the action of the previous legislature. A similar corrective law should be passed in each of several states abolishing all special boards created by previous legislatures. In each state there should be established one educational standard, administered by a single licensing board by which everyone who is authorized to practice the healing art shall be required to prove that he has secured a satisfactory training in the fundamentals of medicine. Osteopathic and chiropractic colleges, furthermore, should be inspected and classified in accordance with the same standards of measurement now being applied in medical schools and by the same boards who pass on medical schools. In Indiana, the same standards of preliminary and professional education are applied by the Board of Medical Examiners to osteopaths and chiropractors as are applied to physicians. In some states the osteopaths are required to take the same comparatively easy examination that is required of physicians but they are not required to have the same preliminary qualifications which all physicians are now required to possess. What the medical profession has a right to demand is a square deal and equal qualifications for all and that there shall be no discrimination favoring any individual or group of individuals who are engaged in the healing art. It is desirable that all legislation affecting the practice of medicine in future shall support the present reasonably high standards of medical education, for which, in the last fifteen years, the various agencies interested in medical education have successfully struggled.

SUMMARY

1. One of the most effective methods of work carried on by the Council on Medical Education and Hospitals has been the annual conference on medical education which resulted in bringing about a unanimity of action between the various agencies working for the improvement of medical education.

2. The work of the Council has expanded to cover preliminary education, the undergraduate medical curriculum, hospitals in their relation to clinical teaching and the intern year, graduate medical education, and graduate courses for the training of specialists. Last year, through the action of the House of Delegates, the Council's function in relation to hospitals was broadened to include the general survey of all hospitals.

3. The reorganization of medical education, which was the original object for which the Council on Medical Education was created, has been practically completed. With the broadening of the Council's function, however, there still remains much to do.

4. There is but one science of medicine, which cannot be subdivided into specialties or limited to the eye, the heart, the stomach or other region; it covers the entire human body in health and in disease.

5. A careful study of the present situation shows an excessive trend towards specialism which is largely due to the present faulty undergraduate curriculum. Furthermore, many are assuming the function of specialists who have not obtained adequate training in their chosen specialty.

6. The undergraduate medical curriculum should be reorganized so as to give the graduate a more thorough grounding as a general practitioner of medicine and less emphasis should be given to certain specialties.

7. Medical students should have their attention especially called to the unusual opportunities for study and research and the other advantages of general practice, as well as to the increased importance of the general practice of medicine.

8. It is in the practice, or art of medicine where specialization properly comes and training in each specialty comes properly in graduate courses. Minimum suggestive standards of instruction in the various specialties were presented in a series of reports at the Council's conference in March, 1921.

9. There are dangers in specialism unless (*a*) the specialist has had a broad training and experience in general medicine as a foundation, or (*b*) unless patients sent to specialists are first carefully examined by a broadly trained general practitioner, who in a general way controls the diagnosis and therapy in the case.

10. The hospital statistics published in the recent Hospital Number of THE JOURNAL show that 56 per cent. of all counties in the United States do not have hospitals. Indications

are that the chief trouble in connection with the hospital supply in the United States is inadequate distribution.

11. The enrolment of medical students reached its lowest ebb in 1919, when 13,052 students were enrolled. In 1920, there were 14,088 and, based on reports received from most colleges, the present enrolment is approximately 14,850.

12. A study of the records of freshman students in the fall of 1920 shows that on entering the medical school, 1,076, or 24 per cent., were between the ages of 17 and 20; 2,130, or 47 per cent., were between the ages of 21 and 23; 1,013, or 22 per cent., were between the ages of 24 and 27, and 313, or 7 per cent., were 28 years of age or over. It is noteworthy that 3,206, or 71 per cent., were under 24 years of age, which will make them under 28 years of age on completing their medical course.

13. Statistics of medical licensure show that five states are registering unusually large numbers of graduates of low-grade medical colleges or granting physicians' licenses to osteopaths.

14. During the last four years, the percentage of Class A graduates who were licensed increased from 62 to 70 per cent., while of Class B graduates the number decreased from 18 to 10 per cent., and of Class C graduates the number decreased from 5 to 4 per cent. Approximately 16 per cent. of those licensed each year graduated before medical colleges were classified by the Council or graduated from foreign medical schools.

15. There is special need that the medical profession develop some method by which the great possibilities of modern medicine, in the way of diagnosis, treatment and prevention of diseases, may be brought within the reach of all people. This function, it is believed, should be performed by the medical profession and not through any form of state medicine.

16. In several states laws have been enacted creating two or more separate boards having to do with the licensing of those who are to treat the sick. This is an illogical arrangement. It is urged that in each of these states corrective legislation be enacted—as was done this year in New Jersey whereby a single board of competent examiners may be substituted for the two or more now existing. It is further urged that the law also provide a standard of preliminary and professional training for all practitioners which will uphold the standard of medical education for which the various agencies interested in medical education have successfully struggled during the last fifteen years.

Respectfully submitted,

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS.

ARTHUR DEAN BEVAN, Chairman, MERRITTE W. IRELAND,
WILLIAM D. HAGGARD, RAY LYMAN WILBUR,
WILLIAM PEPPER, N. P. COLWELL, Secretary.

Report of the Council on Scientific Assembly

Dr. J. S. Horsley, Virginia, Chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

On December 10, the Council held a conference with the secretaries of the several sections at the headquarters of the Association. All the sections were represented either by their secretaries or by one of the other executive officers. All the members of the Council were present with the exception of Dr. Roger S. Morris and the President-Elect who were detained by urgent personal business.

The assignment for meeting hours of the different sections for the 1921 annual session was announced as follows:

Sections to convene at 9 o'clock in the morning of Wednesday, Thursday and Friday, June 8, 9 and 10: Practice of Medicine; Obstetrics, Gynecology and Abdominal Surgery; Laryngology, Otology and Rhinology; Pathology and Physiology; Stomatology; Nervous and Mental Diseases; Urology; and Preventive Medicine and Public Health.

Sections to convene at 2 o'clock in the afternoon of each of the foregoing days: Surgery, General and Abdominal; Ophthalmology; Diseases of Children; Pharmacology and Therapeutics; Dermatology and Syphilology; Orthopedic Surgery; Gastro-Enterology and Proctology; and a meeting of the Section on Miscellaneous Topics to present a program on anesthesia.

The members of the Executive Committee of the Board of Trustees were also in attendance at the conference and plans were formulated so that, with the cooperation of the officers of the sections, it is hoped the scientific Exhibit will be made of greater interest and value to those who attend the annual sessions. These plans include the arranging of the Scientific Exhibit in three general divisions: One presenting subjects falling within the scope of pathology and physiology; another, medical topics; and the third, surgical subjects. With the carrying out of these plans for the Scientific Exhibit, it is hoped that much time in section meetings now occupied with demonstrations can be utilized in discussions, and that the demonstrations can be presented more effectively at stated hours in the Scientific Exhibit, so conserving the time of the section meetings and enhancing the educational value of the Scientific Exhibit. It was the general consensus of opinion of all in attendance at the conference that a closer cooperation between the sections and the Scientific Exhibit is possible and advisable, and the officers of the sections expressed their willingness to assist in assembling and presenting material in the Scientific Exhibit. While it may not be possible to carry out this close cooperation between the sections and the Scientific Assembly at the 1921 annual session, an effort is being made to begin this work at the Boston Session with the hope that the plans may be improved from year to year until the exhibit and the section programs shall fully complement, one the other.

The Council on Scientific Assembly has been advised that a number of members of the organization and Fellows of the Scientific Assembly desire the House of Delegates to create a Section on Anesthesia. Communications have been transmitted also to the Council through the office of the Secretary of the Association suggesting that sections shall be established on History of Medicine, on Legal Medicine, on Anatomy and on Industrial Medicine. The only formal petition, however, requesting the establishment of a new section is for a Section on Anesthesia. The Council has given careful consideration to this petition and is unanimous in its opinion that no new sections should be created until after it is demonstrated that there is an actual demand for a new division of the Scientific Assembly.

The Council proposes to use the meetings falling within the Section on Miscellaneous Topics for the presentation of programs which are desired by considerable numbers of Fellows. It will be noted that the Council has arranged that one meeting of the Section on Miscellaneous Topics this year shall be devoted to a program on anesthesia.

It is recommended to the House of Delegates that no new section shall be created this year. The By-Laws make it possible for the Council on Scientific Assembly to use the meetings of the Section on Miscellaneous Topics for programs presenting one or more of the subjects for which sections are asked. These or similar topics can be discussed from year to year without the establishment of a separate section and without unduly complicating the present arrangement of the Scientific Assembly. Any considerable group of Fellows who wish to develop a proposed section may utilize the Section on Miscellaneous Topics for several years and if a real need for a new section appears, it may then be created. In other words, the Section on Miscellaneous Topics may serve as an experimental laboratory to try out over a period of years the desirability of establishing a new section. Adding another section to the Scientific Assembly involves a very grave responsibility and one which should not be lightly undertaken.

Our present plan has the advantage of continuity of section work in the programs of succeeding years. This has been gradually developed to the advantage of our scientific work during the past decade through the practice, which the sections have established, of electing the secretary for a term of at least three years. The Council feels that it would be a mistake to make any radical changes in the method of con-

ducting our Scientific Assembly, but if additional sections are to be created, it seems evident that some arrangement must be made so that a responsible council or body will have entire charge of the Scientific Assembly and authority to modify the grouping of papers in different sections for each year's program.

Respectively submitted,

J. SHELTON HORSLEY, Chairman.
E. S. JUDD.
ROGER S. MORRIS.
F. P. GENGENBACH.
JOHN E. LANE.

Ex-officio.

HUBERT WORK, President-Elect.
GEORGE H. SIMMONS,
Editor and General Manager.
ALEXANDER R. CRAIG, Secretary.

ADDENDUM

(Refer page 1655, preceding Reports of Officers)

The Vice-Speaker, Dr. F. C. Warnshuis, Michigan, took the chair, and the Speaker delivered an address, which was referred to the Reference Committee on Reports.

Address of the Speaker, Dr. Dwight H. Murray

To the House of Delegates of the American Medical Association:

Please be assured that I most deeply appreciate the honor of presiding over the House of Delegates. There is no more important medical legislative body in the world.

A PUBLIC HEALTH JOURNAL

On several occasions in the past, the question of a lay or public health journal has been discussed—one that would be an authoritative means of communication, a connecting link, between the medical profession and the laity, printed for the layman and proposing to enlighten him on matters of medical interest to him, dealing with preventive medicine, social hygiene, medical survey of the industries, proposed medical legislation, sanitation, communicable diseases and like topics, and also giving a better understanding of the high aims of the profession seeking for the protection of the people against quacks, medical charlatans, and ill conceived medical laws.

While the Board of Trustees has this under consideration, it has not yet arranged for such publication; there are important questions that must be solved in connection with such an undertaking, not the least of which is its financing and editorship.

I have known that the Board of Trustees is keenly alive to its importance, and as soon as it is possible I am confident we shall have a successful issue of this problem.

Your Speaker has in mind two plans, one or the other of which might effect an earlier solution of the lay journal, if this House and the Board of Trustees would deem it wise to take it up actively with the Surgeon-General of the Public Health Service, which is now doing some of this work on its own account; and, if practicable, the question of cost of printing and postage may be eliminated, thus making it quite possible to put this plan into operation at a much earlier time than could be done if the American Medical Association were to wait until its resources were sufficient.

As I said, the Public Health Service is already doing part of this work; why not propose to it that this Association take up a part of the editorial work by the appointment of capable medical men and specialists in different districts of the United States who may be called consulting editors? The press work should be done by the Public Health Service and copies franked to all members of the law-making bodies of every state and to members of Congress so that they shall be well informed of the needs of the laity and the aims of the medical profession, from eminently trustworthy sources, to the great benefit of both.

For general distribution, I would propose some arrangement with the public press to publish a sheet dealing with these matters in their Sunday or other editions, and the daily papers to publish a column of medical questions and answers of interest to all. Some of our great newspapers are already publishing, at considerable expense, medical editorials dealing with subjects in which the laity is interested, as well as copying some of the health questions and answers put out through the Public Health Service. The details of this cooperative plan could be worked out by a committee consisting of the Surgeon-General of the United States Public Health Service, members of our Board of Trustees, and this House of Delegates.

Possibly the present law would not allow such cooperation between the Public Health Service and the American Medical Association, in which event perhaps enabling legislation might be secured in order that the people at large may have the benefit of such advice as could in this way be given to them by cooperation between these two organizations.

Protection is the one and only thing that we get from our government. Surely this kind of protection is the very best and if properly presented would do away with much if not all thought of so-called health insurance and other paternalistic plans that are continually being brought forward by some misguided philanthropists. Education in all fundamentals of hygiene and health matters is the greatest protective measure, and why should we not, through Congress, give this protection to the people at large?

Let Congress be memorialized if necessary, and follow it up actively to obtain a full department of public health, as has been recommended by others, which, if granted would solve the public health journal question.

The influence of more than 85,000 members of this Association should have weight enough with their individual legislators to put such a law through without question.

The answer of the medical profession to the nation's need in time of war, when two out of every three medical men in this country offered their services in some capacity, ought to vouchsafe the much needed department of health; they did a service worth while, at great personal sacrifice. Surely these men can be trusted with the management of such a department.

Another plan that might be followed in case of the nonfeasibility of the one mentioned, that would not need a journal, would be to appoint editors and create a demand for a medical feature section of the 900 great Sunday papers in this country, taking a different subject or different phases of a popular subject for each issue, e. g., child welfare, tuberculosis, cancer, personal hygiene, communicable diseases, and like topics. Let one associate editor be responsible for one feature section each three months.

It should be ready and in the hands of the publisher at least two weeks before, and released to only one paper in a given section of the country. When this has been made popular, a demand will have been created that cannot be satisfied except by giving more, and our public health journal will be an established fact without large expense and will be read by millions. It might be made so popular that it would finance itself.

FIELD SECRETARIES

Another matter that is being thoughtfully considered is the employment of one or more field secretaries, who might be of great assistance in building up our association by putting all medical men in closer touch with it and letting the different branches know more of the important details of the working of our efficient home office in Chicago. I bespeak for that home office a visit from each of you at the first opportunity.

In order to learn what the attitude of our constituent members is on the two questions mentioned above I have consulted by letter the various state societies through their secretaries and have received many answers; with one exception, both these projects are unanimously endorsed, to be made effective when our resources warrant.

DIGEST OF WORK TO BE PRESENTED TO STATE SOCIETIES

It seems to your Speaker that very few if any misunderstandings between the parent association and its constituents would ever exist if the delegates from every state render a written digest of the work done in this House, giving reasons for such actions at the following meetings of the state societies, and in addition send a copy of such report to be read at the next county society meeting in every state after our annual session.

Such action would make for a closer relationship between the American Medical Association and its constituent societies. This written digest of our work should supplement the report made by the state secretaries in their return from their annual meeting at the home office in Chicago.

The activities of the American Medical Association are many, and the members of this House are here for serious business; it should be cared for with even greater diligence than our own private affairs.

I therefore urge that each member of this House not only attend every session but that he pay such strict attention that he can explain to his home society the reasons for each action taken by the House.

MISLEADING ADVERTISEMENTS

A law was passed by the New York State Legislature at its last session that is destined to be a great help for the protection of the public from medical and advertising frauds; namely, an act to amend the penal law in relation to untrue and misleading advertisements. It is the uniform law covering false and misleading advertisements which has already been enacted in twenty-three states. In the opinion of the solicitor of the post-office department, which has been obtained for me by our president-elect, it covers a class of fraudulent advertisements that cannot be reached by the postal fraud statute. The bill was bitterly contested by a lobby of "patent medicine" venders, which is evidence enough in itself of the effect the bill should have if properly enforced. I believe this bill should be taken up actively by every state with the idea of having it enforced in all the states in which it is now a law, and assisting its promoters in having it passed in all other states. In New York State it becomes effective, Sept. 1, 1921. I have attached hereto the law itself and the opinion of the solicitor general of the post-office department. It seems to me that this law should provide for its enforcement through the office of the prosecuting attorney of every county, in all the states where it is now on the statutes. The sponsors of this bill and those interested in it could improve it by providing for its enforcement as above outlined.

Copy of letter from Solicitor General of Post-Office Department.

MEMORANDUM FOR DR. WORK

May 11, 1921.

I have examined the act of the New York Legislature "To amend the penal law, in relation to untrue and misleading advertisements," in the New York Assembly, Feb. 8, 1921, submitted to you by Dr. D. H. Murray with his letter of April 25, in connection with which you ask my opinion on Dr. Murray's inquiry as to whether this act will be sufficient authority for the suppression of many of the advertisements of quacks and some of the proprictary medicines that claim to do so much, and do so little.

I have made some inquiry as to the origin of the bill and find that it was introduced in the New York Legislature to amend the existing statute with refcrence to false advertising so as to conform the New York law to what is known as the "Printers' Ink Model Statute," a proposed uniform law covering false and misleading advertisements which has already heen enacted in twenty-three states. The proposed act is, in my judgment, sufficiently broad to cover the character of advertisements mentioned by Dr. Murray, and in fact was designed and urged to cover that class of fraudulent advertisements which cannot be rcached by the postal fraud statutes—that is to say, where the misleading advertisements are sent through the mails but the fraudulent nostrums, or other articles, are sold through drug stores and agents rather than through the mails.

I am advised that this bill was bitterly fought by a lobby of the patent medicine venders, but that it finally passed both the Senate and the Assembly of New York unanimously.

In my judgment it is a good piece of legislation and should have the support of every one interested in the suppression of false and misleading advertising.

The letter of Dr. Murray and the bill which he enclosed to you are returned herewith.

J. J. SOUTHERAND,
Acting Solicitor.

AN ACT TO AMEND THE PENAL LAW, IN RELATION TO UNTRUE AND MISLEADING ADVERTISEMENTS

The People of the State of New York, represented in Senate and Assembly to enact as follows:

Section 1. Section four hundred and twenty-one of the penal law is hereby amended to read as follows:

No. 421. Untrue and misleading advertisements. (If a) Any person, firm, corporation or association, or agent or employe thereof who, with intent to sell or in any wise dispose of merchandise, real estate, securities, service, or anything offered by such person, firm, corporation, or association, or agent or employee thereof, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce the public in any manner to enter into any obligation relating thereto, or to acquire title thereto, or an interest therein (knowingly) makes, publishes, disseminates, circulates, or places before the public, or causes, directly or indirectly to be made, published, disseminated, circulated, or placed before the public, in this state, in a newspaper, magazine or other publication, or in the form of a book, notice, circular, pamphlet, letter, handbill, poster, bill, sign, placard, card, label, or tag, or in any other way an advertisement, announcement or statement of any sort regarding merchandise, securities, service or anything so offered to the public with advertisement contains any assertion, representation or statement of fact (that) which is untrue, deceptive or misleading (or that amounts to an offer to sell, barter, or exchange real estate by means of prizes, rewards, distinctions, or puzzle methods, such person, corporation or association, or the members of such firm, or the agent of such person, corporation, association or firm), shall be guilty of a misdemeanor (punishable by a fine of not less than twenty-five dollars nor more than one thousand dollars, or by imprisonment for not more than one year, or by both such fine and imprisonment).

2. This act shall take effect September first, nineteen hundred and twenty-one.

Reference Committees

The Speaker announced the following Reference Committee:

SECTIONS AND SECTION WORK

L. A. Yarbrough.....Tennessee
Howard Fox.....New York
Henri P. Linsz.....West Virginia
James S. McLester.....Alabama
John Ridlon.....Illinois

RULES AND ORDER OF BUSINESS

S. W. Welch.....Alabama
E. A. Pray.....North Dakota
Fred T. Kidder.....Vermont
E. G. Jones.....Georgia
Frederick T. Rogers.....Rhode Island

MEDICAL EDUCATION

J. Rilus Eastman.....Indiana
Joseph F. Seiler.....U. S. Army
Grover Wende.....New York
Isaac A. Abt.....Illinois
John S. Helms.....Florida

CONSTITUTION AND BY-LAWS

Rock Sleyster.....Wisconsin
William F. Bacon.....Pennsylvania
E. A. Hines.....South Carolina
B. L. Bryant.....Maine
N. J. Blackwood.....U. S. Navy

LEGISLATION AND PUBLIC RELATIONS

J. H. J. Upham.....Ohio
J. W. Bell.....Minnesota
H. G. Stetson.....Massachusetts
W. H. Seeman.....Louisiana
G. E. Lambert.....Washington

HYGIENE AND PUBLIC HEALTH

J. W. Schereschewsky.....U. S. Public Health Service
W. R. Steiner.....Connecticut
C. Van Zwalenberg.....California
J. F. Highsmith.....North Carolina
Arthur T. McCormack.....Kentucky

REPORTS OF OFFICERS

Frederic E. Sondern.....New York
J. N. Hall.....Colorado
Holman Taylor.....Texas
Franklin E. Murphy.....Missouri
J. F. Burnham.....Massachusetts

CREDENTIALS

H. B. Gibby.....Pennsylvania
John C. Rockefellow.....Iowa
D. E. Sullivan.....New Hampshire
E. W. Spottswood.....Montana
James W. May.....Kansas

MISCELLANEOUS BUSINESS

Southgate Leigh.....Virginia
William Gerry Morgan.....District of Columbia
Ben R. McLellan.....Ohio
R. L. Green.....Illinois
A. W. Hornbogen.....Michigan

Dr. Frederic E. Sondern, New York, moved that the appointments be approved.

Seconded and carried.

Remarks by President William C. Braisted,

The Speaker then introduced the President, who made the following address, which was referred to the Reference Committee on Reports of Officers.

Mr. Speaker and Members of the House of Delegates:

At the New Orleans session, as you will recall, I made a plea for harmony the coming year, and stated that we should extend the work in matters about which we learned during the war. The result of the year's work proves that there has been a feeling of intense harmony. I know of no disagreement or trouble of any kind that has marred the internal relations of this organization, and this has made me happy. I am in harmony with the organization in every way. It was my intention to review the important movements of the year, but I found that these were so many and were so well outlined in the programs of the various sections and in the reports of the different officers and the several councils that it is unnecessary for me to do so.

HEADQUARTERS OF THE ASSOCIATION

There are some things that I want to touch on, however, the first of which relates to three careful inspections I made as President, of the home office. I do not know how many of you have been through the home office. I assure you that a visit to the headquarters of the Association will amply repay any one of you. The home offices are the seats of intense energy, and splendid results have been accomplished, and particularly during the war. They have had their troubles, as we have had ours, almost to the breaking point, but I feel the officers and employees in the Association headquarters in Chicago, have stood by the Association so loyally and faithfully during the World War, that a vote of appreciation should be extended to them. I have taken pains to shake hands from the highest to the lowest employee, and have complimented them on the splendid work they have done.

MEMORIAL TO GENERAL GORGAS

I want to say a word or two on the Memorial to General Gorgas. General Gorgas did more than any other man to endear himself to the people all over the world. Through the initiative of President Forrest of Panama, a movement has been undertaken to establish a memorial to General Gorgas in Panama in the form of a research laboratory for tropical medicine. This movement has progressed to such an extent that we have the finances for building it and for furnishing ample equipment. This Association ought to be deeply interested in this movement, and I would urge that the members support it in every possible way.

PUBLIC WELFARE BILL

The next point I want to call attention to is the Department of Public Welfare Bill, which is one of the most important measures before the profession and the people, and I would urge you to give it special consideration. If it is found necessary to modify it before approving it, this should be done. I am informed by Brigadier General Sawyer that President Harding is deeply interested in this measure. If necessary, I would urge the appointment of a committee to consider this bill and report on it.

MEDICINE AND PHARMACY

I wish to call attention to the necessity of establishing a closer relationship between the professions of medicine and pharmacy. This movement has been growing for some time. I have been visited by a number of delegations in Washington, composed of both professions, and have been urged to endeavor to bring about a closer relationship between the two, as pharmacy should be one of the strongest aids in the practice of medicine.

Let me say in regard to Dr. Work, who is to assume the presidency of the Association, that this is one of the most important years the Association has ever known. He is abundantly able to carry on the work which has been initiated, and I appeal to you to help him in the accomplishment of his great task.

Address of Dr. Hubert Work

The President-Elect, Dr. Hubert Work, Colorado, delivered the following address, which was referred to the Reference Committee on reports of officers:

Mr. Speaker and Members of the House:

One year ago the Speaker recommended that the house set aside one-half day for executive session, freed from the officers and routine of a necessarily fixed program, for the consideration and discussion of new ideas which many of the delegates have doubtless brought with them. I believe this suggestion has tremendous possibilities and should be tried out. The arteries of this Association must be subjected to new, accentuated impulses, if they are to remain flexible.

SUGGESTIONS FOR CONSIDERATIONS

The suggestion of a year ago which contemplated the districting of the United States, to secure a more equitable distribution of trustees; reducing their number; and lengthening their terms, with a prohibition as to their immediate reelection, together with a change of title from trustee to director, appeals as well worthy of your earnest consideration.

I would again urge you to favorably consider extending an opportunity to the several sections, each to nominate a member to the House for president of the Scientific Assembly. I believe such a policy to be both politic and sound, but would not again urge that this suggestion should include nominations for the vice presidency.

GRADUATE WORK

Community graduate work, much of it before lay audiences, is an attractive working possibility and an educational necessity. Medical teaching should circulate; go out from and return to, state and national centers. The excursions of a teaching impulse should strengthen it. The enthusiasm of the one-way process wanes.

PUBLICITY FOR MEDICAL SCIENCE

The achievements of medicine have been hidden from the public because no systematic scheme for their display has been devised which dissociates the names of those who accomplish these great things from that which has been accomplished.

Physicians meet, discuss, learn and agree. Those for whom it is all done hear nothing of it and are brought no closer. Medicine should be advertised, to show what it has done and can do with what is impossible to it. It should be popularized through public acquaintance. Readable articles in popular magazines or in local papers, particularly the patent pages of the weekly press, would gladly carry such matter, because it would interest their readers. Advertise the achievements of medicine without naming the physicians who are doing, or have done the work, if now living. Those who are scientists, but never personal advertisers, resent the appearance of their names in the public print, for scientists first wish to prove a thing and trust to the truth to exploit it.

Public meetings are being held daily by paid talkers in the interests of organized quackery. Their false statistics, charges of persecution by an imaginary medical trust, with general misrepresentations of established medical facts, mislead those who, having no knowledge of that which is proved, are attracted by the loud declaiming of false doctrines.

EXECUTIVE AND FIELD SECRETARIES

Development work is so imperative that I believe the secretaries of state societies should be full-time paid men, selected because of their genius for organization. No man can succeed in medicine unless he first organizes his daily work and becomes a part of the organized profession. Practitioners under the supervision of a state secretary who has the vision to preceive an actuality before it is brought about can achieve much.

The Association should, I believe, have an executive secretary charged with the specific duty of organization work, through a staff of paid executive state secretaries.

Repeated attempts were made during the last four years to induce our ex-presidents to attend the meetings of the House of Delegates, without much success, the usual protest being that their presence was not anticipated by any provision

for their being heard in your deliberations. Ex-presidents are representative men in the Association. They have been schooled in its needs and ambitions. They should, in my opinion, automatically become members of the House of Delegates, with all of its privileges, excepting the right to vote.

SHEPPARD-TOWNER BILL

There is pending in the U. S. Senate a bill, No. 1039, known as the "Sheppard-Towner bill," which should have the analytic scrutiny of this House of Delegates. Another bill, No. 1607, which contemplates a Department of Public Welfare, has been introduced, much more comprehensive and far-reaching in its possibilities. These measures are well worth a day's discussion by this House. Certain senators have individually requested an expression from this Association on these bills. A memorial to the Senate would appear to be proper procedure.

Report of Secretary

The Secretary presented his report, which was referred to the Reference Committee on reports of officers, with the exception of that part pertaining to memorials and opinions, and this was referred to the Reference Committee on Amendments to the Constitution and By-Laws. (See page 1655.)

Dr. Arthur T. McCormack, Kentucky, moved the appointment of a Committee on Reapportionment, which was seconded and carried.

The Speaker said he would announce this committee later.

Dr. Arthur T. McCormack moved that when the House of Delegates took a recess, it do so in honor of Dr. Isadore Dyer, Louisiana, which motion was seconded and carried.

Report of Board of Trustees

Dr. A. R. Mitchell, Nebraska, chairman, presented the report of the Board of Trustees, which was referred to the Reference Committee on reports of officers. (See page 1657.)

Dr. J. H. J. Upham, Ohio, moved that inasmuch as the delegates were familiar with the reports of the various officers and various committees, as printed in the handbook, that the chairman of the councils and of the committees be allowed fifteen minutes in which to present the salient features of their report.

Seconded and carried.

Report of Council on Health and Public Instruction

Dr. Victor C. Vaughan, Michigan, chairman, presented the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Legislation and Public Relations. (See page 1663.)

Report of Council on Medical Education and Hospitals

Dr. Arthur Dean Bevan, Illinois, chairman, presented the report of the Council on Medical Education and Hospitals, which was referred to the Reference Committee on Medical Education. (See page 1671.)

Report of Council on Scientific Assembly

Dr. J. Shelton Horsley, Virginia, chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work. (See page 1678.)

Report of Judicial Council

The Secretary stated that the Judicial Council was in session taking action on the appeal which was referred to in the published report of the Council, and suggested that the House receive the report as printed in the handbook, in order that it might at once be referred to the Reference Committee on Amendments to the Constitution and By-Laws. (See page 1662.)

There being no objection, the Speaker directed that the report be so referred.

Committee on Reapportionment

The Speaker announced the following Committee on Reapportionment:

Dr. A. E. Bulson, Jr., Indiana; Dr. J. D. Brook, Michigan; Dr. L. J. Moorman, Oklahoma, with the Secretary and Speaker.

Resolutions on State Medicine

Under the head of new business, Dr. Eden V. Delphey, New York, offered the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That the American Medical Association is emphatically opposed to "State Medicine," and to any scheme for "Health Centers," "Group Medicine," and to "Diagnostic Clinics," either wholly or partly controlled, operated or subsidized by the State or National Government.

Dr. Charles J. Whalen, Illinois, offered the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That the Illinois State Medical Society is emphatically opposed to "State Medicine," and to any schemes for "Health Centers," "Group Medicine," "Diagnostic Clinics," "Compulsory Health Insurance" either wholly or partly controlled, operated or subsidized by the State or National Government; and that the delegates from this Society to the American Medical Association be and are hereby instructed to present this resolution to the House of Delegates of the American Medical Association at its coming meeting in June and to use every possible honorable means to secure its adoption."

Dr. J. D. Brook, Michigan, presented the following resolution, which was adopted unanimously at the last annual meeting of the Michigan State Medical Society, held at Bay City:

Resolved, That the Medical Society of the State of Michigan is emphatically opposed to "State Medicine," and to any scheme for "Health Centers," "Group Medicine," and "Diagnostic Clinics" either wholly or partly controlled, operated or subsidized by the State or National Government, and that the delegates from this Society to the American Medical Association be and are hereby instructed to present this resolution to the House of Delegates of the American Medical Association at its coming meeting in June and to use every possible means to secure its adoption."

This resolution was referred to the Reference Committee on Legislation and Public Relations.

Resolution on Section on Anesthesia

Dr. Frederick C. Warnshius, Michigan, offered the following resolution, which was referred to the Reference Committee on Sections and Section Work:

Whereas, Some nine component State Societies have expressed the desirability of a section on anesthesia, and

Whereas, Some several hundred members of our profession have, by petition, given expression to the same desire, therefore be it

Resolved, That a separate section on anesthesia be created and added to the sections of our Scientific Assembly.

Resolution on Reconstruction in France

Dr. William Krusen, Pennsylvania, offered the following resolution at the request of Dr. W. W. Keen, Philadelphia, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, By the American Medical Association that, from the testimony of those who have seen the work of the American Committee for the devastated Areas of France, its value and its necessity—this and the tuberculosis work of the Rockefeller Foundation being the only existing agencies still in the field—we desire to express our conviction of the value of this work, and recommend that it be supported.

Resolution on Metric System

Dr. Wilmer Krusen, Pennsylvania, presented the following resolution, also at the request of Dr. W. W. Keen, which was referred to the Board of Trustees:

WHEREAS, The Metric System of Weights and Measures, and also the Centigrade Scale in Thermometers, must and we hope will soon be adopted in the United States, therefore, be it

Resolved, That in the various publications of the American Medical Association, the Metric System of Weights and Measures and the Centigrade Scale of the Thermometer be the standard. The English weights and measures and the Fahrenheit scale may be added in parentheses, if desired.

Resolutions on Relations of Medical Profession to the State

Dr. Arthur T. McCormack, Kentucky, presented the following:

WHEREAS, Economic and sociological conditions in the United States are causing the deprivation of many of our people, especially in rural districts, of sufficient, and, frequently, of any medical service; and,

WHEREAS, The physical examination of five millions of our young men during the war revealed that the present system of medical practice is inadequate for the detection, prevention or treatment of many diseases and physical defects which are causing inefficiency, and

unnecessary disease and suffering, leading to premature death, thus literally wasting millions of dollars annually; and

WHEREAS, This reckless waste of our American manhood and womanhood is due to insufficient education of physicians, nurses and others responsible for the public health, and therefore of the general public, in personal hygiene and preventive medicine, especially in the care of babies and children, and in the importance of systematic periodic examination of apparently well people for the purpose of the prevention or early correction of disease and defects; and,

WHEREAS, A few state medical organizations have hastily approved resolutions which confuse preventive medicine with health insurance to which this organization is unalterably opposed; now, therefore, be it

RESOLVED, That the Conference of State and Provincial Health Authorities of North America—composed entirely of physicians, jealous of the reputation of the profession of whose history and achievements we are justly proud, since it has contributed so much towards every practical step, in the reduction and prevention of disease—urges that the organized medical profession shall accept its responsibility for progress in the prevention of ill health and its causes, and shall support through county and municipal medical societies such diagnostic teaching and other clinics as will bring to all the people, whether living in the cities or in the country, all of the knowledge and means necessary to enable the members of every community, however remote from medical centers, to live through the years of their natural expectation with the utmost possible freedom from preventable and remediable disease and defects; and, be it further

RESOLVED, That this resolution be presented to the American Medical Association with the request that its principles be approved and that, through its great journal, and its Councils and other agencies, it exercise its responsibility for leadership in improving the education of the profession and the public in personal hygiene and preventive medicine.

The resolution was referred to the Reference Committee on Legislation and Public Relations.

Resolution on Work of the Association

Dr. J. H. J. Upham, Ohio, presented the following preambles and resolution, which were referred to the Board of Trustees:

WHEREAS, The activities of the American Medical Association have sometimes been circumscribed and its service to humanity limited by a lack of coordination in the separate policies of the component State Medical Associations, and

WHEREAS, The effectiveness of organized medicine as a national institution has been hampered by conflicting programs of activities in the various state medical associations, largely due to the want of full information on subjects of national scope and general importance, and

WHEREAS, The American Medical Association has rendered to the public a distinct service through its investigation of quackery and nostrums, but which information unfortunately has been given limited circulation, and

WHEREAS, It is the duty of the American Medical Association and the component state associations to point the way in those movements looking toward disease prevention, health preservation and public welfare, therefore be it

Resolved, That as delegates representing the various state medical associations, we pledge our full and hearty support to the American Medical Association in its ideals and purposes; that we pledge ourselves to closer and more harmonious cooperation to the end that organized medicine may render a greater service to the nation and its citizens as well as in the maintenance of high standards and lofty ideals in professional practice; that in the attainment of this object we urge the inauguration of a service and information bureau with perhaps an enlarged propaganda department in the American Medical Association; that a bulletin service be instituted from the headquarters of the American Medical Association for the purpose of constantly keeping the executive secretaries of the various state associations informed on proposals in federal legislation and activities by various national bodies and organizations in any way pertaining to problems or regulations on public health and medical practice; that the American Medical Association be encouraged and supported in its proposal to establish the publication of a public health journal as a forum through which the laity may be better informed on medical and health problems; that the staff of the American Medical Association be arranged and so enlarged if need be, for the proper contact with federal departments and bureaus in any way dealing with problems on public health and medical practice; that the staff of the American Medical Association be encouraged and supported in the delegation of field secretaries for the purpose of establishing more candid and cordial relations between the profession in the several states and the American Medical Association.

Resolution on Taxation of Alcohol

Dr. J. H. J. Upham, Ohio, presented the following preambles and resolution, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The law of this nation no longer recognizes as legitimate any beverage spirits, and

WHEREAS, Undenatured ethyl alcohol has a legal and proper place in legitimate industry in connection with chemical, pharmaceutical or medical products, it is no longer proper that this product should be taxed 1,000 per cent. of its value, and

WHEREAS, Narcotics are now properly tax free although they sometimes find their way into illicit use, the same as alcohol, in spite of careful precaution of those interested in their legitimate use, and

WHEREAS, Such tax is no aid in the enforcement of prohibition laws and regulations, but rather has resolved itself into a penalty of $4.40 per gallon upon those who have occasion to use such undenatured alcohol in legitimate manufacturing or other processes, and

WHEREAS, Through foreign competition chemicals and pharmaceuticals from other nations where there is no federal tax on alcohol are able to compete to the detriment of American enterprise, and in the end the ultimate user pays the tax, often increased many fold, and in view of the fact that all tincture and most other medicinal liquids contain much alcohol, with a resultant financial burden on the sick, and mostly upon the sick poor, therefore, be it

Resolved, That the American Medical Association believes that the federal tax on undenatured ethyl alcohol has outlived its usefulness; that such tax is a tax on the sick and on legitimate users thereof, and that the American Medical Association memorialize Congress to abolish the present special tax on ethyl alcohol.

Communication on Malpractice Defense

Dr. Frederic E. Sondern, New York, presented the following communication, which was referred to the Reference Committee on Miscellaneous Business:

The increased number of technical procedures involved in the modern practice of medicine, while of the greatest benefit in diagnosis and treatment, have materially raised the legal standards of skill and care imposed upon the physician in his relation with his patient, and thereby have increased the legal hazard of the physician in his practice.

For these reasons adequate malpractice defense is becoming an increasing burden to every state society which operates a defense plan, and the advantages of indemnity protection are more apparent. However, physicians carrying such insurance under the terms of their policy usually forfeit the benefit of defense by the state society.

Every insurable claim against a physician concerns his skill or method of practice, and such claims must be considered as involving vital questions of professional principle in which respect this type of indemnity protection differs from general liability insurance where purely financial considerations only are at stake.

Nothing can repair the damage to a physician's reputation when a financial settlement is made of an unjust or unfair claim. The advisability of having the insurance companies make this distinction is imperative, and this can only be done by having these claims against physicians disposed of by applying the principles controlling the malpractice defense activities of the state medical societies. In this way members are safeguarded and the insurance carrier is ultimately benefited.

Therefore, fundamentally, indemnity insurance for physicians must be operated under the malpractice defense bureaus of state medical societies and in accordance with their principles.

This has been accomplished by the Medical Society of the State of New York by providing optional indemnity protection in addition to malpractice defense under the direction and control of the legal counsel of the society.

By reason of these premises, it is recommended that the House of Delegates of the American Medical Association approve the principle and recommend its favorable consideration to the constituent societies of the Association.

Communication on Coordination of Legal Action

Dr. Frederic E. Sondern, New York, also introduced the following, which was referred to the Board of Trustees:

By reason of the unique questions of legal liability of physicians in modern medical practice that are constantly arising, and the divergent views of courts in various states concerning the same, it is desirable to secure increased efficiency in the consideration of these matters by some coordination of effort and interchange of information on the part of the legal counsel of the various constituent societies, to the end that a better understanding of the problems arising in the defense of physicians can be secured.

It is therefore recommended that this matter be referred to the Trustees or the suitable Council of the American Medical Association for their consideration and suitable action if approved.

Resolution on Universal Military Training

Dr. Frederic E. Sondern, New York, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

The Caduceus Post, American Legion of New York City (which has a membership of over four hundred former medical officers of the Army and Navy), has been deeply interested during the past winter in the subject of universal military training.

We believe that the time is ripe for a united effort on the part of ex-service medical men and of the whole profession to inaugurate a campaign in this state. It is our plan, by personal efforts and through local and national societies, to educate the public regarding the vital importance of such physical training, including discipline, both mental and moral, for the coming generation of young men.

Our post intends to push this movement in New York State, confidently expecting that it will lead to a nation-wide campaign. Your committee on Military Affairs offers the following resolution for your approval:

"WHEREAS, The American Medical Association was the most powerful factor in recruiting the Medical Reserve Corps during the war, we earnestly desire to secure its cooperation in this important work. Be it

"*Resolved*, That the Caduceus Post requests the House of Delegates to bring this subject before the Association at the coming meeting for general discussion."

Motion on Rules

Dr. E. Eliot Harris, New York, moved that the standing rules for the guidance of the Committee on Credentials be referred to the Reference Committee on Rules and Order of Business, with the request that that committee report back a recommendation in order that apparent conflict in the rules now in force may be removed.

There being no objection, the motion was so referred.

Resolution on Narcotics

Dr. Edward Livingston Hunt, New York, presented the following resolutions, which were passed by the House of Delegates of the Medical Society of the State of New York, May 2, 1921, to be presented to the House of Delegates of the American Medical Association:

WHEREAS, The bills introduced in the present session of Congress by Senator Jones of Washington (S. 206) and Representative Miller of Washington (H. R. 2193) contain a clause reading as follows:

"And the importation of opium or cocaine or any salt, derivative, or preparation of opium or cocaine hereafter is hereby declared to be unlawful, provided that such amounts of crude opium, and coca leaves or other crude narcotics as may be found necessary by the Secretary of State, the Secretary of the Treasury, and the Secretary of Commerce to provide for medical and legitimate uses may be imported under rules and regulations to be prescribed by the Secretary of State, the Secretary of the Treasury, and the Secretary of Commerce," and

WHEREAS, The effect of the enactment of said bills would be to enhance the price of cocain and the opiate drugs and possibly to make them difficult to obtain in case of emergency or epidemic requiring the use of larger quantities than usual, and

WHEREAS, The vigorous and adequate enforcement of the Harrison Narcotic Law would automatically limit the imports of these drugs to the amount that could be legitimately used, while an arbitrary limitation such as these bills provide would increase the illicit traffic through smuggling, and

WHEREAS, There is no present need for a limitation of imports, and no present data for determining the amount required for medical and legitimate uses,

Resolved, That the Medical Society of the State of New York opposes the passage of these bills unless the clause quoted above be stricken from them. And further

Resolved, That a copy of this resolution be forwarded to Senators Calder and Wadsworth, and to the chairman of the Ways and Means Committee of the House of Representatives, that it be printed in THE JOURNAL, and that the delegates from this state to the annual meeting of the American Medical Association be instructed to introduce and vote for a similar resolution at such meeting.

Resolution on Extension of Interstate Practice

Resolved, That the American Medical Association be urged to perfect a plan to facilitate the extension of interstate practice without the lowering of medical standards now existing in New York State.

These resolutions were referred to the Reference Committee on Legislation and Public Relations.

Motion on Hotel Reservations

Dr. J. H. J. Upham, Ohio, moved that the Secretary of the Association reserve for next year a sufficient number of rooms, and announce in THE JOURNAL that these rooms will be held until ten days before the meeting, so that the delegates may secure their reservations through the Secretary.

Seconded and carried.

Supplement to Report of Judicial Council

Dr. M. L. Harris, Illinois, chairman, presented the following report as a supplement to the report previously presented, which on motion of Dr. J. H. J. Upham, Ohio, seconded by Dr. Franklin E. Murphy, Missouri, was approved.

The report is as follows:

The Judicial Council recognizes the right of the Spokane County Medical Society to adopt By-Laws governing the qualifications of its members, provided they do not conflict with the By-Laws of the Washington State Medical Association, or the American Medical Association, or with the principles of medical ethics of the American Medical Association.

Dr. John O'Shea and Dr. Frank Rose were within their rights when they appealed to the State Association before specific charges had been made against them on the well-recognized principle of declaratory law or preventive justice.

The Washington State Medical Association had jurisdiction in the appeal of Drs. O'Shea and Rose under Article 9, Section I, of its Constitution and By-Laws, which states "The Board of Trustees shall be the Board Censors of this Association. . . . The Board of Trustees, except during sessions of the House of Delegates, shall have full power to act on all matters concerning the business of the Association."

The Judicial Council is of the opinion that the Washington State Medical Association exceeded its powers when it peremptorially ordered the Spokane County Medical Society to rescind a By-Law which it had properly adopted, without specifically showing wherein the County Society had exceeded its rights in passing the said By-Law, or wherein the By-Law, which was ordered rescinded, was in conflict with the Constitution and By-Laws of the Washington State Medical Association, the American Medical Association, or the principles of medical ethics of the American Medical Association.

The Judicial Council, therefore, hereby overrules the action of the Washington State Medical Association.

Supplementary Report on Credentials

Dr. H. B. Gibby, Pennsylvania, chairman, presented a supplementary report for the Committee on Credentials, stating that ninety-six members had registered and were entitled to seats in the House of Delegates.

The House of Delegates then adjourned until 9:30 a. m., Tuesday, June 7.

(To be continued)

Ventilation Problems in Vehicular Tunnel.—The United States Bureau of Mines and the New York and New Jersey State Bridge and Tunnel commissions have agreed to conduct cooperative investigations with a view to determining the best method of ventilation to remove the poisonous products of combustion from motor vehicles in the projected Hudson River Vehicular Tunnel. The Bureau of Mines, under a similar cooperative agreement, reported to the commissions, last November, the amount and composition of exhaust gases from motor vehicles obtained by making road tests on 101 automobiles and trucks at the bureau experiment station at Pittsburgh, under direction of A. C. Fieldner, supervising chemist. The necessary dilution with fresh air to render such gases harmless was ascertained by a series of comprehensive tests on a large number of students in the physiological laboratory at Yale University. Dr. Yandell Henderson, consulting physiologist of the Bureau of Mines, who conducted the experiments, found that no noticeable symptoms of discomfort appeared after one hour's exposure to concentrations of carbon monoxid in air not exceeding four parts in 10,000. The solution of the problem for moving the required quantity of air through the tunnel will be worked out by means of an experimental duct being constructed at Urbana, Ill., similar to the proposed ducts in the tunnel, where the Bureau of Mines has its central district experiment station. The investigation will be directed by Prof. A. C. Willard, head of the department of mechanical engineering, University of Illinois, and consulting engineer of the U. S. Bureau of Mines in connection with the study of ventilating problems in mining practice. The final check on the solution of the three previous problems will be obtained in an experimental tunnel now being constructed in the experimental mine of the Bureau of Mines at Bruceton, Pa., near Pittsburgh. Studies will be made with respect to (*a*) the diffusion of exhaust gases in the cross section of the tunnel; (*b*) temperature conditions as affected by the operation of internal combustion motors; (*c*) physiological effects of temperature, exhaust gases, and smoke under operating conditions; (*d*) final check on all previous investigations. The investigation at Pittsburgh is under the direction of A. C. Fieldner, supervising chemist, and J. W. Paul, mining engineer. George S. Rice, chief mining engineer, and Prof. A. C. Willard, consulting ventilating engineer, are consultants on the ventilation experiments. Drs. Royd R. Sayers, chief surgeon of the Bureau of Mines, and Yandell Henderson, consulting physiologist, are carrying on the physiological studies in the experimental tunnel.

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SATURDAY, JUNE 11, 1921

DISAPPOINTMENTS OF ENDOCRINOLOGY

A recent issue of THE JOURNAL [1] contains a caution lest, in the current enthusiasm for so-called endocrinology, medicine become humiliated by the drift toward a sort of pseudoscience bolstered up with meaningless words and unfounded assumptions. It is time for the medical profession to face the facts squarely. We shall not deny the great advances that have been made in comparatively few years in the study of thyroid function. Much of the knowledge gained either by scientific research or by clinical observation has "made good" through direct application in practical therapy. Changes in thyroid function may lead to symptoms that are fairly definite, determinable, clinical entities. Therapeutic success attests the value of much that has been accomplished and the verity of a few of the assertions that are taught.

As much cannot be said for the suprarenal structures. G. N. Stewart of the Western Reserve Medical School at Cleveland deserves the thanks of the medical profession for the fearless and critical manner in which he has questioned much of the verbal rubbish that goes under the designation of the endocrinology of the suprarenals. In a trenchant review he [2] has gone even farther in pointing out the invalidity of some of the experimental evidence that has been marshaled to support pet theories. One postulate stands unchallenged, namely, that the loss of the suprarenals is incompatible with life. Hence the conclusion is inevitable that these structures contribute something indispensable to the functioning of the body.

What, then, is "suprarenal insufficiency"? To this question no one has yet given a satisfactory answer. The symptoms attending decline and death after extirpation of the suprarenals are not specific or constant; indeed, they are duplicated by the outcome of various other abnormal states in which no "endocrine" disorder is assumed. The essential manifestations of the loss of the suprarenals remain obscure. Why shall we continue to postulate a condition which cannot be diagnosed even under the most favorable circumstances?

1. The Endocrine Glands—A Caution, editorial, J. A. M. A. **76**: 1500 (May 28) 1921.

2. Stewart, G. N.: Adrenal Insufficiency, Endocrinology **5**: 283 (May) 1921.

The first answer to any query about the suprarenals is likely to involve the function of epinephrin, the well defined chemical compound that is usually present in the medullary portions and can somehow be discharged into the circulation. The pharmacologic potency of this product cannot be denied. It was natural that attention should be directed promptly to the possibility that epinephrin is the primary active principle, the physiologic hormone of the suprarenals. Is "suprarenal insufficiency" represented, then, by interference with the output of epinephrin? This can scarcely be the case; for animals continue in health after extirpation of one suprarenal and denervation of the other, a procedure after which no detectable amount of epinephrin is liberated. The assertion that epinephrin is at least secreted in physiologic emergencies has been reviewed in THE JOURNAL [3] with the conclusion of "not proven." The assumption that it serves to maintain the tonus of the blood vessels and the normal blood pressure has likewise proved to be untenable. Injected epinephrin has a definite pharmacologic action on the circulation; so have drugs not even remotely associated with animal tissues. Neither class necessarily represents a normal stimulus because it happens to have demonstrable effects when introduced in the body. No one alleges that the alkaloids, powerful though they are, have a known physiologic function in plants.

Furthermore, although epinephrin is a component of the suprarenal medulla, it is the cortex of the suprarenal structures that appears to be the vitally important portion. If one argues for the "fetish of suprarenal insufficiency," it can scarcely be associated with the hormone epinephrin; for, as Stewart points out, the experimental evidence has tended more and more to show that the cortex is the part of the suprarenal indispensable for life. It is the cortical tissue which alone, or at any rate most conspicuously, undergoes compensatory hyperplasia when a deficiency is created by removal of a considerable part of the suprarenal tissue. The accessory suprarenal tissue, which also undergoes hypertrophy under these circumstances, and which is usually supposed to be responsible for the survival of those animals that do not succumb to the loss of both suprarenals, consists entirely of cortex. Only the cortical tissue can be successfully grafted.

Even in Addison's disease there is no experimental basis for the assumption that the defects of suprarenal function are due to a loss of epinephrin function. How much, then, can be implied in the vague "hypoadrenal" states of clinical literature. There is something stinging, yet deserved in its implied rebuke, in the words of Stewart.[2] "On the whole," he says, "it must be granted that hitherto the attempts made to evoke in animals a well marked syndrome characteristic of adrenal deficiency have been singularly disappointing. The contrast is great when we leave this desert, where the

3. Is Epinephrin Indispensable to Life? editorial, J. A. M. A. **73**: 192 (July 19) 1919; The Debated Theories of Suprarenal Function, ibid. **74**: 326 (Jan. 31) 1920.

physiologists and experimental pathologists have wandered, striking many rocks but finding few springs, and pass into the exuberant land of clinical endocrinology, flowing with blandest milk and honey almost suspiciously sweet."

How much longer will our profession continue to merit such criticism? Just so long as our profession continues to give serious consideration to pseudoscientific rubbish promulgated by the exploiters of organic extracts.

CENTENARY OF THE FRENCH ACADEMY OF MEDICINE

Our Paris correspondent has told [1] of the celebration, beginning Dec. 20, 1920, of the most important anniversary connected with French medicine—the centenary of the Academy of Medicine, which has the same preeminence in medicine that the general French Academy bears in relation to the more liberal arts. Its roster bears only the names of those who have by years of achievement won recognition in the profession, and there are few below middle life who have been accorded the honor of election. Trousseau, who received the academy prize in 1837 for his classical treatise on laryngeal phthisis, was considered unusually fortunate in that he gained admission in his thirty-sixth year. The academy was founded in 1820 by royal edict of Louis XVIII, although its name appeared as early as 1804 as an entirely ephemeral institution, the chief interest attaching to it being that Dr. Guillotin was one of its presidents. The French Revolution, with its ruthless submergence of all that pertained to the old order of things, dissolved all medical associations, and among these the Academy of Surgery and the Royal Society of Medicine, which after nearly a century of existence disappeared, to come to life again in the founding of the present Academy of Medicine. The initial concept of the academy was the formation of a body which, by its scientific labors and achievements, should be an asset to the state in matters of public health. The decree which constituted it lays down certain functions which it was to carry on. Among them were improvements in the method of vaccination against smallpox, the measures for the control of epidemic diseases, regulations as to and concerning legal jurisprudence, and the examination of and passing on new remedies, together with the limitation of the sale of nostrums, both those of French and those of foreign origin. While the present academy still holds the latter function, its work, to a large degree, is hampered by the administration of French law, as was pointed out in a former editorial.[2]

The *Bulletin* of the Academy for Dec. 20-27, 1920, is devoted to a review of the history and labors of the society since its foundation. It records a century's achievement by men whose names are known the world over: Pinel, Laënnec and Broussais in the early days: Trousseau in the thirties: Villemin and Pasteur, and on down through the list of those who have added to the sum of certain knowledge which has lifted medicine from scientific guesswork to the dignity of a precise science.

The idea of the French Academy of Medicine was never that of an originating body, so far as medical discovery was concerned. It was the forum in which theories were to be discussed and approved or disapproved: the crucible in which the pure metal was to be tried out from baser alloy. Grisolle, one of the earlier presidents, expresses this when he says, "The duty of the academy is not that of making discoveries, but the recognition of those made; to encourage helpful innovations and to see that they do not run away with established custom and lead to paths which stray from the beaten road of scientific truth." Tardieu, Bouley and others who occupied the presiding chair voiced the same sentiment, and it was this sane and careful principle which built up the academy to the distinguished position which it now occupies. In 1861-1862 it was the action of the academy which made for the betterment of the condition of the hospitals of Paris, which, like many others of that period, left much to be desired from the standpoint of hygiene and management.

The efforts of the academy in respect to the necessity for universal vaccination against smallpox were unremitting, and it is incontestable that the spread of this preventive measure was largely due to the influence of this body of scientific men. In this fight, the names of Hervieux, Le Fort, Proust, Léon Colin, Lagneau and Brouardel stand out prominently, and the confidence which the French government had in the wisdom of this consultative body is expressed in Article 6 of the law of Feb. 15, 1902, in which, after the provisions for compulsory vaccination have been set forth, it is stated that this law is put into effect after consultation with the Consulting Committee of Hygiene and the Academy of Medicine. Dr. Camus, in his address delivered during the centenary, says in respect to smallpox: "In France, prior to 1877, the annual mortality varied between 1,500 and 3,000. After 1907, that is to say, thirty years later, it never reached 100, save in the case of Marseilles where, for some reason, vaccination was not thoroughly carried out until 1913. In Paris, after 1907, the mortality was never over twelve, save only in 1910 and 1919, when there were, respectively, eighteen and thirty-four deaths. During the first years of the war the mortality was nil—hitherto an unheard of thing." To have helped in the bringing about of a condition such as this seems reason enough for the existence and continuation of any scientific body.

It is not alone, however, in combating epidemics that the work of the academy has shown its worth. The researches of Villemin, Barth, Davaine and, later, Pasteur and Roux in the science of communicable diseases were sufficiently brilliant to uphold the high name of

1. The Centenary of the Academy of Medicine, J. A. M. A. **76**: 190 (Jan. 15) 1921; **76**: 323 (Jan. 29) 1921.

2. The Public Press in Medical Matters, editorial, J. A. M. A. **75**: 1274 (Nov. 6) 1920.

the academy and demonstrate its very real worth to the state. Connected with the advances in surgery are the names of Dupuytren and Cruveilhier; of Malgaigne and Guérin and Valpeau and many others, each one of whom brought something new, some advance for the approval of the academy and its consequent adoption by the profession. From its very beginning, this distinguished scientific society has been an asset to the state and an invaluable board of council and advice to those who thought that they saw with clearer vision improved means and better measures by which the health of the nation might be conserved. It has come to be the *corps d'élite* of those who practice medicine in any of its infinite branches. The proceedings of this centenary meeting, already referred to, and far too long to attempt to reproduce here, are an interesting record of steady achievement, of continued advance along the many and intricate specialties which make up the complex total of what medicine is today.

SPRUE

Modern methods of rapid transportation and travel have brought with them the possibility of a distribution of carriers of disease and disease itself in an active state to an extent not anticipated half a century ago. It is no longer an oddity to encounter various maladies in the temperate zones that formerly were strictly classified as tropical diseases. Institutes for the investigation of the latter are no longer confined to the hot climates or even semitropical zones. Amebic dysentery no longer deserves the distinction of being a tropical disorder, since it is intimated that nearly half a million of our soldiers may have been carriers of the infectious protozoan at the end of the World War.[1] Pellagra is assuming a geographic distribution beyond the limits that were assigned to it in the days when it was less frequently recognized. Outbreaks of considerable importance and sometimes persisting for several years have been observed in the northern United States, especially in institutions for the insane. MacNeal[2] has observed that in the geographic areas where pellagra prevails, its distribution is extremely uneven. The same comment applies in lesser degree to sprue. Although this disease is endemic in certain parts of Asia and is rare in the natives, while it affects primarily the foreigners residing there, a recent observer[3] has called attention to the fact that ever increasing communication between tropical and temperate countries has made possible the appearance in Europe and North America of more and more cases of that malady, which is widely distributed in the tropics under the names of Ceylon sore mouth, psilosis, diarrhea alba, aphthae tropicae, etc.

1. Kofoid, C. A., and Swezy, Olive: On the Prevalence of Carriers of Endamoeba Dysenteriae Among Soldiers Returning from Overseas Service, Am. J. Trop. Dis. **1**: 41 (Jan.) 1921.
2. MacNeal, W. J.: Pellagra, Am. J. M. Sc. **161**: 469 (April) 1921.
3. Brown, T. R.: The Absence of Pancreatic Secretions in Sprue and the Employment of Pancreatic Extract in the Treatment of this Disease, Am. J. M. Sc. **161**: 501 (April) 1921.

It seems clear, therefore, that almost no part of the civilized world can afford to neglect the study of many of the debilitating so-called tropical diseases which were once considered essentially as medical rarities by practitioners in our temperate zones. Not only our insular possessions, but nowadays even our homeland presents the problems squarely before the American medical profession. Recently some of the questions suggested by pellagra and amebic dysentery were considered from this point of view in THE JOURNAL.[4] In the case of sprue, which has long baffled the attempts to unravel its etiology, Brown[5] called attention to the absence of the pancreatic enzymes—trypsin, lipase, amylase—in a patient under his care. This finding would help to explain in part the character of the stools that are observed in cases of sprue, notably the large amounts of undigested and unabsorbed fats which they may exhibit. Some writers have actually described sprue as the manifestation of a "tropical pancreas" in which early congestion is succeeded by subsequent exhaustion of function.[6] At necropsy the pancreas has sometimes, though by no means always, been found to show cirrhotic changes.

More recently, new chronic cases of sprue investigated in this country by Brown[3] have fortified him in the belief that at least in some of such patients there is a complete absence of pancreatic enzymes. This view is fortified by the therapeutic finding that great improvement and, in some cases, apparently clinical cure can be brought about by the continued regular administration of preparations of pancreatic digestive enzymes. The statistics are still far too meager to warrant any extravagant statements; nevertheless, any tentative suggestion looking toward the amelioration of the symptoms in an admittedly obscure disorder can only be welcomed, especially when they involve nothing more radical than therapy with digestive ferments. This does not preclude the recognized empiric dietetic and hygienic management of the disease; nor should partial success in the direction of relief be allowed to overshadow or obscure the ignorance in which our knowledge of the actual nature of sprue is still deeply veiled.

4. What is the Cause of Pellagra? editorial, J. A. M. A. **76**: 1577 (June 4) 1921; Carriers of the Pathogenic Amebas of Dysentery, ibid. **76**: 1405 (May 21) 1921.
5. Brown, T. R.: Bull. Johns Hopkins Hosp. **26**: 289 (Oct.) 1916.
6. Sitt, E. R.: Diagnostics and Treatment of Tropical Diseases, Philadelphia, P. Blakiston's Son & Co., 1914, p. 245.

Team Work in Treatment of Tuberculosis.—Instead of a coordinated harmonious service working with a definite policy, and offering the advantages of all the methods of proved utility at just those periods when they are especially indicated, we find an incoordinate system of individual workers of varying ability and varying opportunity. There is an absence of team work, no "pull together," and administrative details swamp therapeutic effort. A multiplicity of forms are produced as evidence of work done, but in reality conceal defects, and are even of doubtful value for statistical purposes. The service, though vociferous, is inarticulate, as it possesses no authoritative voice.—H. Gauvain, *Brit J. Tuberc.* **15**:1, 1921.

Current Comment

THE BASAL METABOLISM OF GIRLS

At various times The Journal has directed attention to the relatively high basal metabolism and correspondingly larger food requirement of children in comparison with adults. According to the extensive calorimetric investigations of Du Bois,[1] the basal requirement of boys is 25 per cent. above that of the adult per comparable unit of size. It is still notably high just before puberty, but becomes lower when this developmental condition has been established. Considered in connection with the usually lively muscular activities of children—performances which in themselves call for a liberal expenditure of energy—the foregoing facts explain and justify the large appetites of growing boys. One writer [2] familiar with the lessons of human nutrition has remarked that lack of appreciation of this factor, or lack of provision for it, are the probable causes of much of the undernutrition seen in children of school age. The metabolism of growing girls has heretofore been considered experimentally far less than that of boys. It is fortunate, therefore, that the gap in our knowledge has in large measure been filled by Benedict and Hendry [3] in investigations conducted at the Boston Nutrition Laboratory of the Carnegie Institution of Washington on girls from 12 to 17 years of age. The data accumulated from careful observations on girl scouts verify the current beliefs as to the relatively enhanced nutritive needs of growing children. However, there seems to be little ground for assuming any special influence of puberty or the prepubertal age on the metabolism of girls.

VARIATION IN THE SIZE OF RED BLOOD CELLS

The red corpuscles form about 50 per cent. of the total mass of the blood. They are soft and flexible so that they can readily be driven through capillary channels narrower than themselves without undergoing any permanent change in shape. They are, however, susceptible to changes in size brought about by alteration of the chemical make-up of their fluid environment. Every one is familiar with the osmotic relationships of the red corpuscles whereby they swell or shrink, respectively, in hypotonic or hypertonic solutions. Price-Jones [4] of the British Medical Research Council has recently called attention to diurnal variations in the diameter of red cells within the circulation itself, namely, a gradual increase during the day and a diminution during sleep. These changes undoubtedly include a change in the volume of the individual erythrocytes. The variations in diameter, amounting in some cases to as much as 0.6 micron, suggest that the red cells swell and shrink in association with bodily activity. In harmony with this it has actually been observed that violent exercise increases these changes. The probable explanation has been found in the differences in the reaction of the blood, though the details are scarcely known. At any rate, even the red cells are more sensitive to their plasma environment than is commonly supposed.

1. Du Bois, E. F.: The Metabolism of Boys 12 and 13 Years Old, Compared the Metabolism at Other Ages, Arch. Int. Med. **17**: 887 (June) 1916.
2. Lusk, Graham: Science of Nutrition, Philadelphia, W. B. Saunders Company, 1917, p. 559.
3. Benedict, F. G., and Hendry, Mary F.: The Energy Requirements of Girls from 12 to 17 Years of Age, Boston M. & S. J. **184**: 217 (March 3) 1921; 257 (March 10); 282 (March 17); 297 (March 24); 329 (March 31).
4. Price-Jones, C.: The Diurnal Variation in the Sizes of Red Blood Cells, J. Path. & Bacteriol. **23**: 371 (Dec.) 1920.

THE TOXICITY OF FLUORIDS

The long struggle which resulted in the enactment of the federal Food and Drugs Act of 1906 brought the death knell to a considerable number of nefarious practices, including the use of a variety of physiologically objectionable food preservatives. The investigations conducted under governmental auspices by the much discussed Referee Board of Consulting Scientists have enriched our knowledge of the action of a number of substances in this class. The status of benzoic acid, salicylic acid, sulphurous acid and their derivatives, for example, has been exhaustively reviewed so that the salient facts are readily available to all interested. Among the less conspicuous substances that have at times acted in the rôle of food preservatives belong the fluorids. They have never been used commonly, and probably few persons realize that they have ever been found in foods or recommended for use to preserve the latter. This insidious way in which they may therefore gain entrance to the body is supplemented by the report that "phosphate rock," which is alleged to be used to some extent in the production of the ingredients of certain types of baking powders, is likely to obtain fluorids. A statement attributed to the Bureau of Chemistry indicates that the finished baking powders are made from the acid calcium phosphate containing in the neighborhood of 0.04 per cent. of fluorin; but, if carelessly manufactured, i. e., if calcium acid phosphate is used, they may contain as much as 0.5 per cent. Expressed in terms of the possible daily intake in this form by an adult, this is estimated to be equivalent, in the extreme range, to from 0.77 to 78.1 mg. (from $\frac{1}{85}$ to $1\frac{1}{5}$ grain) per person, or from 0.13 to 1.3 mg. per kilogram of body weight. Doses of this order of magnitude administered to animals by Sollmann, Schettler and Wetzel [1] of the Western Reserve Medical School did not perceptibly affect growth or food consumption. Considerably larger doses were not so innocuous and, in the extreme cases, resulted in progressive impairment of growth and food intake. The damage is proportional to the dose. It tends to outlast the administration of the drug, so that animals once impaired remain permanently below normal. The effects are not due to "general salt action," for a corresponding intake of common salt is not harmful. It is consoling to know that under usual conditions of the food industries and food consumption the possible ingestion of fluorid is likely to be far below the deleterious range; but a substance that may be markedly toxic in daily doses of 15 mg. per kilogram of body weight can never be regarded as other than a potential menace—particularly as there is no valid excuse for its presence in the diet.

1. Sollmann, Torald; Schettler, O. H., and Wetzel, N. C.: Studies of Chronic Intoxications on Albino Rats. IV, Fluorid, Chlorid and Calcium, Including Sodium Fluorid, Sodium Chlorid, "Phosphate Rock," Calcium Phosphate (Precipitated) and Calcium Carbonate (Precipitated), J. Pharmacol. **17**: 197 (April) 1921.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

State Laboratory.—According to an announcement of the state health officer, a building has been purchased in Montgomery to be used for the new state laboratory and Pasteur Institute. In addition to furnishing space for the laboratory the building will provide for the housing of all the health department's various bureaus and subdepartments. The appropriation made by the legislature amounts to $30,000 which has been available for sometime. In the entrance hall of the new quarters of the health department will be placed a marble bust of Dr. Jerome Cochran, formerly health officer for Alabama and the originator of this state's present public health system.

ARKANSAS

State Medical Board.—Governor McRae, May 19, appointed the following physicians to fill vacancies on the state medical board; Drs. John C. Swindle, Walnut Ridge; James W. Walker, Fayetteville; John T. Palmer, Pine Bluff, and Hendric A. Ross, Arkadelphia.

CALIFORNIA

New Vaccination Law.—Governor Stephens has signed the measure which repeals the present compulsory vaccination law and makes the state board of health the sole authority for regulating smallpox epidemics. The new law prohibits the adoption of rules and regulations relating to vaccination by school or local health authorities.

COLORADO

Association of Anesthetists.—The Colorado Association of Anesthetists was organized, May 6, at Denver, and the following officers elected: president, Dr. Karl F. Roehrig, Denver; vice president, Dr. Lloyd R. Allen, Colorado Springs; secretary, Dr. George B. Lewis, Denver; treasurer, Dr. O. C. Hickman, Denver; Dr. David E. Hoag, Pueblo, representative to the American Association of Anesthetists.

DISTRICT OF COLUMBIA

The American Therapeutic Society.—At its twenty-second annual meeting held, June 3, at Washington, the society went on formal record as opposed to the manner in which physicians are restricted by prohibition enforcement.

Poisoning of Medical Students.—Twenty-five students, members of the freshman and sophomore classes of Georgetown Medical School, residing at Phi Chi fraternity house, were stricken with food poisoning, May 31, and fourteen were taken to the Georgetown University Hospital in a serious condition. Canned food eaten by the students Sunday evening is believed to be the cause of the poisoning.

ILLINOIS

Chicago

Lectures at University of Chicago.—Dr. Carlos Chagas, head of the department of health in the Republic of Brazil, and discoverer of Chagas' disease, will give two lectures on American trypanosomiasis at the University of Chicago, June 22 and 23, at 5 p. m.

Honor Madame Curie.—The Chicago section of the American Chemical Society will present the eleventh Willard Gibbs medal, founded by William A. Converse, to Madame Marie Sklodowska Curie at a reception and dinner to be given on Tuesday evening, June 14, at the Congress Hotel.

Rush Class Takes Annual Outing.—The class of 1889 of Rush Medical College, in accordance with a custom adopted on its thirtieth anniversary, held a reunion recently as the guests of Dr. Frank Boyd, Paducah, Ky. Drs. Henry A. Norden, Otto Wernicke, George F. Butler, John Minahan, E. P. Rice, Henry De Buy, Herbert Robinson, E. W. Kellogg and H. A. Tyler accompanied Dr. Boyd on a trip from Paducah to Florence, Ala., up the Tennessee River. Last year the class visited Dr. E. B. Cooley, Danville, Ill., and in 1919, Dr. J. Minahan, Green Bay, Wis.

IOWA

Balsa Wood for Shoes.—The University Hospital, Iowa City, has had imported from Honduras a log of Balsa wood to be used for building lifts on shoes for orthopedic cases. This wood is only one half the weight of cork.

LOUISIANA

Examination of Restaurant Employees.—In cooperation with the city board of health, Child's restaurant in New Orleans has submitted its eighty-five employees to a rigid medical examination by the city health officers. According to a statement of the manager of the restaurant, Child's restaurants all over the country are having their employees examined, and giving them health certificates.

MARYLAND

Personal.—Dr. John Howland, Baltimore, professor of pediatrics at the Johns Hopkins Medical School, director of the Harriet Lane Home, and pediatrician-in-chief of the Johns Hopkins Hospital, has declined the offer of the medical school, at Harvard University, to become professor of children's diseases at that institution. Dr. Howland will remain at the Johns Hopkins.——No decision has been reached in the matter of the selection of a successor to Dr. William S. Thayer, Baltimore, as professor of medicine.——Dr. Joseph Alfred Chatard, Baltimore, has been appointed by Governor Ritchie a member of the state lunacy commission, to fill the vacancy caused by the resignation of Dr. Henry M. Hurd, Baltimore.

Election of Officers.—At the reunion of the alumni of the University of Maryland held, May 30-31 and June 1, in Baltimore, the following officers were elected: Dr. John B. Schwatka, Baltimore, was reelected president; Drs. James M. H. Rowland, Baltimore, Robert P. Bay, Baltimore, and Guy Steele, Cambridge, vice presidents; Dr. William S. Love, Baltimore, secretary; Dr. Charles U. Smith, Baltimore, treasurer, and Dr. William J. Todd, Mount Washington, necrologist. Drs. James C. Lumpkin, Baltimore, Walter D. Wise, Baltimore, Hugh W. Brent, Baltimore, William B. Perry and Benjamin Merrill Hopkinson, Baltimore, were elected to the executive committee and Drs. John R. Winslow, Robert L. Mitchell, Baltimore, William J. Todd, Mount Washington, Hiram Woods, Baltimore, and Frederick R. Malone, Greensboro, were chosen to serve on the advisory council.

University of Maryland Physic Faculty Resigns to Reorganize.—Members of the Physic Faculty, which is the medical faculty of the University of Maryland Medical School, have placed their resignations in the hands of Dr. Albert F. Woods, president of the university. This action has been initiated by the medical men themselves in order that the faculty might be reorganized on a "half-time pay" basis. At present many of the faculty give half of their time and sometimes considerably more without any remuneration. Just when the reorganization will take place depends largely on how soon funds become available to increase the work of the institution and develop it in accordance with the plans that have been made. The plans call for doubling the $500,000 a year now expended by the hospital and medical school for running expenses, and providing a building fund, about $1,000,000 of which would be used for construction and equipment of new units to the institutions.

Experiment in Public Health Work.—Dr. Richard B. Norment, Jr., assistant surgeon in the U. S. Public Health Service, has been appointed by the government to organize and direct under the immediate supervision of the state board of health an experiment in public health work, which is expected to produce far-reaching results for Maryland. In appointing him for this work the government has relieved him of his duties as epidemiologic aide to Maryland. Plans have been made to develop in some county in Maryland an ideal health administration as a demonstration of what can be done when means are provided to apply all that modern science has developed as practical in stamping out disease. Cooperating with the U. S. Public Health Service will be the state department of health, the School of Hygiene and Public Health of the Johns Hopkins University and the International Health Board. All these agencies will participate in the financing of the demonstration and in furnishing personnel. The experiment will cost about $28,000 a year. No definite plans have been completed, but it is understood that the state board of health will be looked to as the administrative unit through which the others will work.

MICHIGAN

Meeting of Industrial Physicians and Surgeons.—In connection with the meeting of the state medical association, the Michigan Association of Industrial Physicians and Surgeons held its meeting at Bay City, May 24, under the presidency of Dr. Harry N. Torrey, Detroit. Dr. Francis D. Patterson, Philadelphia, secretary of the National Association, delivered an address.

State Medical Meeting.—The fifty-sixth annual meeting of the Michigan State Medical Society was held, May 24-26, at Bay City, under the presidency of Dr. Angus McLean, Detroit. Visiting physicians who appeared on the program were: Dr. Curtis Field Burnam, Baltimore, who spoke on "Radium"; Dr. Thomas Hubbard, Toledo, Ohio, "Diagnosis and Treatment of the Disease of Esophagus," and Dr. Mazyck P. Ravenel, Columbia, Mo., president of Public Health Association, "The Influence of Disease on History." The following officers were elected for the ensuing year: president, Dr. Frederick C. Warnshuis, Grand Rapids; vice president, Dr. Guy L. Kiefer, Detroit; secretary-treasurer, Dr. Grover C. Penberthy, Detroit.

MINNESOTA

Personal.—Dr. Harold E. Robertson, Minneapolis, director of the department of pathology and public health at the University of Minnesota, has been transferred to the graduate school at the Mayo Foundation, Rochester.

Consolidation of Three Offices.—The U. S. Public Health Service, the Federal Board of Vocational Rehabilitation, and the Bureau of War Risk Insurance in the tenth federal district have consolidated with headquarters in Minneapolis. Dr. L. A. Walker, formerly director of the Public Health Service, will direct the new organization. All business of the combined departments will be handled at Minneapolis instead of being forwarded to Washington, D. C. Minnesota, North and South Dakota and Montana are the states in the tenth district.

MISSOURI

State Medical Secretaries.—The thirteenth annual meeting of the Missouri Society of Medical Secretaries was held, May 24-26, at St. Joseph in connection with the state medical meeting.

State Medical Meeting.—The annual meeting of the Missouri State Medical Association was held, May 24-26, at St. Joseph, under the presidency of Dr. Wilson J. Ferguson, Sedalia. The officers elected for the ensuing year are: president, Dr. Albert H. Hamel, St. Louis; vice presidents, Drs. Bernard W. Hayes, Jackson; Clarence W. Russell, Springfield; Thornton E. Moore, Trenton; Godfrey O. Cuppaige, Moberly; Horace W. Carle, St. Joseph; secretary, Dr. Edward J. Goodwin, St. Louis (reelected), and treasurer, J. Franklin Welch, Salisbury (reelected). The association endorsed the referendum movement for the repeal of senate bill 433, with only two dissenting votes, and pledged itself actively to cooperate with the Missouri Public Health League in every possible manner to insure the full success of the movement. The 1922 meeting will be held next May in Excelsior Springs.

NEVADA

State Medical Meeting.—The Nevada State Medical Society will hold its annual meeting at Elko, June 24-25.

NEW HAMPSHIRE

State Medical Meeting.—The one hundred and thirtieth annual convention of the New Hampshire Medical Society was held at Manchester, May 26-27, under the presidency of Dr. Alpha H. Harriman, Laconia. The officers elected for the ensuing year are: president, Dr. Charles S. Walker, Keene; vice president, Dr. Herbert L. Smith, Nashua; secretary and treasurer, Dr. Dennis E. Sullivan, Concord.

NEW YORK

Benefit for Ossining Hospital.—The Sleepy Hollow Club gave a "Fiesta Mexicana" for the benefit of the Ossining Hospital which realized the amount of $2,000.

New York City

Two Typhus Cases in Brooklyn.—Two new typhus cases have been reported in Brooklyn to the health department. One has been isolated in the Beth Moses Hospital and the other in the Jewish Hospital.

Hoffman Island to Have Water Supply System.—The House bill appropriating $500,000 for the improvement of the health station at Quarantine includes a sum to meet the expense of installing a water supply system on Hoffman Island.

Degrees Conferred by Columbia University.—Honorary degrees of Doctor of Science were awarded to Mme. Marie Sklodowska Curie, John Cambell Merriam, president of the Carnegie Institute of Washington, and to Dr. Samuel Lambert, dean emeritus of the Columbia Faculty of Medicine. The degree of Doctor of Medicine was conferred on 151, among whom were six women, the first to receive degrees from the College of Physicians and Surgeons of Columbia University.

Personal.—Dr. Royal S. Copeland, health commissioner, received the honorary degree of Master of Arts at the Hahnemann Medical College and Hospital, Philadelphia, and made the principal address to the graduating class.——Dr. Smith Ely Jelliffe was made an Honorary member of the Société de médecine mentale de Belgique at its recent reunion.——Dr. LeRoy R. Stoddard sailed on the Holland-American liner *Nieuw Amsterdam* to return the visit of Dr. Julien Bourguet, who came here last fall to study American methods of making over battle-scarred faces. Dr. Stoddard will lecture before the French Academy of Medicine, and he will show moving pictures demonstrating his method of work.

PENNSYLVANIA

Hospital News.—St. Margaret Memorial Hospital, Pittsburgh, announces the recent opening of a new wing to be utilized by the department of pediatrics. The new department, which will be able to accommodate thirty-five patients, will be in charge of Dr. Pervical J. Eaton. Under Dr. Homer Grimm, the department of roentgenology has been reorganized and modern equipment installed.

Cancer Clinic.—Because of the alarming increase of cancer each year, a national effort is being made to stop it. A special cancer clinic was held at St. Luke's Hospital, Bethlehem, by Dr. George E. Brewer, New York, and Drs. John G. Clark and Henry K. Pancoast, Philadelphia, which was attended by physicians and surgeons of the Lehigh valley. The public meeting was held in St. Luke's auditorium at which many facts concerning cancer were presented by physicians.

Philadelphia

Personal.—Dr. Levi J. Hammond of the surgical staff of the Methodist Episcopal Hospital delivered the address at the graduating exercises of the Methodist Episcopal Hospital Training School held, June 2, in St. Luke's Church.

President of Jefferson Medical College Receives Degree.—An interesting feature of the commencement exercises, June 8, of the Jefferson Medical College was the conferring of a degree of doctor of laws on William Potter, who, for more than thirty years has been the president of the college.

Jefferson Alumni Banquet.—Alumni of the Jefferson Medical College attended the largest gathering of the kind ever held in the history of the institution when the annual banquet of the alumni association was held in the ballroom of the Bellevue Stratford, June 3. John W. West, president of the association, acted as toastmaster, and the speakers included Director of Public Welfare Ernest Tustin, Alba B. Johnson, Dr. Hobart A. Hare and Dr. Wilmer Krusen, former director of public health.

Changes at Jefferson.—Dr. Edward E. Montgomery, after having held the chair of gynecology at Jefferson Medical College for twenty-nine years, has resigned from all active college work, but will continue his private practice. Dr. Montgomery has been made professor emeritus at Jefferson Medical College and Dr. Brooke M. Anspach has been elected to fill the vacancy made by Dr. Montgomery's resignation. Dr. Anspach was graduated from the medical department of the University of Pennsylvania in 1897, and is a member of the American Gynecological Society.

RHODE ISLAND

Gift to State Medical Society.—The outstanding feature of the one hundred and tenth annual meeting of the Rhode Island Medical Society held, June 2, at Providence, under the presidency of Dr. Jesse E. Mowry, Providence, was the gift of $5,000 to the society, by Dr. Edward M. Harris, Providence. The fund will be divided, $3,000 going toward the endowment and $2,000 toward printing expenses. The officers elected for the ensuing year are: president, Dr. George S. Mathews, Providence; first vice president, Dr. Frank E. Peckham; second vice president, Dr. Arthur T. Jones; treasurer, Dr. James W. Leach, all of Providence. Dr. Halsey DeWolf,

secretary of the trustees of the Caleb Fiske Fund, announced that under the terms of the fund a prize of $200 will be awarded at the annual meeting, in 1922, for the best essay submitted on "Radium Therapy." As none of the essays submitted on the subject of "Compulsory Health Insurance" were of sufficient merit, no awards for the prize were made this year by the trustees.

TEXAS

Personal.—The appointment of Dr. James D. Blevins, Beaumont, as acting assistant surgeon, U. S. P. H. S., has been announced. Dr. Blevins will succeed the late Dr. Oscar Davis as representative of the service with the Texas State Board of Health as venereal control officer.

WEST VIRGINIA

Personal.—Dr. William Thornton Henshaw, Martinsburg, has been appointed by Governor Morgan to be state health commissioner for West Virginia.

WISCONSIN

Health Laws Adopted.—The state legislature, which recently adjourned, adopted a number of laws on health subjects, among them one requiring a full-time health commissioner in cities of 25,000 or over. Bills were also adopted increasing the number of communicable diseases subject to notification or quarantine; forbidding the advertisement of any treatment of venereal diseases, and increasing the appropriation for the state board of health. The bill repealing the compulsory vaccination law was defeated in the senate by a vote of 20 to 9.

WYOMING

Appointments to State Board of Health and State Board of Medical Examiners.—Governor Carey, May 23, appointed Drs. Galen A. Fox, Cheyenne; Jesse D. Lewellen, Powell; Edward S. Lauzer, Rock Springs, and Frederick A. Hodson, Sheridan, as members to reorganize the board of health. He appointed the following members for the state board of medical examiners: Drs. Albert B. Tonkin, Riverton; C. O. Edington, Laramie; Charles E. Stevenson, Sheridan; Albert C. Hamilton, Thermopolis, and John D. Shingle, Cheyenne. The last three were reappointed. Dr. Albert B. Tonkin, Riverton, is the permanent secretary of the board, spending his entire time acting as the board's executive.

CANADA

Public Health.—There were 519 cases of venereal disease reported in Ontario in May, as against 191 in May, 1920. There were 533 cases of smallpox reported in May, 1921, as against 290 in May, 1920.

Ontario Medical Association.—At the annual meeting of the Ontario Medical Association, held in Niagara Falls, Ont., June 1-4, Dr. Frank J. Farley, Trenton, was elected president; Dr. Edward R. Secord, Brantford, first vice president; Dr. Thomas C. Routley, Toronto, secretary, and Dr. George Stewart Cameron, Peterborough, treasurer. The next annual meeting is to be held in Toronto. Dr. Frank Billings, Chicago, delivered the address in medicine. The attendance was large, perhaps the largest in the history of the association, nearly 1,000 members being registered. This may necessitate the holding of a supplementary meeting in December, which may be deemed necessary to consider the whole question of the relation of the profession to the prescribing of alcohol. According to about 500 replies received to a questionnaire, the opinion obtains that approximately sixteen liquor prescriptions are needed a month in the practice of each physician.

GENERAL

Public Health Ambulance in the Philippines.—The department of public health of the Philippine Islands is planning to purchase a truck which will be used for propaganda and public health work in the different parts of the island. This special ambulance will carry clinical and surgical material for the treatment of all kinds of accidents and diseases besides popular literature, lantern slides, films and public health models.

Journal of the Philippine Islands Medical Association.—The Manila Medical Society aided by a grant from the Philippine General Hospital has just issued the first number of the *Journal of the Philippine Islands Medical Association*. It will contain the proceedings of the association and of the Manila Medical Society as well as clinical contributions of the various departments of the hospital. Contributions are also to be published from physicians practicing in other parts of the Philippine Islands.

Senate Approves Appropriation for Social Hygiene Board.—The Interdepartmental Social Hygiene Board may be reestablished as a result of the action of the Senate in approving an appropriation of $425,000 contained in the Deficiency Appropriation bill; of this amount $200,000 is to be used for assisting the states in protecting the military and navy forces against venereal diseases; $200,000 is to be used by the states for the prevention and control of venereal diseases outside of the army and navy; $25,000 is to be used for administration expenses of the board at Washington, D. C. If the House of Representatives acquiesces in the Senate action, the legislation will be effective. The action of the Senate was due largely to a plan for venereal disease control agreed on by Rear Admiral Stitt, Surgeon-General of the Navy, Surgeon-General Ireland of the Army and Surgeon-General Cumming of the Public Health Service, and submitted by them to the chairman of the Senate Committee on Appropriations.

Hospitalization Board Report Delayed.—The report of the Hospitalization Board appointed by Secretary of Treasury Mellon to select the sites for new government hospitals and the institutions already owned and operated by the government to be extended and improved has been delayed. Upon the recommendations made by this board depend the expenditure of the $18,500,000 appropriated by Congress at the last session for larger hospital facilities to care for the disabled soldiers of the war. The delay in the report is due to a measure introduced in Congress by Representative Langley of Kentucky amending the original act, which provided that $6,100,000 should be expended for the extension of present hospitals owned by the government and the other $12,400,000 for the erection of five new hospitals. Mr. Langley's amendment removes this restriction and gives the Secretary of the Treasury the authority to expend the entire amount either for new hospitals or for the reconstruction of old ones. At a recent meeting members of the Hospitalization Board composed of four of the most prominent physicians in the country postponed its report pending the passage of this amendment by Congress so that its recommendations, many of which have already been reached, will harmonize with the law.

Norwegian Physicians Receive Questionnaire on Prohibition.—The Norwegian Physicians' Association is circularizing Norwegian physicians residing in America in an endeavor to find out something regarding the operation of the Volstead Act. The following questions are being asked:

1. What position do the American physicians as a body take with respect to the prohibition of alcohol?
2. Do the American physicians regard alcohol as a suitable medicine and if so, for what particular diseases?
3. Is alcohol regarded as an active prophylactic against colds, influenza, pneumonia, etc., and if so, in what form?
4. Does the American medical profession regard prohibition as injurious from a medical point of view?

Has prohibition prevented patients from securing sufficient alcohol for medicinal purposes?

5. How many American physicians have taken out "permits"?

Have many physicians transgressed the law and been punished, and about how many?

How many registered physicians are there at present in the United States?

6. Are the physicians who have taken out permits bothered by persons that want alcohol but are not ill?
7. Are physicians bothered with requests for prescriptions for alcohol for prophylactic purposes?
8. Are there any reliable statistics of diseases from alcohol before and after prohibition, and if so, what do they indicate?

Are accidents caused wholly or in part from the use of alcohol increasing or diminishing since prohibition went into effect?

9. Is there any difference in the attitude of country and city physicians in regard to alcohol prescriptions?

And is there any difference in the attitude in this respect of physicians who practice principally among foreign born, particularly Norwegians and those who practice principally among native Americans?

10. Please state anything further you may wish in regard to the relation of physicians to the alcohol question and the prescribing of alcohol as a medicine.

New Volstead Bill Reported Favorably.—The bill introduced by Representative Volstead of Minnesota prohibiting the sale of beer for medicinal purposes has been reported favorably to the House of Representatives for passage after extended hearings. The report declares that the main purpose of the measure is to prevent the use of beer as medicine and is necessary for the enforcement of prohibition because of an opinion of former Attorney-General Palmer, permitting the sale of this beverage on a physician's prescription. "The effect of that opinion," the report adds, "is to take from the Commissioner of Internal Revenue, control of the permits and prescriptions and lodge that control in those who would profit by their abuse. It is idle to argue now whether that opinion is right or wrong, as it is considered binding on the administration until it is set aside by the courts." The report

further declares that the evidence presented to the committee at its hearings shows overwhelmingly that beer has never been recognized as medicine or essential to the cure of any disease.

The section of the bill relating to doctors and physicians, which was changed from its original form by the committee follows:

"No physician shall prescribe nor shall any person sell or furnish on any prescription any vinous liquor that contains more than 24 per cent. alcohol by volume, nor shall anyone prescribe or sell or furnish on any prescription more than one-fourth of one gallon of vinous or any liquor that contains more than one-half pint of alcohol, for use by any person within any period of ten days.

"No physician shall be furnished with more than one hundred prescription blanks for use in any period of ninety days, nor shall any physician issue more than that number of prescriptions within any such period unless on application therefore he shall make it clearly apparent to the commissioner that for some extraordinary reason a larger number is necessary, wherupon the necessary additional blanks may be furnished him."

LATIN AMERICA

Plague in Mexico.—Plague has reappeared at Tampico, Mexico. Thirty-eight cases were reported during April and May with twenty-five deaths. Antiplague measures which had been abandoned are being enforced again by the government.

Personal.—Dr. E. K. Tullidge of Johns Hopkins University is now in Mexico where he will visit the states of Tabasco and Veracruz to make some pathological studies on pernicious forms of malaria.——Dr. F. Castillo Najera is at present managing editor of the newspaper, *El Heraldo de México.*

Medical Society Elects Officers.—At a recent meeting of the medical society of Córdoba, Argentine, new officers were elected as follows: president, Dr. J. C. Lascano; vice president, Dr. R. Pedernera; secretaries, Dr. C. G. Carranza and J. B. Ferrer; treasurer, Dr. G. V. Stuckert; members, Drs. B. Galíndez, A. C. Magnin and J. Orrico.

FOREIGN

Typhus Fever in Spain.—There have occurred several cases of typhus fever in the province of Murcia, Spain.

Memorial to Medical Victims of the World War in Belgium.—A monument was unveiled, May 29, in the Parc Léopold at Brussels in memory of the physicians, pharmacists and other members of the medical profession who died for their country during the World War.

Gifts to the German Psychiatry Institute.—Professor Kraepelin of Munich announces that the German Institute for Research in Psychiatry, of which he is director, has received gifts and bequests this year totaling over 1,500,000 marks, and the collections and the library have also been notably enriched by gifts.

Graduate Courses in Italy.—Practical two, three or four weeks courses in obstetrics and gynecology and in ear, nose and throat diseases have been organized at Naples, and courses on tuberculosis at Naples, Turin and Genoa. All are to be given by various professors on the respective medical faculties.

Personal.—Dr. Richelot, author of numerous works on surgical topics and president of the Académie de Médecine, has been appointed on the Carnegie Foundation to succeed the late Dr. Bucquoy.——An oil portrait was recently presented to Prof. K. Faber of Copenhagen on the twenty-fifth anniversary of his incumbency of the chair of clinical medicine. The presentation was made with much ceremony and tributes from friends.——A similar tribute is now being organized for the retiring professor of children's diseases at the University of Geneva, Dr. d'Espine.

Damages for Unjustified Seizure.—The *Bulletin Médical* relates that during a recent annual meeting of the organized otorhinolaryngologists of France, as Dr. Maurice rose to present an apparatus for the treatment of deafness, a policeman entered and seized the apparatus, a warrant for the seizure having been obtained by M. Zund-Burguet. The latter claimed that the apparatus was copied from one that he had invented for reeducation of the deaf. The courts have now decided that his claim was unjust, and he has been ordered to pay Dr. Maurice 25,000 francs as damages besides the costs of the suit, and publishing the court decision in twenty journals to be selected by Dr. Maurice.

Tribute to Mme. Curie.—Just before Mme. Curie left France for this country, she was given an ovation at Paris with a fête at the opera house to which the public thronged to do her homage. Prof. J. Perrin of the Sorbonne told of the devoted research of the Curies in their wooden laboratory, and the way in which they gave the results of their work freely to science, keeping nothing for themselves, and even distributing to other research workers the precious substance which it had cost them such infinite pains to produce in minute quantities. Among other features of this gala public gathering "Pour la Science," Sarah Bernhardt read a poem by Rostand entitled "Hommage à la Science." The audience contributed, it is said, 50,000 francs which was given to the Radium Institute at Paris. Both the government and the university were represented in the ceremony, and the ministre de l'instruction publique delivered the opening address.

Graduate Courses in Paris.—Beginning July 1 a number of two, three or four weeks courses have been organized by groups of members of the Paris medical faculty, including Hartmann's, on diseases of the digestive tract and biliary apparatus, with operations and dissections; Gosset's on surgical technic (in English); Gilbert's on clinical medicine; Vaquez' on cardiovascular disease; Bernard and Renon's on tuberculosis, and Brumpt's on parasitology. In September, Faure's course on gynecology. August 17 to September 2, Nobécourt's course on children's diseases; October, Prenant's fourteen hour course on histology; October 5 to 30, Letulle's course on pathologic anatomy, and in October a series of twelve lectures by Pinard at the Puericulture School. A number of specialist professors will share in each course as a rule, with roentgenologists, etc. For further information and details address M. E. Weisweiller, at the Puericulture School, 64 rue Desnouettes, Paris, Tel. Saxe 75-78. The fees range from 50 to 80 francs, or 150 francs for each of the courses in the clinics. For all information in regard to medical matters otherwise, address or call at the A. D. R. M. at the Faculté de Médecine de Paris. This is the abbreviation of the Association pour le développement des relations médicales. A course of seventy-three lectures and demonstrations on dermatology at the Saint-Louis Hospital has just been concluded. This is a three months course, held regularly twice a year, beginning in April and October; the fee is 150 francs. Special courses will be organized on demand. All are open to foreign physicians and students. For information on these courses, address Dr. M. Bloch, Hôpital Saint-Louis, Paris.

Deaths in Other Countries

Dr. **C. Sigaud** of Lyons, author of works on digestion, human morphology, etc., aged 59.——Dr. **Jorge Aguilú** of Coamo, Porto Rico.——Dr. **E. Späth** of Esslingen, aged 80.——Dr. **L. Pfeiffer** of Weimar, one of the founders of the German Aerztevereinsbund and author of works on vaccination, applied anatomy, etc., aged 80.——Dr. **G. v. Dall' Armi** of Munich, aged 69.——Dr. **Morel** of Lyons.——Dr. **E. Houzé,** the creator of the school of anthropology at Brussels.——Dr. **W. Koster,** formerly professor of ophthalmology at the University of Leyden, aged 55.

Government Services

Dr. Rows to Advise Public Health Service

Dr. R. G. Rows of England, it was announced by the Surgeon-General of the U. S. Public Health Service, is shortly to visit Washington, D. C., to confer with the Surgeon-General and with the director of the War Risk Insurance Bureau in regard to mentally disabled soldiers. After this conference he will go to Perryville, Md., where the service keeps its great medical stores, to attend a clinic at the large Public Health Service hospital there and to familiarize himself with the types of cases under treatment. He will also attend the American Psychopathological Association meeting at Atlanta.

Standarization of Military Medical Teaching

Surgeon-General Ireland is planning to call a conference at the Medical Field Service School at Carlisle, Pa., in July, to bring about the standardization of teaching and instruction in the Medical Department of the Army. A revision of the textbooks will also be studied. This conference will be attended by all representatives of the Medical Department who are engaged in teaching functions throughout the country. The result of this conference will effect uniform instruction for medical officers in all their duties both in the field and in garrison. One of the main subjects to be taken up is "The Service of the Medical Department of an Infantry Division in Combat."

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 9, 1921.

The Prevention of Venereal Diseases

The battle between the National Council for Combating Venereal Diseases and the Society for the Prevention of Venereal Diseases continues with some acrimony. These rival manifestoes have been published:

SOCIETY FOR THE PREVENTION OF VENEREAL DISEASES

There are two important facts which cannot be ignored:

1. Venereal diseases are eating into the heart of our nation and causing untold misery, suffering, premature decay and death.
2. The clearest and most definite evidence exists to show that venereal diseases can be readily prevented by the adoption of immediate disinfection after exposure to infection.

NATIONAL COUNCIL FOR COMBATING VENEREAL DISEASES

Prophylaxis is not advised because:

1. Adequate instruction of the civil population as a whole in chemical disinfection is neither possible nor desirable.
2. Self-disinfection would frequently be imperfect, in which case infection would follow.
3. The provision of prophylactic outfits would encourage exposure to infection, and therefore also lead to an increase of infection.
4. It is not applicable to women.

Discussing the matter in *Public Health,* a health officer, Dr. Quine, writes:

Venereal disease is the physical concomitant of a moral evil. It is a part, it is not the whole. Harmful and destructive as it may be, it is not strong enough to drag our nation to destruction. On the other hand, history teaches that a lowering of public morality, if progressive, has sufficed in the past, and would suffice in the future, to lead to the fall of empires and nations. The issue is clear-cut. Any method of individual prophylaxis requires for its success that all youths and men should while still chaste have received instruction in the hygiene of fornication. It is one thing to teach children the physiology of sex and prepare them for their natural future as husbands and wives; such teaching can be naturally associated with the inculcation of moral principles; it is quite another thing to teach boys how prostitutes may be visited with impunity. If the "packet system" is to have the full backing of the state, the municipalities, the schoolteachers, the clergy, and all the forces which make up the machinery of our society, it could not fail to occur that illicit intercourse would rapidly cease to be a private wrong-doing; it would become a public vice. I see only two measures, the prosecution of which will stand the test of time, the raising of the standard of conduct and the treatment of existing venereal disease.

In a letter to the *Lancet,* Lord Gorell, president of the National Council for Combating Venereal Diseases complains of the partiality of the *Times* in supporting the Society for the Prevention of Venereal Diseases and the same time refusing him permission to state the one real point of difference between the policies of the two organizations, which lies in the inability of the Society for the Prevention of Venereal Diseases to accept the following definition of policy by the National Council for Combating Venereal Diseases:

Detailed official instructions as to the use of disinfectants in this connection will, if issued to the public on sale with the disinfectants, not only have an appearance of official condonation, but also lead to the assumption that such disinfectants are an official guarantee to the purchaser against contracting disease; moreover, such instructions, unless followed with scrupulous exactness after definite and personal tuition in their practice, may lead to an aggravation rather than a diminution of the incidence of these diseases.

The Campaign Against Tuberculosis

A tuberculosis bill is being passed through Parliament which will force local authorities to adopt schemes approved by the Ministry of Health. In the meantime the Public Health Committee of the London County Council has decided not to ask the council to approve of any considerable addition to the number of beds in occupation. This decision has been arrived at on two grounds: Institution treatment has proved disappointing, and there is great need of saving. Further, the committee does not believe in rushing to a sanatorium every case or suspected case of tuberculosis. It believes in a preliminary stay in hospital for diagnosis. The need for this is shown by the high percentage of error in diagnosis revealed by the following figures arrived at in the Brompton Hospital for Consumption and the City of London Chest Hospital:

	No. of Cases Observed	Tuberculous	Not Tuberculous
Cases accepted as tuberculous by Ministry of Pensions, but queried by tuberculosis officers.	73	11	62
Cases accepted by Ministry of Pensions and by tuberculosis officers as tuberculous, but passed through observation beds	21	3	18
Civilians recommended by tuberculosis officers for diagnosis	48	18	30
Civilian cases diagnosed by tuberculosis officers as tuberculous, but passed through diagnostic beds	16	2	14

Thus, 78 per cent. of the diagnosed cases were not tuberculous.

The Spahlinger Treatment of Tuberculosis

Replying to a question in the House of Commons, Sir A. Mond, Minister of Health, said that the Spahlinger treatment of tuberculosis had been under the consideration of the medical authorities in this country since 1914. During the last few months the Ministry of Health, following its usual practice of investigating the efficacy of all new methods of treatment of tuberculosis, had given special attention to the matter at the particular request of M. Spahlinger. The difficulty was in the supply of the serum and in the fact that reliable details of the clinical evidence were not forthcoming. An undertaking had been given that when supplies of the serum became available for independent scientific investigation in this country the Ministry of Health will facilitate an exhaustive examination of its efficacy. In the opinion of its medical advisers there was not yet available a sufficient body of evidence to justify the claims made for the treatment.

In the meantime, the treatment continues to be "boomed" in the lay press. It is alleged that 75 per cent. of the patients treated in 1913-1914 in this country have been traced and are alive. The "promoters" (whatever that may mean) of the treatment are stated to be awaiting the reports of physicians. If these should be favorable, they will aim at obtaining sufficient financial support to found an institution in England with M. Spahlinger at its head. Why, if the treatment is so valuable, it has emigrated from its native Switzerland before it could be put on a financial basis is not explained. It is added that unless support is soon received in England, we shall lose the services of M. Spahlinger, who has received a tempting offer from America.

PARIS

(From Our Regular Correspondent)

May 6, 1921.

Medicolegal Aspects of Cerumen

It is a well known fact that certain industries mark with peculiar signs the workmen who are engaged in them. Such signs, which may be designated as occupational signs, serve occasionally as means of identifying their possessors. The seat and the nature of the signs vary with the several occupations. They may be characterized by thickening of the epidermis, alterations of the skin, discolorations, deformations, or disturbances affecting muscle functioning, aponeuroses, tendon sheaths, or the bones and joints. The signs may be located on the hands, the arms, the trunk, the legs, the feet or on other parts of the body. All these signs have been studied in their minutest details and are described in all works on medical jurisprudence; but not a single one of these works mentions the occupational signs that are furnished by an examination of the cerumen for foreign bodies. Dr. S. Icard recently published an article on occupational signs, in the *Marseille médical.* He calls attention to the fact that every person who has remained for any length of time in a dusty atmosphere retains in the external auditory meatus the unequivocal evidence of such stay. The dust slowly pene-

trates the external meatus and is deposited there, becoming mixed with the cerumen, by which it is retained. In fact, most careful cleansing never succeeds in removing from the ear all the wax that it contains. A systematic cleansing, moreover, requires the use of a small instrument, the *cure-oreille,* or earpick, the manipulation of which would not be devoid of danger if a complete curettage of the external meatus should be undertaken. Furthermore, among the general run of workmen, cleansing of the ears is not given a great deal of attention, and the summary fashion in which this is carried out with the aid of a corner of a towel usually results in crowding farther back any foreign bodies that may be located near the exterior outlet of the external meatus. Therefore, if these foreign bodies are withdrawn, along with the cerumen in which they are embedded, and are carefully examined, they will frequently furnish evidence in regard to the environment of the subject and will thus become a supplementary means of identification. For a number of years past, with the aid of Monsieur Jean Maurel, whenever it chanced that any of his clients were employed in a dusty occupation, Icard has utilized the opportunity to examine the cerumen of the patient. The results thus secured have always been conclusive, and Icard soon reached the conviction that the occupational signs furnished by an examination of the cerumen could, under certain circumstances, be counted on to render service in certain medicolegal cases. He found that by simply examining the cerumen he could ascertain in what occupation the workman was engaged or had been engaged, even though the latter had not been employed at all for a considerable time. In a day laborer who had been working several months at the wharves, unloading coal, Icard found that the cerumen contained abundant traces of coal dust, although the workman, for more than a year past, had not been in direct contact with coal. In a workman who had been engaged in roasting coffee he found in the cerumen very characteristic dust of vegetable origin, which was derived from the hulls that cover the coffee beans. These hulls during the process of roasting become detached from the beans, and many small particles are thrown into the atmosphere. It had, however, been several months since the workman visited the plant. Icard found also bits of hair in the cerumen of a barber, and grains of starch in the cerumen of a baker, although both of these men had long since ceased to work at these trades.

A Japanese Method of Abdominal Massage

Drs. Léon Mac-Auliffe and G. Marie lately called the attention of the Academy of Sciences to a new method of abdominal massage introduced by Nakamura of Tokyo. The general principle of the method may be thus described: The subject lies in a dorsal, recumbent position, and the operator compresses with his thumb, gently and as deeply as possible, certain points of the abdomen. He waits until the tactile sensation thus secured (inflation, hardness, contractions, arterial beat, etc.) has become modified; then the pressure is slowly released. Nakamura considers ten seconds of increasing pressure and twenty-four seconds of relaxing pressure to be the average correct amount. The pressure will vary, naturally, in each case, but these areas should receive special attention: (1) a horizontal plane passing through the umbilicus, first 10 cm. to the left of this point and then 5 cm. to the right; (2) a plane passing two fingerbreadths below the xiphoid process, first 2 cm. to the left and then 2 cm. to the right of the median line; (3) a horizontal plane lying just between the two preceding and beginning with the external border of the rectus muscle to the left, emphasizing the median line and continuing several centimeters to the right of this. This peculiar form of massage brings about an excitation of the tendinous insertions of the rectus muscles; also a mechanical irritation of the internal branches of the seventh, eighth, ninth, tenth and eleventh dorsal or intercostal nerves and the nerves of the upper abdominal zone. Since all these nerves are distributed to the muscles and the integument of this region and innervate also the inferior intercostal muscles, they are consequently in relation to the respiratory movements, and, furthermore, since the sensory nerves of the anterior wall of the abdomen originate in the spinal nerves, which receive branches from the adjacent ganglions of the sympathetic trunk, in which originate the greater and the lesser splanchnic nerves, this method of massage is found to exercise a favorable influence on the stomach, the pancreas, the bile ducts, the intestine, aortic pressure, the portal vein and its intrahepatic branches, the lacteals, glycosecretion and renal elimination.

BUENOS AIRES

(From Our Regular Correspondent)

April 8, 1921.

Malaria Epidemic

Reports and telegrams, sent by the inspectors of national lands, state that there is a serious epidemic of malaria in the territory of Misiones bordering on Brazil and Paraguay. There were some endemic foci before; but, owing to the recent floods, the disease has spread and is still on the increase. The problem has been aggravated by a strike on river steamers which has prevented sending physicians and medicines. The national department of public health has sent Dr. Falcón and a sanitary guard to combat the epidemic and report whether the affected region should be included among those legally considered as malarial.

Antimalaria Work

Last year antimalaria work was conducted in the provinces of Jujuy, Salta, Tucumán, Catamarca and La Rioja y Santiago del Estero, which comprised a surface of 180,000 square kilometers with a population of 650,000 inhabitants. The work was in charge of twenty-seven physicians, who had at their disposal thirty dispensaries and fifty assistants for treatment and propaganda purposes. Seven hundred and forty-seven kilograms of quinin were employed both as a prophylactic and as a remedy, and 143,384 patients were treated. The malaria index during the summer was 15.27 per cent. at Tucumán, 42 per cent. at Jujuy, 22 per cent. at Salta, and 7 per cent. at Catamarca among 5,391 persons examined. There seems to be a decrease of primary malaria from 27.7 per cent. (in 1910) to 6.9 per cent. in 1920. Some leveling and filling in work (79,000 cubic meters at Santiago del Estero), cleaning of water spouts, drainage, etc., has been carried out. There were also distributed 2,650 mosquito nets. The personnel in charge of the antimalarial work devoted themselves also to vaccinating the people in accordance with existing laws on this subject.

University News

The present unstable situation does not seem to improve in most of our universities, which, in fact, are ruled by the students and some people who know how to handle the latter. The only university which seems to be well organized and to work harmoniously is the Buenos Aires University which, at least in the school of medicine, even seems to make progress. On the other hand, at Cordoba, a recent conflict compelled the dean of the medical school to resign; the director of the University of La Plata has also resigned, and other acts of indiscipline have occurred. Those in power forced the employment of professors without open competition, forbade those legally entitled to appointments to enter the university and compelled the removal of all persons they disliked. The result has been the removal of a large number of the best professors, apparently through a desire to replace them by foreign teachers.

BERLIN

(From Our Regular Correspondent)

May 6, 1921.

Modern Care of the Insane

With the creation, shortly before the outbreak of the war, of special welfare centers for the care of persons suffering from mental and nervous diseases, Germany entered on an entirely new system of caring for the insane. Berlin, Essen and Frankfort-on-the-Main were the first cities to adopt the new method. As explained by Professor Raecke, the Frankfort psychiatrist, writing in the *Westdeutsche Aerzte-Zeitung,* the main feature of the system is the establishment of a center of information and counsel. As a rule, the relatives of a person who is or is suspected of being unbalanced mentally meet here by appointment and present their complaints and give expression to their fears. Later the person concerned is summoned to appear. He generally responds voluntarily to the summons; otherwise he is sent for. Only in urgent cases is there immediate commitment to the hospital. If it is in any wise possible, the attempt is made to have the patient's own family assume charge of the case under the supervision of the nearest welfare center in the vicinity. The assurance is given that the patient will receive "family protection," as the term goes. The necessary advice is given in matters concerning care of the patient, eventual deprivation of majority rights, divorce and in any legal matters that may arise in connection with the case. Attests are furnished gratis to those who are unable to pay. Perhaps even more important is the further provision whereby the welfare center takes on itself the added responsibility of examining into demands for the dismissal of patients from hospitals for the insane. In numerous cases the release of patients cannot be effected because they are liable to suffer a recurrence or because of some persisting defect that renders them incapable of ordering their lives without assistance, there being no comfortably situated relatives who are willing to stand back of them and undertake the responsible and disagreeable task of supervision. Here, again, the welfare center is able, by continually furnishing advice, to lighten materially the problem of the relatives, so that they are much more inclined than they would otherwise be to assume the responsibility of the patient's care. Of late the question has been raised whether small benefits should not be allowed needy relatives who will consent to assume the care of patients. In view of the present high cost of institutional care, such a plan would constitute a considerable saving. The goal to be sought would then be that in the future only cases of acute psychosis or of paroxysmal insanity occurring during the course of chronic diseases would be referred for institutional treatment, whereas all quiet, chronic cases would be cared for outside of institutions.

Identification of Individuals by Means of Roentgen Rays

In Langenbeck House, Dr. Ludwig Hirsch, a Berlin physician and criminologist, delivered recently a lecture on identification by means of roentgen rays. The development of the modern police identification service is characterized by three principal features: photography, the Bertillon system of anthropometry, and dactyloscopy, or thumb and finger prints. After the invention of the photographic dry-plate in 1871, the criminal album, or so-called rogues' gallery, was instituted, which consisted of a vast number of photographs of criminals. These were accompanied by a list of nicknames and body marks. The photographs were arranged according to different classes of criminals. But, aside from the fact that subjectively induced changes in features and modifications that took place naturally in the course of years made identification difficult, it was soon found that the vast and rapidly increasing number of criminal photographs was in itself a hindrance when it came to the rapid identification of an individual. Therefore, the well known Bertillon system of anthropometry, which was introduced into the police service in 1892, constituted a big step forward. At the basis of this method lies the concept that a certain number of body measurements, after growth is completed, undergo no further change. The disadvantages of the system lie in the fact that the measurements must be taken with special instruments and by specially trained officials if uniform results are to be secured. In the case of juvenile culprits the method proved to be unreliable for the reason that the relation of various measurements was found to be disturbed by growth. But, even after growth was completed, certain differences in the ascertained measurements sometimes presented themselves, which were due to the increase or decrease in the mass of the soft parts, and especially of the fatty tissue, that covered the bones. The irregular life led by criminals is given as the reason for the fact that often, within a very short time, marked changes of this nature are brought about. Since 1903 the method of dactyloscopy, or the use of finger prints, has been more and more widely introduced into the criminologic service. It is based on the fact that there are probably scarcely two persons on earth in whom the papillary lines of the volar surface of the last finger joint are identically alike, and furthermore that these papillary lines undergo no changes in a given individual throughout the course of his lifetime. The lines are, to be sure, in childhood closer together than in later years, but remain unchanged in their form and direction. The finger-prints are arranged and indexed according to definite types; for example, arches, loops and whorls. But here, too, the ever increasing number of finger-prints registered and indexed under a given type makes it more and more difficult and time-consuming to identify given individuals. Dr. Hirsch, therefore, and likewise Dr. Bucky have hit on the idea of reviving to a certain extent the anthropometric method of Bertillon, but with this difference that in place of the inexact external measurements they propose utilizing the precise measurements of the bones securable by means of roentgen-ray illumination. In a series of subjects Dr. Bucky has made roentgenograms of certain finger bones and taken their measurements. To start with, the length of the first joint of the right middle finger and the measurements of three cross-sections (head base and center) were taken. On the basis of these four measurements alone it became apparent that in a fairly large group of persons there was no agreement between the measurements of the various individuals. The procedure can be made still more certain if the measurements of several bones are taken, since with the increasing number of figures the whole record becomes more exact and the differences between individuals stand out much more prominently. Just how many measurements will be necessary cannot be ascertained until the bones of a thousand persons or more have been measured. The method can either be employed independently or supplementary to the results of the dactyloscopic tests; especially in cases in which there is a great similarity in the formation of the papillary lines. In any event the advantages of such a roentgenologic identification system would be considerable. The method of registration could be reduced to a very simple form that would be intelligible to laymen so that it would not be necessary to employ specialists for the purpose. The recorded measurements could be easily telegraphed to distant localities. A further advantage lies in the absolute constancy of the recorded findings, since after the completion of growth no change in the dimensions of the bones has thus far been observed. Furthermore the procedure entails no heavy expense and requires no special skill or long individual training to carry it out, owing to the objective simplicity of the method. The technic consists in the simple illumination of one hand. The bone to be measured is adjusted orthodiagraphically and the measurements are read from a glass plate provided with a graduated scale. The measurement of the bones of one hand requires only three minutes.

Marriages

JOHN CLINTON FOSHEE, Grand Rapids, Mich., to Miss Lillian Merson of South Haven, Mich., May 17.

LEON B. STRATTON to Miss Myrtle C. Burke, both of Paso Robles, Calif., March 17.

MORRIS LOUIS FUCHS to Minnie B. Rubin, both of Philadelphia, June 7.

Deaths

Simon Baruch, New York; Medical College of Virginia, 1862; died, June 3, from heart disease, aged 80. Dr. Baruch was born in Germany, July 29, 1840. He received his preliminary education in Germany and after coming to America took up the study of medicine. During the Civil War he served as surgeon in the eld with the Confederate forces. Following the war he practiced medicine in Camden, S. C., from 1865 to 1881, when he removed to New York. Dr. Baruch served as president of South Carolina Medical Association in 1874, and as chairman of the South Carolina State Board of Health in 1880. After removing to New York he became much interested in the subject of hydrotherapy, becoming professor in this subject in the College of Physicians and Surgeons. He is given credit for introducing the municipal public bath in this country and such institutions have been named in his honor in Chicago and in New York. He was a prolific contributor to medical literature, his writings including numerous articles as well as several books on hydrotherapy. He served also as medical editor on the New York *Sun*.

William J. Burge, Edgewood, R. I.; College of Physicians and Surgeons in the City of New York, 1853; a member of the Rhode Island Medical Society; surgeon in the U. S. Navy during the Civil War; for three years president of the Providence Medical Association; died, May 28, aged 90.

Guy Carleton Bayley, Poughkeepsie, N. Y.; College of Physicians and Surgeons in the City of New York, 1872; a member of the Medical Society of the State of New York; for twenty-five years surgeon to Vassar Brothers' Hospital, Poughkeepsie; died, May 24, aged 70.

James E. Brooks, Blowing Rock, N. C. (license, North Carolina, 1897); a member of the Medical Society of the State of North Carolina; at one time superintendent of the North Carolina State Tuberculosis Sanatorium, Montrose; died, May 19, aged 50.

George R. Spratt, Coatesville, Pa.; University of Pennsylvania, Philadelphia, 1864; a member of the Medical Society of the State of Pennsylvania; for many years president of the Coatesville Board of Health; died, May 22, from cerebral hemorrhage, aged 81.

Samuel Andrew Johnston ⊕ Indianapolis; Medical College of Indiana, Indianapolis, 1902; associate in rhinology, otology and laryngology in Indiana University, Bloomington and Indianapolis; died, May 20, from cerebral hemorrhage, aged 44.

Leander A. Spaulding, Bluffton, Ind.; Medical College of Ohio, Cincinnati, 1877; a member of the Indiana State Medical Association; at one time president of the Wells County Medical Society; died, May 11, aged 73.

Charles D. Briner, Williamsport, Ohio; Starling Medical College, Columbus, 1886; a member of the Ohio State Medical Association; mayor of Williamsport; died, May 20, from Bright's disease, aged 59.

Martin J. Nevinger, Philadelphia; Hahnemann Medical College of Philadelphia, 1898; a member of the staff of the Women's Hospital, Philadelphia; died, May 26, following an operation, aged 44.

John A. Bailey, Biggsville, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1877; a practitioner of Biggsville for nearly half a century; died May 17, from cerebral hemorrhage, aged 76.

Daniel Greenlee Caldwell, Concord, N. C.; University of Maryland, Baltimore, 1885; a member of the Medical and Chirurgical Faculty of Maryland; died, May 13, from paralysis, aged 58.

Edgar Meyer Dinkelspiel, New York; University of California, Berkeley and San Francisco, 1899; a member of the Medical Society of the State of New York; died, May 23, aged 44.

Rives Andrew Manker, Memphis, Tenn.; Memphis (Tenn.) Hospital Medical College, 1908; a member of the Kentucky State Medical Association; died, May 19, from heart disease, aged 38.

Charles Florence McCarthy, Winchester, Mass.; Long Island College Hospital, Brooklyn, 1890; a member of the Massachusetts Medical Society; died, April 19, aged 51.

William K. Loughridge ⊕ Omaha; Lincoln (Neb.) Medical College, 1894; at one time a member of the staff of the Swedish Mission Hospital; died, May 19, from nephritis.

Jacob A. Fields, Giddings, Texas; Tulane University, New Orleans, 1875; mayor of Giddings; at one time a member of the state legislature; died, May 13, aged 69.

Frederick Charles Vogel, Cincinnati; Medical College of Ohio, Cincinnati, 1900; a member of the Ohio State Medical Association; died, May 18, aged 45.

Harry Joseph Cummings ⊕ St. Louis; Trinity Medical College, Toronto, 1889; a member of the staff of the City Hospital; died, May 15, aged 54.

Harlow A. Whitney, Northfield, Vt.; University of Vermont, Burlington, 1907; a member of the Vermont State Medical Society; died, May 19.

Irving J. Woodin, Independence, Calif.; Long Island College Hospital, Brooklyn, 1874; died in Los Angeles, May 10, from carcinoma, aged 69.

Benjamin Rush Hoyt ⊕ Detroit; University of Michigan, Ann Arbor, 1872; a practitioner of Detroit for half a century; died, May 19, aged 72.

Francis Nelson Pilcher, Columbus, Ohio; Columbus (Ohio) Medical College, 1891; died, May 18, following a surgical operation, aged 53.

Robert R. Jetter, Union, S. C.; Medical College of South Carolina, Charleston, 1890; health officer of Union; died, May 7, aged 55.

Warner Hugh Mauzey, Findlay, Ill.; Louisville (Ky.) Medical College, 1898; died, May 17, from cerebral hemorrhage, aged 54.

William F. Ellard, Water Valley, Miss.; Louisville (Ky.) Medical College, 1882; died, May 11, from cerebral hemorrhage, aged 68.

Alfred Greeley Ladd, Warm Springs, Mont.; Bowdoin Medical School, Brunswick and Portland, Maine, 1878; died, about May 17.

David E. Lusby, Owen, Ky. (license, Kentucky, years of practice, 1893); a veteran of the Civil War; died, April 26, aged 76.

James P. Dice, Xenia, Ohio; Eclectic Medical Institute, Cincinnati, 1869; died, May 18, from pneumonia, aged 79.

John N. Lovell, Bradford, Ark.; Memphis (Tenn.) Hospital Medical College, 1895; died, May 13, from appendicitis.

Gideon von Bachelle, Chicago; Rush Medical College, 1867; a veteran of the Civil War; died, May 23, aged 75.

Clinton Stuart Kerr, Emlenton, Pa.; Cincinnati College of Medicine and Surgery, 1876; died, May 20, aged 72.

Thomas Harvey Williams, Germantown, Tenn.; Jefferson Medical College, 1872; died, May 18, aged 72.

Gustavus C. Beckh, San Francisco; University of Wurzburg, Germany, 1881; died, May 21, aged 64.

Abraham Mandelbaum, Brooklyn; Maryland Medical College, Baltimore, 1901; died, May 24, aged 50.

Wallace L. Sappington, Maplewood, Mo.; St. Louis Medical College 1882; died, May 16, aged 59.

Jesse P. Rex, Richmond, Va.; Medical College of Virginia, Richmond, 1903; died, May 21, aged 42.

James Saunders, Glenellyn, Ill.; Bennett Medical College, Chicago, 1881; died, May 19, aged 75.

Mahlon Lindley, Urbana, Ill. (license, Illinois years of practice, 1878); died, May 14, aged 87.

Daniel William Ramer, Springfield, Tenn.; University of Nashville, Tenn., 1874; died, May 3.

Samuel B. Ruby, Union City, Ind. (license, Indiana, 1897); died, May 16, aged 66.

⊕ Indicates "Fellow" of the American Medical Association.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

REOLO

Several inquiries have been received regarding "Reolo" of the "Dr. A. L. Reusing Laboratories," Akron, Ohio. The advertising matter of Reolo bears the earmarks of another attempt to capitalize what certain "patent medicine" concerns have called the "Biochemic Treatment." This "treatment" is based on the theory—which has no scientific basis—that all disease is the result of a variation in the inorganic salt-content of the cells. Starting with this hypothesis, it is argued that all that is necessary for the treatment of any disease is to make good the salt deficiency of the cells. This is done by administering tablets alleged to contain certain salts in infinitesimal amounts. Examination of the medicaments used by the exponents of this theory usually discloses nothing more potent in the tablets than milk sugar or something equally innocuous.

Some of the claims made in the Reolo advertising are:

"All diseases that are curable are cured in a natural way through the circulation of the blood which is carried by the blood vessels and transudes through the walls of the veins and capillaries into the surrounding tissues. When the blood contains the proper amount of Cell-Salts and Red Blood Cells the whole body glows with health and vitality — the eyes sparkle — sleep is refreshing — and you are free from aches and pains."

"The treatment of disease with Cell-Salt is so rational and in such perfect accord with the well-known principles of Nature's laws, that it is only necessary to explain its basic principle and any intelligent person will instantly admit that it is the only natural, scientific treatment for disease."

"The world's most eminent physicians have conducted exhaustive laboratory tests in an endeavor to obtain a perfect combination of these Cell-Salts that will be promptly assimilated by the cells of the body."

"Dr. A. L. Reusing has finally succeeded in combining by electrical treatment the phosphates of calcium, sodium and iron with the phosphates of potassium and magnesium, and has obtained a perfect combination of these revitalizing Cell-Salts that he has named 'Reolo,' which produces a very rapid increase in the number of red blood cells and a greater percentage of hemoglobin in the blood."

Reolo was submitted to the A. M. A. Chemical Laboratory for examination. Here is what the chemists report:

"The specimens of Reolo examined consisted of greyish-brown tablets having a sweet, chocolate-like and faintly bitter taste. Iodids, bromids, emodin-bearing (laxative) drugs, arsenic, salicylates and sulphates were absent. Alkaloids were absent or present, if at all, only in traces. Very small quantities of a phosphate and traces of magnesium were present. Large amounts of calcium carbonate (chalk) and sucrose (cane sugar) were present; also traces of an iron compound. The substance imparting the bitter taste was not identified. The tablets do not appear to be medicated in the usually accepted sense."

From this it would appear that "Reolo, The Health Renewer," is essentially a mixture of cane sugar and chalk!

"ASPIRIN BAYER" AND THE STERLING PRODUCTS COMPANY

A correspondent, who asks that his name be not published, writes:

"Your editorial on 'Aspirin or Acetylsalicylic Acid—An Important Court Decision' is timely. Too often, I fear, physicians forget 'what's in a name.' I have been told that the Sterling Products Co., the present owners of the Aspirin-Bayer rights, are manufacturers of other 'patent medicines.' Are they interested in the Winthrop Chemical Company, which firm seems to be using the much vaunted 'Bayer Cross' on the labels of the products formerly imported from Germany by 'The Bayer Company'? If you answer this in The Journal, kindly omit my name."

The recent history of Bayer & Co., is somewhat as follows: Shortly after the United States entered the war, the Alien Property Custodian took over the property of Bayer & Co. (Inc.) and its subsidiary, the Synthetic Patents Co. In his report to congress the Custodian said:

"The stock of Bayer & Co. (Inc.) and of Synthetic Patents Co. was sold by me at public auction, the successful bidder being the Sterling Products Co., a West Virginia corporation dealing in proprietary medicines. This company had previously agreed to dispose of the dye plant and patents, in case it secured the property, to Grasselli Chemical Co., one of the largest makers of heavy chemicals in the country. The price paid was $5,310,000, plus back taxes and other obligations of many hundred thousands more."

After the Sterling Products Company had acquired the pharmaceutical end of the business the Winthrop Chemical Co. was incorporated in the state of New York. This concern seemingly secured control of all the Bayer pharmaceutical specialties except "Aspirin." The Bayer Co., it was announced had been merged with the Sterling Products Co., and "Aspirin-Bayer" added to the latter firm's list of "patent medicines": Cascarets, Danderine, Pape's Diapepsin, California Syrup of Figs, Neuralgine and Dodson's Livertone. The business is apparently a paying one financially as witness the following excerpt from a recent announcement in a drug journal:

"Stockholders of the Sterling Products, Inc., of Wheeling, manufacturers of Neuralgine, Cascarets, Bayer's Aspirin, and other well-known products, and the largest proprietary medicine organization in the world, at their annual meeting received a report of Manager W. E. Weiss, which showed that the company did a $10,000,000 business in 1920. The total profits were $2,100,000, while a total of $1,080,000 was paid out in dividends."

Just what relationship exists between the Winthrop Chemical Co., and the Sterling Products Co., we do not know. As one correspondent points out, the "Bayer cross" is used on the label of the Winthrop products.

The advertising campaign of "Aspirin, Bayer" since it entered the "patent medicine" field has been typical of that field. By half-truths and inferential falsehoods the public has been led to believe that the only genuine aspirin on the market is that put out under the Bayer name. The facts are, of course, that the aspirin of any reputable firm is just as good as the aspirin put out by the makers of Livertone, Danderine and Cascarets.

There is one point, however, that is of vital importance to the medical profession: The decision recently rendered in the United States District Court of Southern New York makes it obligatory for druggists, when filling a physician's prescription calling for "aspirin," to dispense the Bayer product. When the public buys aspirin on its own responsibility—without specifying any particular brand—the druggist may give the purchaser any make of acetylsalicylic acid he sees fit. To repeat what was said in The Journal's comment on this decision: "Unless a physician wishes to cater to the concern owning the Bayer rights and to aid in perpetuating what was a monopoly for seventeen years, he should be careful to prescribe the drug under the term "acetylsalicylic acid.' The court now places the responsibility directly on the medical profession. Avoid 'aspirin'—write 'acetylsalicylic acid.'"

Correspondence

ADMINISTRATION OF ARSPHENAMIN IN THE TROPICS

To the Editor:—In The Journal, Jan. 15, 1921, Dr. J. F. Schamberg, Philadelphia, described a simplified technic of neo-arsphenamin administration by which the drug is dissolved in 5 c.c. of water in its own ampule. Ravaut (in Castellani-Chalmers: Manual of Tropical Medicine, Ed. 3, p. 1560) was probably the first to advocate the use of concentrated solutions of the organic arsenicals. In the treatment of frambesia he gave doses up to 0.9 gm. of neo-arsphenamin dissolved in 2 c.c. of water. Throughout South America, Ravaut's method has been for years the practically universal mode of administration. A small 2 c.c. syringe is used instead of the larger and less common one of 5 c.c. The 2 c.c. Lüer syringe with metal sterilizer case is of great

convenience. It is conveniently heated with a small piece of cotton saturated with alcohol, or a couple of hexamethylenamin tablets.

In difficultly accessible regions where freshly distilled water is unavailable, the physician simply takes water from a running stream (well or cistern water is less preferable, as it usually contains more minerals in solution and its freshness is not certain), which he filters through cotton, boils thoroughly, and cools by setting the container in a vessel of cool water. The syringe may be sterilized in the same water and withdrawn by a pair of forceps, the jaws of which have been sterilized by dipping in alcohol. Two c.c. of the sterilized water is drawn into the syringe and injected into the ampule containing the neo-arsphenamin, the ampule being opened only when everything is ready for making the solution. The water is withdrawn and reinjected, and the ampule shaken until the drug is completely dissolved. The injection is given in the vein *immediately,* slowly, and with vigilance to prevent any of the highly concentrated liquid being injected into the tissues outside the vein. In case such an accident occurs, the needle is instantly withdrawn and the injection continued at another site. A syringeful of sterile water is then injected into the area of extravasated drug to stop the pain.

I have seen hundreds of injections given in this way, and the results have been in all respects as satisfactory as with the more elaborate and refined methods in vogue elsewhere. This reduces the administration of neo-arsphenamin to the simplicity of any intravenous injection, and places it in the hands of the most modestly equipped practitioner. I have witnessed its administration by the side of a jungle trail, on a river raft, on the counter of a country store and in the huts of the peons. In tropical areas of South America, neo-arsphenamin has an enormous application in the treatment of malaria, frambesia, trypanosomiasis, tropical splenomegaly, filariasis, relapsing fever, variola, syphilis and a number of tropical dermatoses, and is considered a veritable panacea by the native population. It is even sold in grocery stores, aboard river steamers and by pedlers, and in the many isolated regions where there are no physicians it is administered by laymen. Even in the hospitals the nurses give it the same as any other hypodermic medication. When one sees the frequent disregard of previous preparation of the patient, such as giving a laxative before the injection, abstinence from eating, and examination of the heart and urine, and observes the few reactions among the hundreds of injections, one almost comes to the conclusion that neo-arsphenamin is a harmless drug. Perhaps it is that, like chloroform, it is better tolerated in the tropics. Arsphenamin is apparently almost unknown.

As the French Novarsenobillon retails at $1.50 an ampule of 0.9 gm., it is the preparation most used. (It is customary for the patient to buy the drug and take it to his physician to be administered, the fee for which is usually $2.) However, the natives still have great faith in the German salvarsan, and will often pay exorbitant prices for it. In our industrial medical service we administer about 400 injections each month, and have used all brands of neo-arsphenamin, but at present we are limiting ourselves to the American products, as we find them superior in solubility, of lesser toxicity, and productive of excellent clinical results.

M. F. Núñez, M.D., Barranquilla, Colombia,
Medical director, South America.
Colombia Syndicate Hospital.

Syphilis of Heart.—It is very difficult for a student of clinical medicine to understand why pathologists and clinicians have both so long ignored the subject of cardiac syphilis, so very obvious and important does the condition become once it is recognized.—Harlow Brooks, *Am. J. Syphilis* **5**:220, 1921.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

AMMONIA IN THE BLOOD AND ALKALI RESERVE

To the Editor:—In Stitt's Diagnosis and Treatment of Tropical Diseases, chapter on yellow fever, page 231, I read: "The fatal issue is connected with the loss of the urea formation function. The patient dies of ammoniemia rather than from uremia." Later (page 234) the author says: "There would seem to be an acidosis in yellow fever." Are these two statements compatible? We know that acidosis occurs rather frequently in infectious diseases and in some types of nephritis, but it occurs to me that in cases of increased ammonia in the blood, the alkaline reserve is not likely to be exhausted or diminished. Any information you can give me on the subject will be received with thanks.

F. P. Miranda, M.D., New Orleans.

Answer.—The loss of the urea-forming function is not incompatible with acidosis. The term "acidosis" was originally introduced into the medical literature by Naunyn to designate any anomaly of the metabolism characterized by an increased production or liberation of acid. The term "diabetic acidosis" was applied by the same writer to that anomaly of the metabolism characterized by an overproduction or excessive liberation of acetoacetic and beta-hydroxybutyric acids. Acidosis in this sense is not necessarily attended by any diminution of the alkali reserve of the body. Although it leads to an abstraction of alkali from the body, the reserve may be maintained by a sufficient compensatory intake of alkali. In other words, it is perfectly correct to use the term acidosis in conditions in which the alkali reserve is not diminished. The definition of acidosis as a diminution of the alkali reserve was originated by L. J. Henderson, and applies to the condition of alkali deficit to which Naunyn applied the term hypalkalität. Much misunderstanding has arisen from this confusion of terms. Although there can be no mistake in speaking of acidosis when there is a demonstrable alkali deficit, there may be acidosis without any demonstrable alkali deficit.

In regard to the question of whether there could be an increase of ammonia in the blood and at the same time a diminution of the alkali reserve, it may be said that these two things are not incompatible because the ammonia might exist in the form of ammonium salts of acids, as it commonly does in the diabetic type of acidosis. An excess of free ammonia, on the other hand, would in all probability be incompatible with a condition of alkali deficit. In other words, if the writer means that in yellow fever there occurs at one and the same time an excess of *free* ammonia in the blood and an acidosis, the statements would appear to be confusing.

EFFECT OF LIGATION OF VAS DEFERENS ON TESTES

To the Editor:—Kindly inform me as to whether the tying off of the vas deferens would cause an atrophy of the testes and a sexual impotence, or whether it would just cause sterility and nothing more.

Leo Heuler, M.D., Fellows, Calif.

Answer.—Until recently it has been generally believed that complete occlusion of the vas results in the ultimate disappearance of the spermatic tissue and an increase or hypertrophy of the interstitial cells. However, research by Steinach and Kuntz has shown that if degeneration of the spermatogenic structures in the testes takes place following vasectomy, the condition is not permanent. Wheelon recently reported the results of his study of two testes nine months following a unilateral vasectomy. The testis of the unoperated vas was firm and normal in appearance, whereas the testis of the occluded vas was smaller than its mate and easily compressible. Microscopic examination of the occluded testes disclosed that the seminiferous tubules, although showing the results of destructive processes, contained much spermatic tissue. The interstitial tissue seemed to be somewhat increased in these glands; in the unobstructed glands it was normal in amount. Sterility and not impotence results from complete occlusion of the vasa deferentia.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 12. Chairman, Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: Hartford, July 12-13. Sec., Regular Board, Dr. Robert L. Rowley, 79 Elm St., Hartford

CONNECTICUT: New Haven, July 12. Sec., Eclectic Board, Dr. James E. Hair, 730 State St., Bridgeport. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover.

FLORIDA: Jacksonville, June 13-14. Sec., Reg. Bd., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.

ILLINOIS: Chicago, June 20-23. Supt. of Registration, Mr. F. C. Dodds, Springfield.

INDIANA: Indianapolis, July 12-14. Sec., Dr. Wm. T. Gott, 84 State House, Indianapolis.

IOWA: Iowa City, June 9-11. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 21-22. Sec., Dr. H. A. Dykes, Lebanon.

LOUISIANA: New Orleans, June 9-11. Sec.Treas., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

MAINE: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 140 Pine St., Portland.

MARYLAND: Baltimore, July 19. Sec., Regular Board, Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.

MASSACHUSETTS: Boston, July 12-14. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.

MICHIGAN: Ann Arbor, June 14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. W. S. Leathers, University.

MISSOURI: St. Louis, June 13-15. Act. Sec., M. E. Holliway, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEW JERSEY: Trenton, June 21-22. Sec., Dr. Alexander MacAlister, State House, Trenton.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. Kemp P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.

OREGON: Portland, July 5-7. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 5-9. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 7-8. Dr. Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

SOUTH DAKOTA: Deadwood, July 19-20. Director of Medical Licensure, Dr. H. R. Kenaston, Bonesteel.

TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

TEXAS: Austin, June 21-23. Sec., Dr. Thomas J. Crowe, 918-919 Dallas Co. Bank Bldg., Dallas.

VERMONT: Burlington, June 28-30. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 14-17. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

WASHINGTON: Olympia, July 12. Commissioner of Licensure, Mr. Wm. Melville, Olympia.

WEST VIRGINIA: Charleston, July 12. State Commissioner of Health, Dr. L. T. Vinson, Masonic Bldg., Charleston.

WISCONSIN: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

Missouri January Examination

Mr. M. E. Holliway, acting secretary, Missouri State Board of Health, reports the written examination held at St. Louis, Jan. 18-20, 1921. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 26 candidates examined, 24 passed and 2 failed. Eleven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern University Medical School		(1890)	84.5
State University of Iowa College of Medicine		(1920)	85.2
St. Louis College of Physicians and Surgeons	(1918) 75.9, 82.4	(1917)	79.2
St. Louis University School of Medicine	(1904) 79.9, (1905) (1921) 83.2, 84, 84.1, 84.1, 84.8, 86,1, 86.5, 86.5, 86.6, 89		83.7,
Washington University Medical Department	(1920) 82.9, 86.1, 86.7, 87.2	(1918)	90.2
Jefferson Medical College of Philadelphia		(1920)	86.1
Meharry Medical College		(1913)	80.7
FAILED			
St. Louis College of Physicians and Surgeons	(1918) 56.7	(1917)	53.3,

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery		(1912)	Kansas
Northwestern University Medical School		(1909)	Illinois
Rush Medical College		(1920)	Illinois
Johns Hopkins University Medical Dept.	(1909)	(1912)	Maryland
University Medical College of Kansas City		(1913)	Kansas
Washington University Medical Department		(1919)	Utah
University of Nebraska College of Medicine		(1920)	Nebraska
Meharry Medical College		(1915)	Mississippi
University of Oklahoma		(1918)	Oklahoma
Eclectic Medical College, Cincinnati		(1917)	Ohio

Michigan January Examination

Dr. Beverly D. Harison, secretary, Michigan State Board of Registration in Medicine, reports the written examination held at Detroit, Jan. 12-14, 1921. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 9 candidates examined, 7 passed and 2 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University School of Medicine		(1918)	85.1
Chicago College of Medicine and Surgery	(1916) 79, (1917) 75, 75.5	(1915)	75, 75.2,
Meharry Medical College		(1915)	75
FAILED			
Loyola University		(1918)	72.3, (1919) 73.8

West Virginia January Examination

Dr. R. T. Davis, health commissioner, West Virginia Public Health Council, reports the oral and written examination held at Charleston, Jan. 11, 1921. The examination covered 11 subjects and included 132 questions. An average of 80 per cent. was required to pass. Of the 9 candidates examined, 7 passed and 2 failed. Four candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Johns Hopkins University		(1918)	90
University of Maryland		(1920)	87, 88
Jefferson Medical College		(1920)	84
Temple University Department of Medicine		(1919)	93
University of Nashville Medical Department		(1903)	80
University of Tennessee College of Medicine		(1918)	87
FAILED			
Southern College of Medicine and Surgery		(1914)*	69
Chicago Medical School		(1920)	62

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Dearborn Medical College		(1905)	Illinois
Marion-Sims College of Medicine		(1897)	Illinois
University of Pennsylvania		(1919)	Ohio
Medical College of Virginia		(1915)	Virginia

*Graduation not verified.

Vermont February Examination

Dr. W. Scott Nay, secretary, Vermont State Board of Medical Registration, reports that two candidates were licensed by endorsement of their credentials at the meeting held at Burlington, Feb. 8-10, 1921. The following colleges were represented:

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Harvard Medical School		(1882)	Mass.
Albany Medical College		(1898)	New York

Wyoming February Examination

Dr. J. D. Shingle, secretary, Wyoming State Board of Medical Examiners, reports the written examination held at Cheyenne, Feb. 7-9, 1921. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Three candidates were examined, all of whom passed. Four candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Oregon		(1917)	89.4
Osteopaths			77.1, 77.3

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Bennett Coll. of Eclectic Medicine and Surgery		(1897)	Illinois
Kentucky University Medical Department		(1904)	Missouri
Albany Medical College		(1906)	New Hamp.
University of Minnesota Medical School		(1920)	Illinois

Book Notices

CLINICAL OPHTHALMOLOGY FOR THE GENERAL PRACTITIONER. By A. Maitland Ramsay, M.D., Fellow of Royal Faculty of Physicians and Surgeons, Glasgow. With a Foreword by Sir James Mackenzie, M.D., F.R.S. Cloth. Price, $16.50. Pp. 500, with illustrations. New York: Oxford University Press, 1920.

The purpose and scope of this work are indicated in the first few lines: "The author spent ten years in general practice before he specialized in eye diseases, and that experience has greatly influenced his outlook on ophthalmology. He has written this book, which is the outcome of his personal clinical experience, for the busy general practitioner, and more especially for the country doctor. His aim has been to indicate, as far as possible, the cases which the general practitioner can treat safely on his own responsibility, and those in which it is desirable to obtain a consultation with an expert. He has tried to bring the treatment of diseases of the eye into line with every-day practice, and to establish the intimate connection between the eye and other parts of the body." He also says that the book is not meant to take the place of a systematic treatise, but is an attempt to present the subject of ophthalmology as the general practitioner meets it in his daily practice. One who is familiar with the beautiful textbook on injuries of the eye published by Dr. Ramsay in 1907 is prepared to find in this volume a well arranged and beautifully illustrated volume. Much space is naturally devoted to the consideration of the external diseases of the eye as encountered in general, and especially country, practice. There are, however, excellent chapters on the functional examination of the eye, and the treatment of superficial injuries, on the workmen's compensation act, and the prescribing of spectacles. A chapter on the clinical significance of failing sight is particularly well done, as is also the chapter on the use of the ophthalmoscope in general medicine. Sixty pages are devoted to therapeutic notes and formulas. Many of the collyria described are seldom used in this country, but the detailed description of the drugs used in ophthalmology, their physical and chemical properties, and the proper method of preparing the solutions is excellent. One wishes that every practitioner might have the knowledge of the eye contained in this volume, but it is questionable whether any general medical man should assume the responsibility of an injury or disease of the eye which may lead to blindness. One might also question the desirability of a general practitioner's doing refraction work; but there may be conditions under which it is necessary, and if the directions given were carefully followed, many patients would receive much better help than they are getting from refracting opticians or optometrists. According to American standards, however, Dr. Ramsay's ideas in regard to the correction of error of refractions are rather archaic. The descriptions of pathologic conditions are in the main excellent, and the directions for treatment are extremely practical. One dislikes to read of rheumatic and idiopathic iritis in a book published in 1920, but Dr. Ramsay is not the only one who has not accepted the Chicago view of the etiology of iritis. The presswork is excellent, and the illustrations, especially those in color, are exceptionally good.

ANNALS OF ROENTGENOLOGY. A Series of Monographic Atlases. Edited by James T. Case, M.D., President of the American Roentgen-Ray Society. Volume I. Mastoids Roentgenologically Considered. By Frederick M. Law, M.D., Roentgenologist, Manhattan Eye, Ear, Nose and Throat Hospital, New York. Cloth. Price, $16 net. Pp. 39, with Forty-Two Roentgen Ray Studies on 21 Photographic Plates and 11 illustrations. New York: Paul B. Hoeber, 1920.

This work constitutes the first published volume of a series of monographic atlases edited by James T. Case of Battle Creek, and written by a group of specialists in the various fields of roentgenology. It may be said that if the present volume is indicative of the scope and character of the remaining seven volumes of the series, a most valuable work and reference guide has been presented to the profession. Dr. Law, thoroughly qualified as an authority in the field of mastoid roentgenology, has supplied in this attractive book an estimable asset to the working armamentarium of both roentgenologist and otologist. The text consists of six brief chapters on anatomy, pathology, plate interpretation and technic, and is followed by twenty-one double photographic plates which are contact prints from a series of master roentgenograms. Each plate is accompanied by a short clinical history of the case, a diagnostic guide to the plate examination, and the findings at operation. The illustrations do not cover every case of mastoiditis which may present itself, but show the various conditions which occur within the bone. Complications or combinations of the typical conditions are left to the judgment of the examiner, as the aim of the book is to be a guide rather than an encyclopedia.

CLINICAL LECTURES ON ENLARGEMENT OF THE PROSTATE WITH A DESCRIPTION OF THE AUTHOR'S OPERATION OF TOTAL ENUCLEATION OF THE ORGAN. By Sir Peter J. Freyer, K.C.B., M.D., M.Ch., Surgeon to St. Peter's Hospital, London. Fifth edition. Cloth. Price, $3.25. Pp. 174, with 56 illustrations. New York: William Wood and Company, 1920.

These lectures cover the nature of the enlargement of the prostate, and the pathology, symptoms and diagnosis. The general treatment is discussed, together with the complications and the difficulties that are encountered. The operation of total enucleation of the enlarged prostate in its capsule, the review of numerous cases, and illustrations of prostates that have been removed, with the operation involving the partial or total removal of the prostatic urethra, are shown and discussed. What the author has to state about the after-treatment is worthy of consideration by any one who does operative work. The scope and the limits of the various operations which he describes are authoritative. Naturally, the operation in two stages, as well as the cases that are complicated with vesicle calculus, are reviewed. In this edition a new chapter takes up the subject of cancer of the prostate. Freyer's views on this subject agree with the vast majority of statistical facts that are known at present. The number of cases of enlargement of the prostate for which he was consulted in private practice were 1,595, of which 1,374 cases were diagnosed as benign enlargement of advanced age, and 221 as cases of malignant disease, which gives a percentage of 13.8. He states that a prostate attacked by malignant disease previous to its undergoing adenomatous enlargement is rarely, if ever, capable of enucleation suprapubically by his method of dealing with hypertrophy of the prostate, or of being effectually removed by any other method. He is furthermore inclined to believe that radiotherapy is useless in cancer of the prostate, a statement that is borne out by the results, or rather lack of results, in patients from his own practice that have been submitted to this treatment, as in those of others that have come under his notice.

PULMONARY TUBERCULOSIS, A HANDBOOK FOR STUDENTS AND PRACTITIONERS. By Edward O. Otis, A.B., M.D., Professor of Pulmonary Diseases and Climatology, Tufts College Medical School, Boston. Second edition. Cloth. Price, $3.50. Pp. 212, with 21 illustrations. Boston: W. M. Leonard, 1920.

The prospectus states that this is a "medical book for lay readers." The book lives up to the statement by being readable and easy to understand; but the medical man who assumes that he has nothing to learn from it and casts it aside is missing something unless he knows all about tuberculosis. The book may well be recommended to general practitioners, students, nurses and even patients. With regard to the tuberculin test the author says: "It is to be remembered that a reaction only indicates that there is a tuberculous focus *somewhere* [italics ours] in the body." This is offered to the attention of those practitioners who are still making diagnoses on the Moro or the von Pirquet reaction. The book's value is not impaired by containing such things as Lawrason Brown's Aphorisms, Diagnostic Standards of the Framingham Demonstration, and Stoll's Essential Points. Some seekers after light may be perplexed by the brevity of Dr. Otis' chapter on pneumothorax treatment as well as by his views on the subject. Regarding tuberculosis in childhood, the book contains an interesting chapter which, while mentioning various diagnostic factors of possible value, also gives us the essentials of diagnosis of this phase of tuberculosis. Dr. Otis must have much sympathy for the lovelorn tuberculous. He advances more rules for the government of tuberculous married persons than reasons why they should not marry. We wish he had included in his chapter

he aphorisms: "The tuberculous girl should not marry"; "The tuberculous wife should not conceive," and "The pregnant tuberculous woman should not carry through." The hapter on climate can be recommended to the restless "chasers" who ramble hither and thither, seeking to get well on exercise and atmosphere.

STUDIEN ÜBER DARMTRÄGHEIT (STUHLVERSTOPFUNG) IHRE FOLGEN UND IHRE BEHANDLUNG. Von Dr. Franz Xaver Mayr. Second edition. Pp. 266. Berlin: S. Karger, 1920.

It is interesting to find that so great a number of ailments of the gastro-intestinal tract as gastritis, peptic ulcer, volvulus of the large and small bowel, hernia, hemorrhoids, intestinal carcinoma and polyps, gallstones, cholecystitis and pancreatitis can be traced more or less directly to insufficiency either of the large bowel or, with more pernicious results, of the small bowel. That such is the case, Dr. Franz Xaver Mayr tries to prove. He presents his case in an interesting and conclusive manner, if the premises are accepted in their entirety. Devoid of any unnecessary and complicated explanations, the discussion of the anatomy and physiology of the large and small bowel offer as simple and complete a statement as one can desire. The action of the bowel is considered as the sum of the actions of the various segments, each of which has a stimulating or inhibiting effect on the segment just ahead of it. The reflex action of any segment is the product of the stimulation and irritability of that segment. The author claims that peristalsis during normal digestion with constant diet is practically constant from day to day. He lays great emphasis on disturbances of the small bowel as a causative factor of the disturbance of motility of the stomach. Percussion of the abdomen in his opinion will reveal whether the pathologic condition is in the small bowel or large bowel. As curative measures, he recommends a diet regulated to reduce carbohydrate fermentation and protein putrefaction, massage, hydrotherapy and electricity. It is highly improbable that the reader will agree with the author in all the particulars. The book, however, is interesting and readable, and has a complete bibliography.

DIE GIFTE IN DER WELTGESCHICHTE. Toxikolische, Allgemeinverständliche Untersuchungen der Historischen Quellen. Von Prof. Dr. L. Lewin. Paper. Price, 56 marks. Pp. 596. Berlin: Julius Springer, 1920.

Dr. Lewin, in typical German encyclopedic manner, has collected all of the references to death by poisoning, whether homicidal or suicidal, which appear in the history of the world. Not only has he made record of the case but he has analyzed it from the standpoint of the poison administered, the method of administration, the symptoms, and the attempts at prevention. He begins with the times of ancient magic and legend, and then takes up resemblances of poisoning to illness, the preparation of laws regulating poisons, cases of poisoning by physicians, unusual forms of poisoning, suicide, the use of arsenic, famous persons in the history of poisoning, women as poisoners, priests as poisoners, and poisons in the history of warfare. It is impossible in the space of a brief review to analyze the work in detail. It is a praiseworthy and important contribution to the subject.

THE RADIOGRAPHY OF THE CHEST. Vol. 1. Pulmonary Tuberculosis. By Walker Overend, M.A., M.D., B.Sc., Physician to the Prince of Wales' Hospital, London. Cloth. Price, $5. Pp. 119, with 99 illustrations. St. Louis: C. V. Mosby Company, 1920.

This book, bearing the American stamp, although printed in England, covers the subject of roentgenography of the chest as applied particularly to tuberculosis of the lungs, pleurae and mediastinum. The publication contains nine chapters dealing with roentgenologic findings of the normal chest, classification of tuberculosis, roentgenographic findings of the various types of pulmonary tuberculosis with complications, and a final summary of the physical findings as compared with roentgenographic markings. It contains ninety clear reproductions of radiograms and nine diagrams. The book is decidedly English in tone. Under each heading there is a description of the roentgenographic findings typical of the group, followed by case reports including clinical, roentgenologic and, where possible, postmortem findings as a control. The case reports are sufficiently detailed to make the study of the corresponding roentgenograms of decided value, and they support the contention of the author that a roentgen-ray examination of the chest is an essential feature in the proper diagnosis of pulmonary lesions. By careful descriptions, the types of roentgenographic findings corresponding to the various types of tuberculosis are made clear. The author goes farther and points out that the interpretation of clinical findings may be more accurately made by the additional study of the roentgen-ray findings. On the whole, the book is well worth reading, especially for those who are interested in clinical medicine and have not made much use of roentgenography as an aid in the diagnosis of tuberculosis. The careful portrayal of roentgenographic findings in individual cases constitutes the chief value of the work.

GENERAL PATHOLOGY. By Dr. Ernst Ziegler, Professor of Pathological Anatomy in the University of Freiburg in Breisgau. From the Eleventh Revised German Edition (Gustav Fisher, Jena, 1905). Revised by Douglas Symmers, M.D., Director of Laboratories, Bellevue and Allied Hospitals. Cloth. Price, $7. Pp. 594, with 604 illustrations. New York: William Wood and Company, 1921.

The chapter on immunity remains practically as if written, say, in 1908. In fact, no reference is made to any publications after 1909. The section on streptococci and pneumococci is equally archaic, and no mention is made of the division of streptococci into hemolytic and nonhemolytic or of pneumococci into types. The existence of different kinds of dysentery bacilli is not indicated. The influenza bacillus is said to be "regarded as the cause of influenza." Filtrable viruses and diseases usually regarded as caused by such viruses, as epidemic poliomyelitis and foot-and-mouth disease, are not mentioned. The rôle of the louse in typhus fever, vaccination against smallpox, allergy and the Schick test also appear to escape mention. The statements about medullary giant cell sarcoma on page 328 are confusing and inadequate. These examples of the patchiness and incompleteness of many important chapters will indicate to teachers of pathology that it would be unwise and unfair to put this book in the hands of medical students as a guide in the study of general pathology at this time. When one considers the growth of general pathology during the last fifteen years, the difficulty of revising successfully in 1920 the translation of a textbook, last revised in 1905, on this subject will impress one strongly. In this particular case, in spite of the best will in the world to accept at full value any earnest effort to produce a useful book on general pathology, and in spite of the great value of many of the chapters, particularly those dealing with general pathologic anatomy, in Ziegler's old and well known work, it is utterly impossible to endorse the present issue as at all satisfactory either for student or for practitioner.

RETRAINING CANADA'S DISABLED SOLDIERS. By Walter E. Segsworth, M. E. Cloth. Pp. 191, with illustrations. Ottawa: J. de Labroquerie Taché, 1920.

Mr. Segsworth, who has been director of industrial retraining of Canada's disabled soldiers since July, 1917, describes, after a brief history of the painful process of evolution and adaptation through which the Canadian scheme of retraining and vocational replacement passed, the present highly efficient program employed in that country, including chapters devoted to ward occupations; curative workshops; vocational selection service and interviewing; industrial retraining; industrial surveys; the special duties and opportunities of the vocational medical officer and the problems in reconstruction therapy encountered by the internist; care and retraining of the blind; statistics bearing both on the classification of disabilities as to types and result, and on relation of earning capacity before the disability was sustained and before and after retraining and reconstruction of the disabled; costs of vocational training; summary and tabulation of the end-results so far attained in physical reconstruction; functional retraining; vocational selection, and placement. The Canadian method of supervision of industrial retraining is described. This might well be valuable to other governments as a framework for the organization of a comprehensive scheme for the physical reconstruction and vocational retraining of the ever increasing number of handicapped from the industrial armies of the world.

Medicolegal

Sufficient Evidence Against Roentgenologist

(Hayes v. Lufkin (Minn.), 179 N. W. R. 1007)

The Supreme Court of Minnesota affirms an order denying a motion that the defendant made for a judgment in his favor, notwithstanding that the verdict of the jury was against him; or for a new trial. The verdict gave the plaintiff $6,200 damages for alleged malpractice, but the amount was reduced by the trial court to $4,500. The supreme court says that the assignments of error presented but one question: Did the evidence establish the defendant's alleged negligence? In considering the evidence, the supreme court was guided by the rule that a physician is bound only to exercise such reasonable care and skill as is usually exercised by physicians in good standing in their profession, and the court assumed that the rule applies to the treatment of disease by the application of roentgen rays.

In October, 1918, the plaintiff went to the defendant's office for a medical examination, in the course of which the defendant discovered that she had eczema on both ankles. He advised the roentgen-ray treatment, and began it in November. The defendant testified that on the first four occasions the two ankles were exposed to the rays at the same time, and the right ankle alone on two subsequent occasions. He said that the exposures lasted from ten to fifteen minutes, while the plaintiff said that they continued for twenty minutes. The defendant said, further, that the feet were brought together, the left above the right, and that he endeavored to arrange them so that the focus of the ray tube would be on the diseased portion of both ankles. He also testified that there was a device on his machine for measuring the electric current, but that he did not use it, because it would not measure the amount of current going through the tube, which he could estimate fairly accurately. He admitted that modern machines were equipped with a device which exactly recorded the current passing through the tube. After each treatment he looked for a reaction, but saw no evidences of it until after the final exposure. A little later the evidences of a reaction became pronounced, for on December 12 the left ankle was blistered and ulcerating. Until January 21, he treated the plaintiff for the sore on that ankle, which quite clearly was the result of a burn caused by exposure to the roentgen rays. Then the plaintiff dismissed him, and consulted another physician, who continued to dress the sore until the latter part of March, 1919, when he had the plaintiff taken to a hospital and removed a quantity of scirrhous tissue from the ankle, and removed a part of the Achilles tendon. A second operation, for the removal of more dead tissue, was performed in January, 1920; and at the time of the trial the wound had not yet healed. All the witnesses agreed that the roentgen-ray treatment of eczema is common, and that it should not result in a burning of the tissues. The defendant accounted for the fact that the left ankle was burned, while the other was not, on the theory that there was an unexpected reaction in the left ankle—something different from what is normally to be expected, owing to an idiosyncrasy or peculiar pathologic condition in the flesh of the left ankle. To strengthen that theory he pointed to the fact that there was more eczema on the right than on the left ankle, and that it received two more treatments than the left, and was not burned at all.

An expert witness for the plaintiff, who examined her ankle a short time before the trial, testified that, in his opinion, the ankle had received more than a skin dose of roentgen rays. Another expert gave it as his opinion, based on the defendant's testimony as to the manner in which the ankles were placed, that they did not receive an equal dosage; that the left ankle got about 25 per cent. more of the active rays than the right, and that the burn could not be ascribed to any idiosyncrasy peculiar to the left ankle. Viewing all of the evidence in the light most favorable to the plaintiff, the court holds that it was sufficient to support the verdict of the jury. Reasonable men might honestly differ in their opinions respecting the defendant's alleged negligence in treating the plaintiff in the manner described in his own testimony. The fact that the right ankle was not burned, and that the disease yielded to the treatment administered to that ankle, was entitled to much weight, but was not controlling, under the circumstances.

Evidence of Unlawful Sale of Morphin

(Sims v. United States (U. S.), 268 Fed. R. 234)

The United States Circuit Court of Appeals, Eighth Circuit, in affirming a judgment of conviction of defendant Sims of violating the Harrison Narcotic Law in making a sale of morphin without having a license as a dealer, says that Sims was a colored man practicing medicine. He had a government license to dispense such drugs as a physician in his practice, but none as a dealer. Noting that he was purchasing large quantities of morphin and opium derivatives from druggists, an antinarcotic inspector suspected that he was unlawfully using them. The inspector secured the services of one Lamar, a morphin addict. The inspector, accompanied by another inspector and a deputy marshal, searched Lamar and ascertained that he had no drugs with him. They gave him $15 in marked money and kept him in view constantly until he entered the stairway leading to Sim's office. In five or ten minutes Lamar returned with a sealed bottle containing about 55 grains of morphin, which was taken from him, marked for identification, and retained by one of the inspectors until the trial. After procuring the morphin from Lamar, the officers went up at once into Sims' office and found him in possession of the marked money. Sims admitted on the witness stand giving Lamar a bottle containing about 55 grains of morphin and receiving $15 from him. His defense was that Lamar had come to him for treatment for the morphin habit, and that the morphin was given for that purpose only, and the money received as part payment for the treatment. The explanation of the large quantity of morphin was that Lamar represented that he would be away from town for several days, and this quantity was to cover the period of absence. The method of treatment was by progressively reducing the average consumption by 1 grain a day until the patient was reduced to 1 or 2 grains a day, when an intensive treatment of baths, purgatives and other drugs was to be employed for a few hours. Lamar swore that there was no understanding or arrangement for any treatment, but that he simply bought the drug. Sims swore that he questioned Lamar as to his age, length of drug habit, and average daily consumption. The broad issue thus presented to the jury was whether Sims had given the morphin to Lamar as part of a treatment in good faith for the morphin habit. The assignments that the verdict was contrary to the law and evidence and based on insufficient evidence were not sound. The issue of fact was clear-cut, and supported by substantial testimony. Nor was it error, on cross-examination, to require Sims to exhibit the record of his disposition of narcotics. That was the record required by law to be kept. Whatever the weight of this testimony, its competency was clear on the issues both of good faith and of the character of business conducted by Sims. The testimony of the officers that, when they went up to Sims' office, they searched it and found eight or ten bottles of morphin and three or four bottles of cocain was pertinent to the question of whether Sims was dealing in the drugs.

Defendant Bringing Physician Into Injury Case

(Fisher v. Milwaukee Electric Railway & Light Co. et al. (Wis.), 180 N. W. R. 269)

The Supreme Court of Wisconsin says that after the plaintiff had sued the defendant company it filed a cross-complaint, and a physician was made a party defendant for the purpose of responding to such cross-complaint. The company alleged that the injury sustained by the plaintiff was a Colles fracture of the left wrist, which was easily remediable by ordinary surgical treatment, and that, although the company offered the services of competent physicians, the plaintiff rejected these and secured the services of the physician referred to, who so negligently and carelessly treated the plaintiff's injury that he caused a partial loss of the use of the plaintiff's left hand and forearm, and produced, by failing

to use ordinary surgical skill and by improper bandaging of the fracture, an ischemic paralysis of the arm and forearm. Wherefore the company asked that, if a recovery be had against it for the injuries due to the alleged improper treatment by the physician, it be permitted to recover from him such damages as were in excess of those which would have followed the plaintiff's injury had she been treated with ordinary surgical skill. The result was that the physician was made a party defendant "for the purpose of responding to the cross-complaint of the defendant" company; but it was afterward ordered, on the physician's demurrer to the cross-complaint, that the cross-complaint be dismissed, and that he be dismissed as a party defendant to the action.

In reversing that order, with directions to overrule the physician's demurrer, the supreme court holds that the cross-complaint stated a cause of action against the physician in favor of the company, under the provisions of Section 2610 of the Wisconsin Statutes. Under the provisions of that section, it was within the discretion of the circuit court to refuse to make a third party a defendant; but when that court had once exercised its discretion, a review by it of its order could not be had by moving to dismiss the cross-complaint as to the physician. Whether or not, if motion on proper showing therefor had been made seasonably by the physician, the circuit court might have modified or corrected its order is not determined.

Under the facts that appeared from the pleadings, it was plain that the plaintiff might recover her entire damages from the defendant company, even though they may have been caused in part by the negligent treatment given the plaintiff by the defendant physician. It was contended on behalf of the physician that the principles applicable to suits against joint tort-feasors or wrongdoers applied, but the argument in support thereof was unsound. It appeared that the liability of the physician, if there was any, was due to his want of care and skill as a surgeon, while the liability against the company was due, if there was any, to its failure to exercise ordinary care. They were not in any sense of the term joint tort-feasors. The liability of the physician to the company did not arise by reason of his liability for contribution in the event of a recovery against the company. His liability was a liability over, and arose in favor of the company by reason of the fact that it was compelled to pay damages which were primarily due to his alleged negligence, and for which the plaintiff might have maintained an action against him. The company, being compelled to pay these damages, was subrogated to the plaintiff's rights against him, as she might not twice recover compensation for the same injury.

Again, it was contended, on behalf of the physician, that there could be no right of action in favor of the company against him until the judgment had been paid. This, no doubt, is the ordinary rule. But Section 2610 applies as well to tort actions as to actions on contract, although the trial court should, in the exercise of its discretion, when called on, recognize the established distinction between the rights of parties in the two classes of actions.

Testimony as to Services of Nurse Not Privileged

(Keller v. Gerber (Calif.), 193 Pac. R. 809)

The District Court of Appeal of California, Third District, in affirming a judgment in favor of the plaintiff for services in caring for and nursing a man of whose will the defendant was the executor, says that it was contended that the testimony of two physicians was privileged, and hence inadmissible in evidence, under the provision of the statute that a licensed physician or surgeon cannot, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient. But the court does not think that the testimony of these physicians was inadmissible under the statute, their testimony being simply as to the general character and value of the services rendered by the plaintiff as nurse, and not as to any information acquired in attending the patient which was necessary to enable them to prescribe or act for the patient. The Supreme Court of California denied the defendant a hearing.

Society Proceedings

COMING MEETINGS

American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Psychopathological Association, Atlantic City, June 11.
American Surgical Association, Toronto, Canada, June 14-16.
Maine Medical Association, Bangor, June 28-29.
Montana, Medical Association of, Billings, July 13-14.
National Tuberculosis Association, New York, June 13-17.
Nevada State Medical Association, Elko, June 24-25.
Southern Minnesota Medical Association, Winona, June 27-28.
Tri-State Meeting (Oregon, Washington and Idaho), Portland, Ore., June 30-July 2.

MEDICAL ASSOCIATION OF GEORGIA

Seventy-Second Annual Meeting, held at Rome, May 4-6, 1921

The President, Dr. E. T. Coleman, Graymont, in the Chair

Vesical Neoplasms from the Cystoscopist's Standpoint

Dr. S. A. Kirkland, Atlanta: Diagnosis of vesical growths can be accomplished by the use of the cystoscope, but not with absolute certainty in every case, for there are times when profuse hemorrhage obscures the field. One can also demonstrate the effect a growth has on the surrounding tissues.

Pelvic Infections in the Female

Dr. Lemuel J. Johns, Tallapoosa: Pelvic infections in the female are divided into (1) the descending or blood stream infections, which include infection by contiguity of tissue, and (2) the ascending infections, which will include pathogenic bacteria introduced into the urogenital tract, and infections resulting from the action of ever present bacteria on points of lowered resistance from various causes. The strictest surgical cleanliness and a most painstaking asepsis on the part of both surgeon and patient are enjoined to prevent the introduction of foreign pathogenic bacteria into the operative field, thereby causing death and devitalization of organs and parts which might otherwise have escaped injury.

Chronic Nephritis

Dr. M. Ford Morris, Atlanta: The treatment of chronic nephritis is directed mainly to the minimizing of the work of the kidney. In the edematous group, the intake of water and sodium chlorid is kept very low; protein is best not given abundantly. In the high blood pressure group, the protein intake is governed by the amount of nonprotein nitrogen of the blood. If there is not much nitrogen retention, there is little need of restriction of the amount of protein intake; but if there is considerable nitrogen retention, the protein intake should be extremely low. In the high blood pressure group, a moderate amount of water, from 1,200 to 1,800 c.c., and a moderate amount of sodium chlorid, from 3 to 5 gm. daily, are advisable. Relief of special symptoms is indicated, likewise conservation of the patient's health and strength.

The Schoolchild and His Problems

Dr. J. Allen Johnston, Lafayette: The schoolchild is besieged on every side by unhealthful conditions, both mental and physical, which lower his vitality, decimate his efficiency, despoil the pleasurable profits of his school life, and even deprive him of a healthy adult career. One school worker among 5,000 pupils is almost helpless. He can only point the way. With the united efforts of the profession of medicine and allied workers, wonderful results will in the future be obtained.

Relation of Public Health Work to Physicians' Reports

Dr. T. F. Abercrombie, Atlanta: Vital statistics are one of the very foundations of the medical man's reasoning and practice. They form the evidence from which he may deduce findings in references to marriages, births, morbidity, rates of sickness and disease, the causes of death, and the actual and comparative health of communities and nations. Quantitative medicine naturally inquires into methods of treatment and prevention, and discusses results. A very small

percentage of the communicable diseases are reported to the state board of health. The only way we shall ever get sufficient appropriations to meet the needs of the state is to be able to show the legislature in exact figures just how much disease there is in the state that can be prevented. The only way to get this information is for physicians to report to the proper authorities all communicable diseases, births and deaths.

Pyloric Stenosis of Infancy from the Surgeon's Point of View

DR. C. W. ROBERTS, Atlanta: There can be no doubt as to the need of surgery in the average case of hypertrophic pyloric stenosis in infancy. The whole question, as concerns the need of operation in a given case, hinges not on the size of the tumor, but on the completeness of the pyloric obstruction. Whether unoperated patients are handicapped by a persisting abnormal pylorus has not been settled. In the final analysis, hypertrophic stenosis is to be looked on as a surgical disease, and most patients will die if treated from the medical aspect alone.

Free Diphtheria Antitoxin

DR. THOMAS D. WALKER, Macon: Georgia had last year 401 deaths from diphtheria, or 14.5 per hundred thousand of population, nearly as many deaths in one year as South Carolina has had in five years. The economic saving to the citizenship of Georgia through the free distribution of diphtheria antitoxin can only be approximated at this time.

Significance of Emaciation in Physical Diagnosis

DR. JOHN T. MOORE, Sycamore: In my opinion, many of our cases of general anasarca and edema are toxic in origin and depend on faulty chemistry rather than on cardiovascular mechanics. It seems perfectly logical to conclude that, as infection progresses and the blood becomes laden with toxins, this toxin impairs the functional power of the cells throughout the cardiovascular system. In these cases we get first infection, toxemia, functional emaciation, actual emaciation and, lastly, atheroma and fibrosis. General arteriosclerosis is but an end-product of disease, and the pathologic condition antedating it should be corrected before it appears.

Use of Vaccines in Chronic Bronchitis

DR. GEORGE F. KLUGH, Atlanta: Since we almost always have mixed infections in these conditions, it is essential that all of the organisms present in a given case be included in the vaccine. Vaccines are prepared from the original cultures so that we get the organisms roughly in proportion to their number in the sputum. Best results are usually obtained by giving small doses at intervals of from three to five days over a long period of time. To avoid severe reactions, it is best to start with a small dose and increase until the desired reaction is obtained. Usually a chronic condition is changed into a subacute condition by vaccines. Too large or too frequent doses in subacute or acute conditions are likely to cause too severe reactions, both local and systemic. When severe reactions occur, the dose should be reduced and sufficient time allowed for the reaction to subside before another dose is given.

Sacral Anesthesia

DR. HOMER L. BARKER, Carrollton: If this anesthesia were used in all prostatectomies, even with a general anesthetic, the mortality would be lowered; for it materially lessens the shock that so often follows the enucleation of the gland. Less morphin is required after operation by this method than by a general anesthesia.

Syphilis Among the Insane

DR. GEORGE L. ECHOLS, Milledgeville: I carried out two comparative treatments on two fairly well balanced groups of colored female syphilitics. The medication for one group was arsphenamin from 0.3 to 0.4 gm. weekly, and mercuric salicylate, 1 grain, hypodermically into the gluteal muscles fortnightly. In the second group, treatment was started as a makeshift and consisted of mercuric chlorid, 1.32 gram, and potassium iodid, 5 grains, three times daily. This consisted of about thirty weeks' treatment in three ten week series. At the end of each ten weeks, the negative Wassermann reactions were: first ten weeks, from 36 to 15.7 per cent.; second ten weeks, from 47.6 to 39.1 per cent, and at the end of the third ten weeks, from 72.2 to 68.7 per cent. in favor of the mercuric chlorid and potassium iodid. Thirteen of these groups were neurosyphilitics. More negative spinal fluids were obtained by mercuric chlorid and potassium iodid. This is given only as the result of an accidental comparative test. The best results should be obtained by a combination of the three drugs.

Infection of the Maxillary Antrum

DRS. G. D. AYER and J. H. BUFF, Atlanta: Antral infections are much more frequent following nasal conditions than arising from the teeth. Lavage of the antrum in acute conditions is the most satisfactory treatment, since with three or four irrigations an ordinary acute empyema will clear up. Chronic antrum infection is best treated by radical operation, preferably the Caldwell-Luc operation or a modification, with the cleaning up of other pathologic conditions of the nose.

Radical Versus Conservative Operation on the Uterine Appendages

DR. MARION T. BENSON, Atlanta: We should conserve all healthy tissues of the reproductive organs, but we should also remember that patients are seeking permanent relief, if possible; therefore, we should be more thorough in the first operation, thereby preventing subsequent operations. The secret of good gynecologic work is, first, an intelligent operation, removing all diseased tissue, while, if possible, conserving a small amount of ovarian tissue; second, caring for these patients after operation, instead of turning them loose without any further treatment.

Treatment of Fractures

DR. F. G. HODGSON, Atlanta: In order to get the best end-results in the shortest time and with the least discomfort, fractured bones should be handled by a bone specialist or orthopedic surgeon whenever one is available. Fractures require careful supervision during the process of healing. Judicious use of massage, electricity and motions may be of great benefit during the process of healing of a fracture in order to maintain the circulation in the limb, to avoid stiffness in neighboring joints, and to prevent atrophy of the muscles.

Influences Exercised by Family Physician on Mental Health of Community

DR. N. M. OWENSBY, Atlanta: The first person to come in contact with the mentally ill is the family physician, and the influence wielded by him on the mental health of the community cannot be overestimated. It depends on him whether or not we shall continue to have these healing cults among us.

Goiter

DR. EDWARD G. JONES, Atlanta: I believe that a pathologic condition of the thyroid gland is less prevalent in the colored than in the white race. Excluding the goiter of adolescence, the ratio of toxic to nontoxic goiters among men and women is about the same. When the inquiry includes aunts and cousins, almost exactly 25 per cent. of my patients had one or more relatives with goiter. When the inquiry is restricted to the immediate family, this percentage is cut in half. I have been unable to associate the occurrence of goiter with drinking water as an etiologic factor. My mortality in toxic goiter is less than 1 per cent. In the whole operative series, the mortality is 1.4 per cent. The mortality last year was 0.8 per cent.

Interpretation of Headaches

DR. MILTON THOMAS EDGERTON, JR., Atlanta: Pain on one side of the head suggests migraine, sinusitis, middle ear diseases, toothache, brain abscess or brain tumor. Pain in the back of the head or neck suggests myalgia, unbalance of the ocular muscles, cerebellar disease, meningitis or mastoiditis. Vortical pain suggests constipation and neurasthenia, while the headache in uremia is either frontal or occipital in most cases. Throbbing headaches are generally

due to increased blood pressure, especially if increased on motion and relieved by rest in the recumbent position. Paroxysms of pain suggest neuralgia. The time of day of the headache often gives helpful information. Headache worse at night with disturbed sleep often means organic brain disease. Headache which is better after rest in bed is usually due to toxic or functional causes. Headaches early in the morning are generally due to poor ventilation, slight astigmatism, nasal obstruction or frontal sinusitis. Headaches in the evening are frequently due to mental overwork, eyestrain or refractive errors. Vomiting associated with headache suggests migraine, uremia, arteriosclerosis, or organic brain disease. In neurasthenia, headaches may follow a few minutes' use of the eyes, while in refractive errors the headache does not follow for several hours in most cases.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

May 19, 1921, **184**, No. 20

Essential Factors of Cancer Causation. J. W. Shannon, San Diego, Calif.—p. 505.
Spinal Curves in Growing Children. E. H. Bradford, Boston.—p. 512.
Leprosy in the Holy Land. I. Alcazar, Boston.—p. 518.
*Lymphatic Drainage of Ascitic Abdomen Through Paraffined Veins. B. Behan, Pittsburgh.—p. 521.
A New Tonsil Hemostat. F. J. McVey, Boston.—p. 524.

Lymphatic Drainage of Ascitic Abdomen Through Paraffined Veins.—In two cases of hydroperitoneum Behan made use of a method of drainage which he believes to be original with him. A section of the internal saphaneous (about 12 inches) is removed and immediately threaded into a glass rod of suitable size. It is then imbedded in paraffin as though it were being prepared for microscopic study. Later under nitrous oxid-oxygen anesthesia, an incision (Israel) was made over the kidney area the same as for a nephropexy. The fatty capsule of the kidney was pushed backward and an opening was made into the peritoneal cavity below the level of the lower pole of the left kidney. The paraffined vein was now placed in boiling water and again thoroughly sterilized. While it was still hot, the glass rod was removed. This left a rigid tube composed of a vein permeated with paraffin. Three sections were now made and the ends of each cut transversely, so that two flaps were made at the end of each section. The sections were from 3 to 6 inches long. One section was then inserted into the upper portion of the peritoneal incision and the edges flapped back and sutured to the peritoneum, so that the end of the tube led directly to the peritoneal cavity. The other end of the vein was then inserted into the fatty perirenal tissue near to the lower pole of the kidney, care being taken not actually to attach it to the fascia, which was intimately connected with the kidney itself. The second tube was then fastened in the peritoneal cavity, the same as the first. It was then pushed down between the peritoneum and the fascia covering the pelvis. It was inserted in the loose tissue, toward the external iliac artery, over the pelvic brim. Several small nicks were made in it so that fluid could leak through. The same has been done with the other tube. One extremity of the third tube was inserted into the peritoneal cavity and the other end was carried through the abdominal muscles and then through the subcutaneous fascia, almost to Poupart's ligament. Before the incision was closed, it was noticed that all the tubes were patulous, so that fluid was being discharged from all three into the tissues. The tissues were now approximated with catgut and the skin with silkworm gut. Both patients were relieved very greatly from the symptoms resulting from the Ascites. Now, instead of using the patient's own veins, Beban saves varicose veins remomed at operation. These are threaded over a glass rod and are hardened and parafined the same as is done in preparing pathologic specimens for sectioning.

Canadian Medical Association Journal, Toronto

May, 1921, **11**, No 5

Financing of Public Hospitals. M. T. MacEachern.—p. 311.
*Prognosis of Pulmonary Tuberculosis. F. H. Heise.—p. 314.
*Schick Test and Toxin-Antitoxin Immunization at Children's Home, Winnipeg. G. Chown.—p. 319.
*Prognostic Value of Study of Blood Creatinin in Nephritis. I. M. Rabinowitch.—p. 320.
*Sequels of Suprapubic Prostatectomy. G. S. Gordon.—p. 323.
Night Blindness at the Front. P. G. Bell.—p. 325.
Physiology and Pharmacology of Mammary Gland. V. E. Henderson.—p. 328.
Thirty-Three Cases of Foreign Bodies in Esophagus, Bronchi and Larynx. G. W. Fletcher.—p. 332.
Diseases of Ethmoid and Sphenoid Sinuses. J. H. Harter.—p. 337.
Non-Union Following Fracture. D. E. Robertson.—p. 343.
Analysis of Some Cases of Perforation of Stomach and Duodenum. H. Williams.—p. 347.
Use of Pituitary Extract and Scopolamin-Morphin in Obstetrics. R. Mitchell.—p. 351.
Benign Neoplasms of Female Pelvis. F. L. Horsfall.—p. 356.

Prognosis of Pulmonary Tuberculosis.—An analysis of 300 incipient and moderately advanced cases after from three to six months treatment, made by Heise shows that râles when present at the onset of treatment will, after from three to si months treatment, tend either to increase or diminish in more than half the cases. Only comparatively infrequently do they disappear or appear when previously absent. A fair number (about one in five or six) show no change in the area of râles heard. The roentgen ray will show no improvement in about one of seven cases, and approximately two thirds will show definite improvement. Nearly three quarters of the cases will show freedom of symptoms of activity. After from five to eleven years those patients in whom the râles increased in area while under treatment showed the highest mortality. When râles remained stationary during treatment prognosis was not unfavorably influenced. Incipient or minimal cases have a better immediate and ultimate prognosis than the moderately advanced; moderately advanced a better prognosis than far advanced cases. Regardless of extent of lesion the cases becoming inactive under treatment have a much better prognosis than those which retain symptoms of activity. After the lapse of twenty years the cause of death was pulmonary tuberculosis in most of the traced cases. Those cases, which were inactive after treatment have a better prognosis than those having symptoms of activity. Tubercle bacilli when present in the sputum make the prognosis much less favorable than when absent. This refers to longevity general mortality and mortality from tuberculosis, and holds true for the incipient and moderately advanced cases.

Shick Test in Diphtheria.—Of 156 children tested by Chown, sixty-four gave a negative Schick reaction; eleven of these had had diphtheria previously. Of the ninety-two giving a positive reaction, seven had had diphtheria indicating that an attack of diphtheria does not protect absolutely against another attack.

Prognostic Value of Blood Creatinin in Nephritis.—Rabinowitch cites fourteen cases in which creatinin determinations were made and proved to be prognostic value. Each of these cases showed the clinical signs, and symptoms of chronic nephritis, and the diagnosis was corroborated in each case by the postmortem examinations.

Sequels of Suprapubic Prostatectomy.—The sequels reported by Gordon are the result of continued obstruction to urination and manifest themselves as dysuria, with or without concurrent lithiasis, and the more remote consequences of back pressure, chronic uremia and chronic septic absorption.

Endocrinology, Los Angeles

May, 1921, **5**, No. 3

Suprarenal Insufficiency. I. Physiologic Data. G. N. Stewart, Cleveland.—p. 283.
Microscopic Appearance of Two Testes Nine Months Following Unilateral Vasectomy. H. Wheelon, St. Louis.—p. 307.
*Internal Secretion of Sandstroem's Glands; Parathyroid Hypofunction and Eclampsia. A. C. Massaglia, Chicago.—p. 309.
*Hypopituitarism, Froelich Type. M. B. Kay, Detroit.—p. 325.

Function of Parathyroids.—The results of experiments made by Massaglia are summarized as follows: The parathyroid glands appear to have the function of simpler chemical composition the complex bodies of catabolic changes, or

toxic substances derived from pregnancy and puerperium, from the intestine, and from muscular fatigue. They also demonstrate that an intoxication from a parathyroid hypofunction injures, more or less, the kidneys, the livr, and the nervous system; that there exists between the liver and the parathyroids an indirect functional correlation in neutralizing toxic substances which arise from the intestine. A parathyroid hypofunction in pregnancy or in puerperium is then certainly a pathogenic factor of eclampsia.

Hypopituitarism; Froelich Type.—Kay believes his case is one of the youngest cases of the Froelich type of hypopituitarism to be noted. The child was a full term baby; delivery was easy. It had always been breast fed and had suffered from no acute illness. Development was apparently in no way remarkable until the third month, at which time it was noticed that the weight began to increase rapidly. The mother also noticed that from this time on the mentality of the child was regressing; its stupidity becoming more and more pronounced. Sleep was almost continuous, and the waking moments were devoted almost entirely to feeding. The child did not sit up until the eighth month and at the ninth would not sit alone, and supported his head with difficulty. The feedings were taken quite well, and there was a mild constipation. A very marked polyuria was present. Treatment was started with thyroid extract, one-fourth grain, three times a day, whereupon the polyuria immediately disappeared, the protrusion of the tongue ceased, and the dribbling of saliva stopped. The thyroid treatment was gradually increased in amount, and very shortly pituitary (whole gland) was added, in increasing dosage, until at the present time, the child is taking 3 grains of thyroid extract and 9 grains of pituitary extract daily. Almost immediately the somnolence decreased, the mental condition improved and the child now notices objects and will reach for them. He can at this time (December, 1920) stand by holding on to a chair. The weight remains constant.

Illinois Medical Journal, Oak Park

May, 1921, **39**, No. 5

Special Points in Surgery of Gallbladder and Ducts. G. W. Crile, Cleveland.—p. 401.
Some Medical Economics Problems. E. H. Ochsner, Chicago.—p. 406.
Subsequent Treatment in Casualty Cases. D. Deal, Springfield.—p. 413.
Why Massachusetts Physicians Oppose So-Called Maternity Bills. C. E. Mongan, Somerville, Mass.—p. 416.
Megacolon. T. W. Nuzum, Janesville, Wis.—p. 417.
Care of Expectant Mother. I. F. Stein, Chicago.—p. 420.
Results in Open Treatment of Fractures. J. F. Smith and M. L. Jones, Wausau, Wis.—p. 424.
Teeth in Their Relation to Systemic Disease or Infection, from Standpoint of Radiologist. F. S. O'Hara, Springfield.—p. 425.
Hemorrhagic Disease of New-Born. F. C. Rodda, Minneapolis.—p. 427.
Natural Factor for Estimating Total Solids in Specimens of Urine and Relatively Normal Amounts of Individual Constituents. C. E. M. Fischer, Chicago.—p. 430.
Foreign Bodies in Brain. H. Swanberg, Quincy, Ill.—p. 433.
Hysterectomy. B. L. Ramsay, Chicago.—p. 437.
Ophthalmic Use of Some More Recent Therapeutic Preparations. H. S. Gradle, Chicago.—p. 440.
Some Points to be Considered in Campaign Against Tuberculosis. A. Egdahl, Rockford.—p. 443.

Journal of Biological Chemistry, Baltimore

May, 1921, **46**, No. 3

Studies on Organic Regulation. Composition of Urine and Blood of Hibernating Frog, Rana Virescens Kalm. (Pipiens Gm.) H. C. Van der Heyde, Morgantown, W. Va.—p. 421.
*Effect of Age on Pancreatic Enzymes. F. Fenger and M. Hull, Chicago.—p. 431.
Nitrogen Distribution of Proteins Extracted by Dilute Alkali from Pecans, Peanuts, Kafir and Alfalfa. C. T. Dowell and P. Menaul, Stillwater, Minn.—p. 437.
Amino-Acids in Nutrition. B. Sure, Fayetteville, Ark.—p. 443.
Synthesis of Inosite Hexaphosphoric Acid. S. Posternak, Geneva, Switzerland.—p. 453.
Basic Amino-Acids of Glycinin, Globulin of Soy Bean, Soja Hispida, as Determined by Van Slyke's Method. Washington, D. C.
Hydrogen Electrode Vessel Adapted for Titrations. A. B. Hastings, New York.—p. 463.
Simple Method for Direct Quantitative Determination of Sodium in Small Amounts of Serum. B. Kramer and F. F. Tisdall, Baltimore—p. 467.
*Rate of Nitrogen Elimination. W. S. McEllroy and H. O. Pollock, Pittsburgh.—p. 475.
*Study of Chlorin Content of Milk and Blood after Ingestion of Sodium Chlorid. W. Denis and W. R. Sisson, Boston.—p. 483.
Blood Bicarbonate Levels Following Administration of Sodium Bicarbonate. S. P. Reimann and H. A. Reimann, Philadelphia.—p. 493.
Comparison of Blood and Lymph Bicarbonate after Intravenous Injection of Sodium Bicarbonate. S. P. Reimann and M. D. Sauter, Philadelphia.—p. 499.
Growth and Reproduction on Simplified Food Supply. H. C. Sherman, M. E. Rouse, B. Allen and E. Woods, New York.—p. 503.
"Bios" of Wildiers and Cultivation of Yeast. M. Ide, Louvain, Belgium.—p. 521.
"Bios" of Wildiers and Cultivation of Yeast. M. B. MacDonald and E. V. McCollum, Baltimore.—p. 525.
Inversion and Determination of Cane-Sugar. A. R. Rose, New York.—p. 529.
*Determination of Carbohydrates in Vegetable Foods. V. C. Myers and H. M. Croll, New York.—p. 537.
Animal Utilization of Xylose. E. W. Rockwood and K. G. Khorozian, Iowa City.—p. 553.
Relation of Plant Carotinoids to Growth and Reproduction of Albino Rats. L. S. Palmer and C. Kennedy, Columbia, Mo.—p. 559.
Anaerobic Respiration in Some Pelecypod Mollusks. C. Berkley, Nanaimo, B. Col.—p. 579.
Preparation and Properties of Some Salts of Uric Acid. L. J. Curtman and D. Hart, New York.—p. 599.

Effect of Age on Pancreatic Enzymes.—Storing powdered pancreas preparations under ordinary conditions for one year reduces their diastatic and lipolytic activities very materially, Fenger and Hull found, certain samples having become almost completely inert. The proteolytic activities of the same samples, however, remain quite constant. This clearly indicates that trypsin, occurring both in the desiccated natural gland and in the activated preparations, is by far the most stable of the pancreatic enzymes.

Rate of Nitrogen Elimination.—Studies made by McEllroy and Pollock on the nitrogen elimination at two hour intervals for twenty-four hours, and the urea and nonprotein of the blood at one hour intervals after feeding dogs lean meat indicate that the rate of nitrogen elimination is an index of the rate of digestion and absorption.

Effect of Diet on Chlorin Concentration of Milk.—Experiments carried out by Denis and Sisson to determine the effect of diet on the chlorin concentration of milk showed that on a salt-free diet for a period of twenty-four days no change took place in the chlorin concentration of milk from a goat giving about 150 c.c. a day, also that the ingestion of 1.2 gm. of sodium chlorid per kilogram of body weight, daily, over a period of six days, causes no change in chlorin concentration of the milk.

Determination of Carbohydrates in Food.—A relatively simple colorimetric method is described by Myers and Groll for the determination of the amount and form of the available carbohydrate in vegetable foods. Results are given for analyses of vegetables and fruits such as are used in feeding diabetic patients. It is shown that a large proportion of the available carbohydrate occurs in a soluble form. The effect of different factors in cooking on the removal of carbohydrate from vegetables is discussed. The conclusion is reached that the soluble form of the carbohydrate and the increase in time of boiling and in volume of boiling water, favor the removal of carbohydrate from vegetables.

Journal of Industrial Hygiene, Boston

May, 1921, **3**, No. 1

*Output Study of Users and Nonusers of Tobacco in Glass Blowers. J. P. Baumberger, E. E. Perry and E. G. Martin.—p. 1.
*Survey of Carbon Monoxid Poisoning in American Steel Works, Metal Works, Metal Mines and Coal Mines. H. S. Forbes, Boston.—p. 11.
*Etiology of So-Called Anilin Tumors of Bladder. A. Hamilton, Boston.—p. 16.
Health in Mercantile Establishments. III. Common Sanitary Defects in Stores. A. B. Emmons, Boston.—p. 29.

Effect of Smoking on Glass Blowers.—Baumberger and others found that smoking has little effect on output rate in glass blowers. Chewing markedly lowers output rate in this strenuous physical occupation. Light smokers have a slightly lower output rate than heavy smokers in this strenuous physical occupation.

Carbon Monoxid Poisoning.—Forbes states that carbon monoxid as met with in metal and coal mines and about blast furnaces in this country rarely causes late after-effects following acute severe gassing. When such effects do appear, there is evidence, almost always, of a preexisting pathologic condition. Frequent exposure to carbon monoxid causes

headache and malaise, but no evidence has been found of a cumulative harmful effect. It is possible to acquire some tolerance to carbon monoxid. A recent advance in treatment has been made by adding carbon dioxid to the oxygen inhalations administered. Recovery is three times as rapid as when oxygen alone is used.

Anilin Tumors of Bladder.—In view of the proof that chronic arsenical poisoning is capable of producing a continual irritation which gradually results in cell proliferation, benign or malignant, and since the possibility of hydrogen arsenid poisoning is admittedly present in all the processes with which the bladder tumors of anilin workers have been associated, it seems fair to Hamilton to insist that hydrogen arsenid is a possible cause which must be considered. There is no such proof of the power of amido compounds to cause tissue proliferation.

Medical Record, New York

May 21, 1921, **99**, No. 21

Focal Infection of Cervix and Its Relation to Systemic and Mental Diseases. F. W. Langstroth, Jr., New York.—p. 857.
Electrical Nature of Man. A. Abrams, San Francisco.—p. 862.
Technic of Psychoanalysis as Practised in a Case of Phobia. H. Laveson, New York.—p. 864.
Endocrinology; Illustrative Cases. J. W. Torbett, Marlin, Texas.—p. 866.
*Volvulus of Intestine. H. Cohen, New York.—p. 868.
Anesthesia in Dental Surgery. M. Ecker, New York.—p. 870.
Rectal Constipation: Its Significance and Treatment. E. J. Clemons, Los Angeles.—p. 871.

Volvulus of Small Intestine.—Cohen cites a case of volvulus of the small intestine. This gangrenous intestine was found coiled on itself from right to left about 180 degrees. A band of adhesion constricted it at the base. The mass consisted of ileum about 1 foot away from the ileoctcal junction. The band was cut, the coils untwisted, intestinal clamps were applied, and the entire mass (28 inches) was resected. An end-to-end anastomosis (McGrath method) was then performed. The patient made an uninterrupted recovery.

New York Medical Journal

May 18, 1921, **113**, No. 14

*Bacteriology of Alimentary Tract. N. Mutch and J. Mutch, London.—p. 713.
So-Called Diseases of Blood. O. T. Osborne, New Haven, Conn.—p. 721.
Blood Chemistry in Modern Medicine. M. F. Morris, Jr., Atlanta, Ga.—p. 726.
Bacteriology and Pathogenesis of Pneumonia. R. L. Cecil, New York.—p. 728.
Willems Treatment of Joint Lesions. H. Cohen, New York.—p. 730.
Willems Treatment of Knee-Joint Injuries. E. H. Eising, New York.—p. 734.
Orthopedic Surgery from Psychologic Point of View. H. Keller, New York.—p. 735.
Mobile V Colon, Its Causes, Effects and Correction. E. M. Mosher, Brooklyn.—p. 741.
Points of Prognostic Importance in Pneumonia. H. Apfel, Brooklyn.—p. 744.
Nonsurgical Methods of Treating Cancer. H. K. Pancoast, Philadelphia.—p. 746.
Neuropsychiatric Work at Camp Devens, Mass. L. V. Briggs, Boston, and M. B. Hodskins, Palmer, Mass.—p. 749.
Factors Concerned in Incidence of Contagious Diseases. A. I. Blau, New York.—p. 750.
Therapeutic Management of Arteriosclerosis and Its Relation to Etiology of This Disease. N. P. Norman, New York.—p. 751.
Influenza Versus Typhoid Fever. B. Frankel, New York.—p. 754.
Postgraduate Beginnings in this Country. T. E. Satterthwaite, New York.—p. 755.
Classification and Segregation of Male Inmates in New York City Prisons. J. A. Hamilton, New York.—p. 757.

Bacteriology of Alimentary Tract.—The Mutches found that glycophilia is a property peculiar to streptococci of alimentary origin, and is almost universal among the streptococci present in the bowel. It may therefore serve as a criterion for the differentiation of streptococci of alimentary origin from other streptococci. The proportion of streptococcal strains at any point which posses extreme glycophilia increases progressively at successive intestinal levels from mouth to anus. A streptococcus can possess extreme glycophilia and at the same time considerable infective power. Such an organism is particularly well equipped for the evolution of chronic infection and the owel. A well defined pattern of distribution of *Streptococcus longus* in the alimentary canal has been observed. Extensive streptococcal infection of the small intestine may exist even when repeated cultivation of the feces fail to yield any growth of *S. longus*. The presence of carbohydrate is the most potent factor in determining the dominance of glycophilic streptococci over *B. coli* at any level of the intestines. Laboratory experiments with symbiotic coefficients and clinical observations are recorded in support of this statement. Absolute suppression of *B. coli* by glycophilic streptococci takes place when the hydrogen ion concentration is measured by p_H 5.2. The streptococcus itself dies if the p_H falls below 4.6. *Streptococcus fecalis,* as well as glycophilic *S. longus,* can suppress *B. coli* when grown in glucose broth. This property is also possessed by a small proportion of long chained cocci from the mouth. The following factors appear to control the evolution of chronic streptococcal infection of the bowel: The presence in the mouth of centers for the production of glycophilic streptococci. Impaired digestion. Loci of stagnation in the intestines. Diminished resistance of the tissues generall or locally.

Northwest Medicine, Seattle

May, 1921, **20**, No. 5

Goiter. P. W. Sweet, Seattle.—p. 105.
Toxic Thyroid. W. F. Howard, Pocatello, Idaho.—p. 110.
Surgical Aspect of Goiter. J. T. Mason, Seattle.—p. 112.
Goiter Problem. H. C. Irwin, Pocatello, Idaho.—p. 115.
Interpretation of Basal Metabolic Rate in Toxic Goiter. J. E. Else, Portland, Ore.—p. 118.

Ohio State Medical Journal, Columbus

May 1, 1921, **17**, No. 5

Special Field of Neurologic Surgery After Another Interval. H. Cushing, Boston.—p. 293.
Morbid Conditions of Pelvic Organs in Women and Their Relations to Various Nervous Disorders. F. I. Shroyer, Dayton.—p. 302.
Tuberculosis with Reference to Gynecology and Obstetrics. W. D. Fullerton, Cleveland.—p. 305.
New Technic for Radical Extirpation of Penis. H. A. Baldwin, Columbus.—p. 308.
Obstetric Gleanings for 1920. W. Brehm, Columbus.—p. 310.
Radium's Place in Therapy. A. Strauss, Cleveland.—p. 315.
Evaluating Utility of Local Anesthesia in Major Surgery. J. L. DeCourcy, Cincinnati.—p. 321.
An Improved and Simplified Technic for Enucleating Tonsils with Especial Reference to Soft and Submerged Tonsils and New Instruments Used. A. H. Herr, Cleveland.—p. 324.
Erysipelas of Head and Face Treated with Bacterial Vaccines. J. H. Slevin, Detroit.—p. 329.

Surgery, Gynecology and Obstetrics, Chicago

May, 1921, **32**, No. 5

*Transplantation of Ureters into Large Intestine in Absence of Functionating Urinary Bladder. R. C. Coffey, Portland, Ore.—p. 383.
High Tracheotomy and Other Errors Chief Causes of Chronic Laryngeal Stenosis. C. Jackson, Philadelphia.—p. 392.
Immunity in Surgery. G. E. Armstrong, Montreal, Can.—p. 399.
*Acute Intestinal Obstruction. J. M. T. Finney, Baltimore.—p. 402.
Obstructions of Colon and Ileocecal Region. C. H. Peck, New York.—p. 408.
Enterostomy in Treatment of Acute Intestinal Obstruction. J. E. Summers, Omaha.—p. 412.
Toxic Agents Developed in Course of Acute Intestinal Obstruction, and Their Action. H. B. Stone, Baltimore.—p. 415.
Benign Gastric Ulcer in Known Syphilitic. A Résumé of Literature Concerning Diagnosis of Organic Gastric Syphilis. W. F. Fowler, Rochester, N. Y.—p. 419.
*Diagnosis and Treatment of Chorio-Epithelioma. S. H. Geist, New York.—p. 427.
Primary Ovarian and Primary Abdominal Pregnancy; Their Morphological Possibility. H. M. Ray, Pittsburgh.—p. 437.
Repair of Partial and Complete Lacerations of Perineum. A. Goldspohn, Chicago.—p. 443.
Normal Separation of Placenta. O. Frankel, Vienna, Austria.—p. 450.
Plastic Procedures for Obliteration of Cavities with Noncollapsible Walls. A. B. Kanavel, Chicago.—p. 453.
An Adjustable Extension and Suspension "Balkan" Frame. N. Allison, St. Louis.—p. 459.
Treatment of Long Standing Dislocations of Hip. J. Schoemaker, Holland.—p. 461.
*New Procedure in Treatment of Eclampsia. H. J. Davidson, Seattle, Wash.—p. 464.
Gastro-Intestinal Suturing Forceps. R. C. Chaffin, Los Angeles.—p. 465.

Transplantation of Ureters.—In four cases in which six ureters were implanted by Coffey function afterward seemed to be perfect. In a fifth patient with implantation of the seventh ureter into the cecum, the function of the kidney is not known. The man is in perfect health and never has had a symptom in the neighborhood of the involved kidney. The

principal force to be dealt with in implantation of a duct into the intestine Coffey says is static intra-intestinal pressure. The essential mechanical principle necessary to the uniformly successful implantation of the ureter is that the ureter shall be made to run immediately under the loose mucous membrane for a distance, before entering the lumen of the intestine.

Acute Intestinal Obstruction.—A study of 245 consecutive cases of intestinal obstruction was made by Finney, 217 patients were operated on, and seventy-six died, a mortality rate of 36 per cent. The operations varied from such simple procedures as the untwisting of a volvulus or division of a constricting band to resection of several feet of gangrenous bowel. In studying the different operations performed and the circumstances under which they were done, the result seemed to depend far more on the condition of the patient at the time of the operation, the length of time that had elapsed since the onset of the symptoms of obstruction, and the condition of the bowel than on the nature of he operation itself.

Chorio-Epithelioma.—Nine of the fourteen cases studied by Geist could be classified as choriocarcinoma. Three patients died. Of the three that died one developed a sepsis following a curettage and packing, one an ectopic choriocarcinoma died on the operating table from hemorrhage, while the third was admitted moribund with generalized metastases and died without operation. The other six recovered. Of the remaining five cases, one presented curettings that were typical of choriocarcinoma but recovered with no other operative interference. Two cases were typical syncytiomata, and two were atypical and are classified as syncytial hypertrophy.

Gastric Lavage in Treatment of Eclampsia.—For the purpose of inducing perspiration Davidson passes the stomach tube every four hours, leaving from 1 to 1½ liters of water in the stomach. Regurgitation and aspiration need not be feared. The water may be introduced fairly rapidly and the tube quickly removed if regurgitation reaching intervenes. That the stomach empties itself is established by the fact that in no instance has Davidson ever recovered any portion of the water introduced four hours previously, although he has often left in well over 1½ liters. Fluids introduced through the stomach are excreted by the kidneys more rapidly than if introduced into the rectum, into the tissues by hypodermoclysis, or even intravenously. Epsom salts, in 1 or 1½ ounce dose should be given once or twice in the twenty-four hours, and some alkali, as 20 grains potassium acetate and citrate mixture, each time the tube is passed. The bowels usually move copiously without the use of more drastic catharsis. Initial control of the convulsions by doses of morphin hypodermatically, spinal puncture if the eyegrounds indicate it, combating flatulence by means of eserin, pituitary extract, hot stupes and enemas, and cardiac stimulation should not be neglected. Davidson urges that in severe cases at least three gavages be performed after the patient is considered well out of the critical state, to insure against recurrence of convulsions and consequent disappointment as to the value of the procedure.

U. S. Naval Medical Bulletin, Washington, D. C.

April, 1921, **5**, No. 2

Good Old Days. P. J. Waldner.—p. 7.
Miscellaneous Notes for New Hospital Corpsmen, Especially Those Serving at Naval Training Stations. W. H. MacWilliams.—p. 11.
Botulism and Ripe Olive. P. V. Tuttle.—p. 16.
Suggestions for Dispensing. E. L. Wilhite.—p. 21.
Alchemy. E. L. Sleeth.—p. 26.
Commissary Work. H. L. Gall.—p. 30.
From Great Lakes to West Coast with Recruits. W. T. Minnick.—p. 34.
"Dont's" in Pharmacy and a Talk on Dispensary Practice. L. W. Rider.—p. 35.
Trip to West Indies. J. C. Gill.—p. 43.
Ready-Reference Card System in Use at United States Naval Hospital, Pensacola, Fla. L. Nottingham.—p. 48.
Civilian Pay Roll at Naval Hospitals. S. Wierzbick.—p. 56.
Care of Syphilitic Health Records. B. E. Kirwan.—p. 58.
Examination for Pharmacist's Mate, First Class, and Chief Pharmacist's Mate. N. L. Saunders.—p. 59.
Drugs and Chemicals of Naval Medical Supply Table. F. H. Stewart.—p. 64.
Simple and Efficient Guinea-Pig Holder. C. H. McDougald.—p. 79.
Handy Container for Sterilizing Glass Syringes. C. H. McDougald.—p. 79.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

May 7, 1921, **1**, No. 3149

*Early Diagnosis of Acute Abdominal Affections. W. M. Eccles.—p. 663.
Injuries to Female Ureter. A. I. Robinson.—p. 665.
Axis of Astigmatism. N. B. Harman.—p. 666.
*Lymphadenoma. G. J. Langley.—p. 667.
Physiologic Cost of Muscular Work Measured by Exhalation of Carbon Dioxid. A. D. Waller and G. De Decker.—p. 669.
*Intermittent Albuminuria in Children. F. Moor.—p. 671.

Acute Abdominal Infections.—Eccles considers it a matter of congratulation that while the causes of an "acute abdomen" are not apparently on the wane, the gravity of the condition is becoming more and more recognized, and its early diagnosis, which is a matter of supreme value, arrived at in a larger number of instances.

Lymphadenoma.—The interest in Langley's case lies in the difficulty of clinical diagnosis. The growths in the skin suggested at once that the case was not one of lymphadenoma but of lymphosarcoma. The absence of any marked splenic enlargement and the type of fever, which did not conform to the Pel-Ebstein sequence, strengthened the view of its malignant nature. On the other hand, the blood picture and the quite remarkable response to roentgen-ray treatment strongly suggested lymphadenoma. The appeal to histologic inquiry—the only possible method of arriving at a conclusion quickly settled the nature of the disease. The blood picture corresponded in some measure with the findings of Bunting in lymphadenoma cases, in that it showed a fall in lymphocyte and eosinophil count with a rise in polynuclears as the disease progressed.

Intermittent Albuminuria in Children.—Moor claims that intermittent albuminuria is a common condition among children but is not a form of kidney disease. It is a symptom of several diseases.

May 14, 1921, **1**, No 3150

*Prevention and Treatment of Puerperal Infections. W. B. Bell.—p. 693.
Use of Peptone in Asthma and Its Congeners. A. G. Auld.—p. 696.
*Diagnosis and Treatment of Gastroptosis. J. F. Hall-Edwards.—p. 698.
Eclipse Blindness. W. O. Lodge.—p. 701.
*Treatment of Urethral Stricture. P. L. Giuseppi.—p. 702.
*Two Unusual Cases of Abdominal Tuberculosis. E. G. Slesinger.—p. 703.
Pain in Paroxysmal Auricular Fibrillation. E. E. Laslett.—p. 703.
Glandular Fever. J. Leask.—p. 703.
Eight Successive Breech Presentations in Same Patient. J. R. Hall.—p. 704.

Puerperal Infections.—Bell states that there must be an honest recognition by all who attend childbirth that puerperal infection is almost always avoidable, and that the appearance of it any case that has been examined, or in which interference has been practiced, is a serious reflection on the accoucheur or accoucheuse. If the whole profession would combine in an attempt to reduce the present incriminating figures, a great change would be noticeable, not only in the statistics, but also in the health of the female population. The remedy does not lie in better teaching, so far as practitioners are concerned, but in obedience to the dictates of conscience. No man can plead ignorance of asepsis and antisepsis today. The trouble is that imperfect asepsis is practiced as a sop to conscience instead of complete asepsis as a real scientific safeguard. Examination per rectum with the gloved finger should be practiced in the case of the parturient woman in preference to vaginal examination. Forceps delivery is far too common. Most women deliver themselves safely if left alone. Forceps derlivery, when necessary, is a surgical operation, and should not be conducted in insanitary surroundings. All lacerations, not only those of the perineum, must be sutured efficiently. Care must be taken to maintain the natural defences of the patient. With regard to the treatment of puerperal infection, Bell urges that the evacuation of large pieces of placenta and efficient antiseptic irrigation of the uterus should be practiced in the early stages of infection of the placental site. All infected lacerations should be cleansed. The employment of autogenous vaccines and polyvalent serums is often useful in cases of generalized infection. Major

operations must be performed, especially ligation of the veins in puerperal thrombophlebitis, without hesitation and in good time when indicated.

Gastroptosis.—In addition to diet, hygiene, massage and electrical treatment Edwards uses a supporting belt for gastroptosis. This belt is so constructed that its upper part allows of free expansion of the abdomen, whilst the lower part and pad are fixed. The pad, which is kidney-shaped and backed by a metal plate, fits the lower part of the abdomen above the pubes. Pressure is applied to the pad by a transverse spring, the spring being brought into action by webbing straps which pass from the back of the belt horizontally. The belt is supplied with elastic sides, and is made to lace up at the back.

Urethral Stricture.—Unless a stricture can easily be dilated with sounds, or unless it is impermeable or does not allow of the passage of a No. 1 (English), catheter or sound Giuseppi believes that the correct treatment is internal urethrotomy. If the case is one in which this operation is indicated, the internal urethrotome is passed into the urethra after the usual antiseptic precautions have been taken, and gas and oxygen are administered; the knife is then uncovered and the instrument withdrawn, and a number of previously oiled sounds passed into the bladder until a No. 20 or 24 is passed. Giuseppi has performed twenty-five operations of this nature, and has not had a single recurrence.

Abdominal Tuberculosis.—In the case of an infant, aged 5 months, a probable diagnosis of pneumococcal peritonitis was made. On opening the adomen a large quantity of purulent fluid and intestinal contents escaped, and a loop of intestine, showing a perforation, presented. The greater part of the pus came from a mass which could be felt in the abdomen, and this on further exploration proved to be a mesenteric abscess, from which several ounces of pus were evacuated. The child died. In the second case, a male, aged 34, gave a history of pain in the left iliac fossa for three weeks, the pain being also referred to both lumbar regions. He was admitted to hospital as a case of subacute intestinal obstruction. Over the left iliac fossa, a tumor of somewhat vague contour, but of firm consistence, could be palpated. Laparotomy was performed, and the tumor explored. The appendix was attached by its tip to the tumor and was secondarily somewhat inflamed, and consequently removed. A well formed Meckel's diverticulum was separated from the loops of bowel bounding the mass, but was normal. The mesentery of the small intestine was very thick and short, the bowel being bound down almost to the posterior abdominal wall; on separating the loops, about a pint of fecal-smelling pus was evacuated. The cavity was bounded by mesentery and bowel, and from one wall half of a semicalcareous gland was removed. The abscess cavity was drained, and the patient made an uninterrupted recovery.

China Medical Journal, Shanghai

March, 1921, **35**, No. 2

Hyperplasia of Nerve Centers. S. R. Detwiler.—p. 95.
Nitrous Oxid-Oxygen. E. I. McKesson.—p. 107.
Year's Work in an Eye Clinic. W. S. T. Neville.—p. 128.
True Efficiency in Mission Hospitals. D. M. Gibson.—p. 139.
Simple Detection and Qualitative Tests for Morphin, Its Compounds and Derivatives. B. E. Read.—p. 141.
Obstetrics and Gynecology in South China. J. P. Maxwell.—p. 146.
Ovarian Cyst of Unusual Dimensions Successfully Removed. L. F. Heimburger and E. M. Ewers.—p. 154.

Edinburgh Medical Journal

May, 1921, **26**, No. 5

Treatment by Roentgen Ray and Radium. R. Knox.—p. 273.
Pneumococcus and Streptococcus Groups in Their Relation to Influenza. W. R. Logan.—p. 294.
Where Do We Stand in Preventive Medicine? W. Robertson.—p. 313.

Journal of State Medicine, London

April, 1921, **29**, No. 4

Newer Developments in Industrial Welfare. A. M. Anderson.—p. 97.
Employment and Distribution of Industries in Their Relation to Growth and Physical Development of Young Wage Earner. H. J. Wilson.—p. 108.
Place of Industrial Medicine in Medical Science. F. Shufflebotham.—p. 117.
Health Conditions at Broken Hill Mines. M. Birks.—p. 121.

Lancet, London

May 7, 1921, **1**, No. 5097

*Glycemia and Glycosuria. G. Graham.—p. 951.
*Simple Quantitative Serum Reaction for Diagnosis of Syphilis. G. Dreyer and H. K. Ward.—p. 956.
*Report on First Year's Work of Clinic for Syphilitic Children. R. C. Jewesbury.—p. 962.
*Similarity of Effects Produced by Absence of Vitamins and by Exposure to Roentgen Rays and Radium. W. Cramer, A. H. Drew and J. C. Mottram.—p. 963.
*Artificial Respiration in New-Born. W. O. Greenwood.—p. 964.
Case of Acetanilid Poisoning; Recovery. H. El Arculli.—p. 965.
Case of Aberrant Herpes. G. de Bec Turtle.—p. 965.

Glycemia and Glycosuria.—In his first Goulstonian lecture Graham considers the fate of the sugar in the blood.

Quantitative Serum Reaction for Diagnosis of Syphilis.—Dreyer and Ward describe a new complement fixation test for syphilis which they claim is far more dependable than the Wassermann test. They have given it the name Σ (sigma) reaction. Use is made of two standardized saline suspensions of different concentrations made from a mixture of alcoholic heart extract and cholesterin and the readings are expressed in terms of standard flocculation units. The Σ reaction gave positive results in 18 per cent. more cases than the Wassermann reaction in a series of tests. It only failed in five cases to reveal the presence of syphilis, while the Wassermann reaction failed in fifty-nine cases. In the case of cerebrospinal fluids the Wassermann reaction is as delicate as the Σ reaction. This, no doubt, because more cerebrospinal fluid than serum is employed in the Wassermann reaction. In the case of serum, however, the Wassermann reaction has proved less sensitive. A treated case of syphilis will sometimes continue to give a positive reaction after the Wassermann reaction has become negative.

Clinic for Syphilitic Children.—This report comes from the special clinic in the children's department of St. Thomas' Hospital, London, for children suffering from syphilitic infection.

Effect of Lack of Vitamins on Lymphoid Tissue.—One tissue which is specifically and profoundly affected by the absence of vitamins from the diet is the lymphoid tissue. It becomes greatly atrophied. This condition of the lymphoid tissue is practically identical with that produced by exposure to roentgen rays and radium. Why two such apparently dissimilar causes should produce the same effects is a problem which the authors propose to investigate further.

Artificial Respiration in New-Born.—A method of artificial respiration is described by Greenwood which he claims is proved more certain and effective than any of the methods now in vogue. The infants should be held so that the back of its neck lies on the palmar surface of the operator's left hand, the occiput being supported in the hollow between the thumb and forefinger, the thumb and fingers grasp the mastoids. The right hand holds both ankles firmly from behind, so that the ulnar side is at the calves, the radial side at the ankles. The infant is held nearly vertical, say at an angle of 15 degrees, and is then allowed to move quickly by its own weight downward, feet first, about 2 feet. The abdominal viscera move down, the diaphragm is depressed and inspiration is at once initiated. The infant is now lifted, feet first, upward and to the right of the operator and is therefore head downward at an angle of 15 degrees to the vertical. It is then moved quickly downward, head first, about 2 feet. The abdominal contents fall against the diaphragm which is now pushed upward (relatively to the child) and fully arched, and expiration is completed. The series of movements should be repeated about fifteen times a minute and the first attempt will often elicit a sigh if not a more pronounced response.

May 14, 1921, **1**, No. 5098

*Glycemia and Glycosuria. G. Graham.—p. 1003.
*Prevention of Urinary Obstruction After Prostatectomy. J. W. T. Walker.—p. 1008.
*Endothelioma. E. H. Kettle and J. M. Ross.—p. 1012.
*Relation of Liver to Difference Value of Blood. P. J. Cammidge, J. A. C. Forsyth and H. A. H. Howard.—p. 1017.
*Condition Suggesting Lupus Pernio in a Child. F. P. Weber.—p. 1021.
*New Variety of Ringworm. R. Craik.—p. 1021.

Glycemia and Glycosuria.—In this, the second Goulstonian lecture, Graham speaks of some of the conditions under which sugar is excreted in the urine.

Prevention of Urinary Obstruction After Prostatectomy.—Walker discusses fibrous contraction of the vesical outlet after suprapubic prostatectomy, and describes an open operation for its prevention. The operation consists in first enucleating the prostate and then in freely exposing the bladder base and prostato-vesical opening by means of the Trendelenburg position and special retractors. Any fold or flap that might cause obstruction is then removed.

Endothelioma.—A large number of vascular tumors have been examined by Kettle and Ross in the attempt to distinguish and define the characteristic features of the neoplastic endothelial cell and so place the diagnosis of endothelioma on a more secure basis. They have found that in tumors which can be recognized as of endothelial origin the cells invariably revert to the primitive vasoformative type, and that this reversion is adequate to explain the structure and growth of these neoplasms. They suggest that the mere relation of tumor cells to blood vessels or to circulating blood is not conclusie evidence of an endotheliomatous origin, and that there is no evidence that the cells of an endothelioma can so closely resemble those of a carcinoma as to give rise to confusion. It is possible that this polymorphism can occur, for under certain conditions endothelial cells, especially those of serous membranes, can assume a cubical or even columnar form, but it has not been observed in any of the endothelioma's which were examined. On the other hand, the more atypical endothelioma progresses gradually to a type of growth which is indistinguishable from a spindle-celled sarcoma. But in these, as in the hypothetical carcinomatous forms, differentiation is entirely lost, so that it is no longer possible to distinguish their endothelial origin, and there is no justication for including them among the endothelioma's This name should therefore be kept for tumors which reveal in their structure definite evidence of having originated from endothelium.

Difference Value of Blood.—According to Cammidge and his associates the difference value of the blood, estimated at hourly intervals before and after a test meal, follows an abnormal course in conditions in which the functions of the liver are interfered with. This "hepatic" curve differs markedly from the type of curve associated with other pancreatic affections and bears no constant relation to the sugar content of the blood. The increase in the difference value of the blood following a meal in disease of the liver is chiefly due to hydrolysable carbohydrate, probably of a dextrin-like nature, absorbed from the alimentary tract, which is permitted to pass through the liver into the peripheral circulation instead of being retained as it is normally. Dextrin-like bodies derived from the glycogen store of the liver may be a contributory factor in the production of the raised difference value under certain circumstances. Destructive changes in the hepatic parenchyma are associated with a diminution of the amylolytic ferment content of the blood, thus tending to confirm the conclusion that the liver is the main source of that ferment.

Lupus Pernio in Child.—Weber's patient, a boy, aged 2½ years, showed a remarkable condition of his face, hands and feet. This condition, in regard to the hands and feet, might almost be termed "acrodermatitis chronica mutilans."

New Variety of Ringworm.—Craik's patient had a skin eruption on her thigh. It began as a small red point which was thought to be a bite, and in two weeks reached the size of a shilling and was quite suggestive of ringworm. Fine scales showed plenty of mycelium. The source of infection remained unknown. Treatment was soon successful. Seeded on wort agar fine particles gave good growths. At first grey and semitransparent, after the sixth day, at room temperature, a white floury center appeared and spread over most of the culture. In plate cultures this center, under a low power, was a forest of upstanding, large, rough, multiseptate spindles; and the peripheral zone showed matted mycelium with a smooth surface on which were a few scattered small spindles and a few simple, attenuated, sterile, aerial hyphae. Under a higher power (one-sixth inch) a slide preparation showed pyriform swelling at the septa in several hyphae; many large spindles were seen to have from 6 to 9 septums and thick walls conspicuously rough on the outside. The organism microsporns audouini var. canis Craik says it deserves the name var. macrosporium.

Medical Journal of South Africa, Johannesburg

January, 1921, **16**, No. 6

Some Ethical Points in Regard to Medical Inspection of Schools. C. L. Leipoldt.—p. 104.
Blood Testing Preliminary to Transfusion; Group Distribution Among South African Natives. J. H. H. Pirie.—p. 109.

Practitioner, London

May, 1921, **106**, No. 5

Surgical Treatment of Neuralgia. W. Thorburn.—p. 305.
Plaintiff; a Psychologic Study. J. Collie.—p. 318.
Rodent Ulcer: Treatment by Roentgen Rays and Allied Measures. F. Hernaman-Johnson.—p. 333.
Dried Milk as a Food for Infants. R. J. Blackham.—p. 342.
Diagnosis and Treatment of Cancer of Larynx. F. H. Diggle.—p. 347.
Recent Public Health Work. J. Priestley.—p. 356.
Makeshifts in Practice. J. G. Watkins.—p. 371.
Tracheal Diphtheria. T. A. Lawder.—p. 375.

Annales de Médecine, Paris

February, 1921, **9**, No. 2

*Emotional Factor in Hyperthyroid States. G. Marañon.—p. 81.
*Glycosuria in Neurosyphilis. C. I. Urechia and A. Josephi.—p. 94.
*Specific Antigen in Urine of the Tuberculous. G. Ichok.—p. 97.
*Kidney Lesions in Choleriform Diarrhea. H. Sloboziano.—p. 101.
Otogenous Meningitis. L. Rénon and P. Blamoutier.—p. 119.
The Static and Kinetic Systems of Motility. J. Ramsay Hunt (New York).—p. 123.
Experimental Cancer to Date. G. Roussy and M. Wolf.—p. 130.

The Emotional Factor in Hyperthyroid States.—Marañon admits that emotional stress is particularly liable to induce hyperthyroidism when there is already a predisposition to excessive thyroid function, but he insists that emotional stress alone may be sufficient to bring on hyperthyroidism even in the normal. Hyperthyroid states are of seven different types besides the classic exophthalmic goiter: the cardiovascular form, the nervous, the consumptive, the digestive, the diabetic and the climacteric, as also simple goiter assuming the exophthalmic type. None of the symptoms are pathognomonic, and in dubious cases he always rejects the assumption of hyperthyroidism unless there are at least three of the main symptoms, including unstable tachycardia, tremor, enlargement of the thyroid, exophthalmos, retraction of the upper eyelid, the patient growing thin, pronounced motor restlessness, emotional instability or sensations of heat with vasomotor irritability, localized especially in the thyroid region. There was a history of intense emotional stress coinciding with the onset of the hyperthyroidism in 28 per cent. of his 159 cases of hyperthyroidism in the last two years. Such a large proportion is not found with any other pathologic condition, and is too large to be explained as a casual coincidence. He gives brief summaries of forty-eight cases. All confirm anew the extreme etiologic importance of prolonged and depressing emotional stress, and the development of exophthalmic goiter at critical periods, especially in women. The glycosuria noted by Cannon and others immediately following emotional stress, and the hyperglycemia noted by Marañon can be explained only by the blood stream's being suddenly flooded with some substance, such as epinephrin, from sudden exaggeration of endocrine functioning. A minute dose of epinephrin injected in a person whose thyroid is known to be functioning to excess induces tremor, pallor, palpitations, goose flesh, chilliness in the back, dilation of the pupil and sometimes lacrimation and voiding of urine—organic phenomena such as may accompany emotional stress. This emotional organic reaction to epinephrin does not occur in the normal, or only with a much larger dose. But it occurs exactly as in hyperthyroidism if the subject has been given large doses of thyroid extract beforehand.

Cerebral Glycosuria with Neurosyphilis.—Urechia and Josephi report from Roumania ten cases out of their total of 100 cases in which glycosuria was found with insidious neurosyphilis. The glycosuria was mild and intermittent but the pupils and lumbar puncture fluid testified to the neurosyphilis, and under specific treatment the glycosuria subsided.

Tuberculosis Antigen in Tuberculous Urine.—Ichok injected healthy rabbits subcutaneously with urine from cases of

advanced pulmonary tuberculosis. The serum of some of the rabbits acquired the property of inducing deviation of complement thereafter.

Kidney Lesions in Choleriform Diarrhea.—The pronounced lesions found by Sloboziano in the kidneys of eight young infants with choleriform diarrhea teach the necessity for sparing the kidneys in all such cases. The salt content of foods and infusions should be reduced, and the edematous condition of the skin warns to be cautious with subcutaneous infusion of even water. Alcohol and lactic acid should be strictly avoided.

Bulletin de l'Académie de Médecine, Paris

April 19, 1921, **85**, No. 16

*Orientation of Medical Students. P. Le Gendre.—p. 474.

Professional Orientation of Medical Students.—Summarized in Paris Letter, page 1509.

April 26, 1921, **85**, No. 17

Influence of Meteorologic Conditions on Spread of Epidemics. A. Trillat.—p. 509.
*Protection Against Radium Rays. H. Bordier.—p. 512.

Dangers of Radium.—Bordier urges surrounding the bed during applications of radium with large screens of thick lead, high enough to protect the head of the attendant. The attendants should have their blood examined every two or three months, and should keep away from radium if the number of erythrocytes begins to drop.

Bulletins de la Société Médicale des Hôpitaux, Paris

April 22, 1921, **45**, No. 13

The Schick Reaction in Diphtheria. J. Renault.—p. 529.
Serotherapy of Gonococcus Joint Disease. Oettinger and Deguingand. —p. 532. Idem. A. Sézary.—p. 535.
*Insufficiency of Liver and Kidneys with Gastric Cancer. P. Le Noir, C. Richet, Jr., and A. Jacquelin.—p. 538.
Medical Treatment of Phlegmonous Angina. G. Railliet.—p. 543.
*Cephalic Tetanus. P. Beaussart.—p. 546.
*Protracted Epidemic Encephalitis. G. Petit.—p. 550.
*A Case of Hysteria. A. Renault.—p. 554.

The Liver and Kidney with Gastric Cancer.—Le Noir and his co-workers recently called attention to the insufficiency of the kidneys and liver in cases of gastric ulcer. They found the same, only in much less degree, in 41 per cent. of seventeen cases of gastric cancer. This is a much smaller proportion than with ulcer.

Cephalic Tetanus.—The symptoms of recurring tetanus developed fifty-five days after the close of a first attack of cephalic tetanus. This recrudescence assumed the paralytic type, without contracture, and there was a confusional state suggesting cerebral tetanus. No serotherapy had been given after the subsidence of the first attack.

Protracted Epidemic Encephalitis.—In Petit's three cases of protracted epidemic encephalitis, the two young women and one young man had presented various psychopathic syndromes for over a year, either continuous or with intermissions (acute delirium, mental confusion, hallucinations, extreme dread, morbid impulses and phobias, etc.). The transient appearance of organic disturbance suggesting epidemic encephalitis first explained the cause of this prolonged mental disturbance. Such cases emphasize the importance of seeking for the toxi-infectious condition underlying certain psychopathic manifestations.

Case of Hysteria.—Renault's patient developed symptoms of ileus, cystitis and desquamating urticaria at the age of 62 under the influence of worry on account of a small hernia which she feared was becoming uncontrollable. She presented hysteric fever at the same time, and sudden huge edema in the legs and hand, but all these hysteric phenomena disappeared in a few months.

Gynécologie et Obstétrique, Paris

May, 1921, **3**, No. 5

*Experimental Placentation. E. Retterer and S. Voronoff.—p. 305.
*Genital Prolapse. H. Hartmann.—p. 327.
*Eventration after Pfannenstiel Incision. M. Patel.—p. 344.
*Perineal Hysterectomy. H. Hartmann.—p. 350.

Evolution of Maternal Placenta.—Retterer and Voronoff relate that an ovary grafted inside the uterus of a castrated goat or sheep induces the formation of a maternal placenta before the ovary becomes entirely degenerated. Their photomicrograms show the various stages of the process.

Genital Prolapse.—Hartmann reconstructs the floor of the pelvis by suturing the levator ani muscles together through a transverse incision at the fourchet. The stretched wall of the vagina is then resected, with perineorrhaphy. Another method which renders good service for elderly women is to freshen a long and wide strip of the mucosa in both the anterior and posterior walls of the vagina, and suture together these coaptated raw surfaces. This forms a solid median septum with a free passage on each side. Ten illustrations show the various technics.

Eventration After Pfannenstiel Incision.—Patel has had eventration follow in two of his 700 laparotomies with the Pfannenstiel incision. Even when eventration does occur with this technic, it is comparatively insignificant and easily corrected.

Perineal Hysterectomy.—Eight illustrations accompany this description of and comment on this method of removing the uterus through a curving incision between the fourchet and the anus. A description of the technic was recently summarized in THE JOURNAL, April 30, 1921, p. 1283.

Journal de Chirurgie, Paris

May, 1921, **17**, No. 5

*Fracture of Neck of Femur in the Young. R. Bloch.—p. 417.
*Allergic Phlegmons. G. Bouché and A. Hustin.—p. 435.
*Anesthesia in Surgery of the Stomach. M. Roussiel.—p. 449.

Fracture of Neck of Femur in the Young.—Bloch emphasizes that actual fracture occurs only exceptionally and only with a violent trauma in children and adolescents, and it renders the use of the limb impossible. Under other circumstances, the supposed fracture is a rachitic coxa vara. With true fracture, the reclining subject is unable to lift his heel from the plane of the bed. This is a constant sign of fracture of the neck of the femur in young or old, even when the subject is able to take a few steps on the fractured bone. Fracture of the neck or separation of the epiphysis in a child, well reduced, heals in six or eight weeks, but the weight of the body must not be borne on that leg for four months at least. There is no deformity left when properly treated with immobilization in abduction.

Allergic Phlegmons.—Bouché and Hustin explain how a preexisting proteic intoxication may modify the course of an ordinary infectious process by the influence of the allergy, and how treatment should include measures against this intoxication, in addition, perhaps, to the ordinary measures. In some cases described the same micro-organism was responsible in all, but the soil differed owing to the allergy from horse serum, from extravasated blood corpuscles, from the syphilis spirochetes, or a constitutional diathesis, and the symptoms and course varied in consequence. A tendency to a chronic course was particularly evident. Treatment should vary with each case, aiming to restore the soil to normal. The soil once "blanched," the ordinary measures then regain their action on the infectious agents or the latter fall an easy prey to the phagocytes. Among the examples cited is the case of a young woman, sensitized to horse serum, who developed an abscess which progressed for a month but then healed in thirty-six hours after another injection of 1 c.c. of horse serum. In three patients an abscess developed at the point where there had been great extravasation of blood from trauma. The patients' own blood, hemolyzed, was reinjected, assuming this to be the sensitizing antigen, and the prompt cure of the progressive infectious process confirmed the correctness of this assumption. In two other cases, instead of the patients' own hemolyzed blood, crotalin was used, and with excellent results, although less prompt and less pronounced than with the autoblood injections.

Anesthetics for Operations on the Stomach.—Roussiel blocks the splanchnic nerves at the eleventh or twelfth dorsal nerves, supplementing this with local anesthesia of the anterior abdominal wall. His illustrations show the technic he has applied in this way in nine pylorectomies for cancer and in thirty-one gastro-enterostomy cases, without a drawback.

Journal de Médecine de Bordeaux

April 10, 1921, **92**, No. 7

Inaugural Lecture on Zoology and Parasitology. Mandoul.—p. 183.
Adjustable Continuous Extension for Children. C. Lasserre.—p. 189.
Modern Treatment of Purulent Pleurisy. Villar and Jeanneney.—p. 191.
Vaccine Therapy of Vaginal Infections. Villar and Jeanneney.—p. 192.

Journal de Radiologie et d'Electrologie, Paris

March, 1921, **5**, No. 3

Electrotherapy in Motor Neuritis. Delherm and Laquerrière.—p. 97.
*Radiotherapy in Interstitial Keratitis. Japiot and Bussy.—p. 106.
Tracheobronchial Glandular Disease. J. Laborderie.—p. 113.
Fracture of the Scapula. L. Moreau.—p. 121.
Roentgen Findings after Duodenopylorectomy. Grimault and Colanéri.—p. 125.
To Estimate Radiographic Contrasts. Ducci and Kaplan.—p. 127.

Radiotherapy Cures Interstitial Keratitis.—For more than a year Japiot and Bussy have been treating keratitis with weak doses of penetrating roentgen rays, with a 3 mm. aluminum filter. No protecting devices are necessary with these small doses of ¼ H. at a five-minute sitting. The total exposure was about 1½ H., at weekly intervals. The effect is more rapid the earlier the stage and the younger the child. In two typical cases reported, the keratitis in the children of 7 and 9 was the work of inherited syphilis, and the cure was soon complete. They are convinced that the roentgen rays are comparatively harmless for the eye, no injury of the eyes having been reported even from the earliest days of roentgen work when the pioneers constantly exposed their eyes without protection. The possibility of danger is of course greater with children. These weak doses do not destroy the cells but probably mobilize them, and the pain and photophobia are relieved almost at once. The children do not object to this method of treatment, and the cornea clears up better than with any other treatment yet known, so that this virgin field is very promising.

Journal d'Urologie, Paris

February, 1921, **11**, No. 2

Polyvalent Antigonococcus Serotherapy. E. Stérian.—p. 81.
*Secondary Infection of the Urethra. A. Lavenant.—p. 109.
*Catheterization of Ureters Through Open Bladder. L. Phélip.—p. 135.

Secondary Infection of the Urethra.—Lavenant found saprophytes in the urethra of 20 healthy men, but in 4 cases of primary urethritis he found the enterococcus, as also in 3 other men who had had gonorrhea at one time, and in a group of 5 similar cases reported by Dreyer. In 4 other cases he found the enterococcus in the course of gonorrhea, and Dreyer has reported 6 similar cases. The clinical picture does not seem to be modified by this mixed infection, except that the urethritis drags interminably. The enterococcus seems to grow more virulent in the presence of another infectious agent, and this virulence persists after the other infection has subsided.

Catheterization of the Ureters Through Open Bladder.—Phélip comments on the advantages of making the minute incision for this purpose close to the urethra. This best exposes the mouths of the ureters to view.

Paris Médical

April 30, 1921, **11**, No. 18

The Teaching of Pediatrics. A. B. Marfan.—p. 337.
*Epidemic Encephalitis. G. Turrettini and G. Piotrowski.—p. 348.

Protracted Epidemic Encephalitis.—Turrettini and Piotrowski report a case of acute epidemic encephalitis in a young woman which has persisted for nine months and is only slowly subsiding now. Economo has reported a case with a two year chronic course but in this, and in three others on record, the later symptoms seemed to be more sequelae of the disease, while in the case here illustrated the primary clinical picture, somnolency, contracture, trismus, tremor and fever have persisted, with only slight fluctuations, during the months to date.

Presse Médicale, Paris

March 30, 1921, **29**, No. 26

*Posterior Gastro-Enterostomy. R. Toupet.—p. 253.
*Acidosis in Surgery. A. Aimes.—p. 254.

Posterior Gastro-Enterostomy.—Toupet urges the superiority of the transmesocolic or supramesocolic technic. One of its advantages is that the transverse colon does not have to be outside of the abdomen during the whole operation. The illustrations show the ease with which the posterior aspect of the stomach is exposed.

Acidosis from Surgical Standpoint.—Aimes recalls that, aside from the acidosis of diabetes, we must reckon with acidosis in all conditions of undernourishment leading to inanition and autophagia, such as cancer of the digestive tract, and obstruction of the bowel or pylorus, Liver disease is also liable to entail acidosis, as in Labbé's case of fatal coma from an abscess in the liver. Acetonuria is frequent in fevers, and acidosis in traumatic shock, although it is not the cause of shock. Among the factors of postoperative shock are the preliminary fasting, the injury of the liver from the anesthetic, the fatigue, emotions, effect of strychnin or caffein, and the shock from the operation. Acidosis is most frequently observed after operations on the digestive tract and thyroid, and in hemorrhagic diseases. Blum advises giving sodium bicarbonate until the urine gives the alkaline reaction with litmus. From 5 to 10 gm. of the bicarbonate will accomplish this in the absence of acidosis, while from 20 to 50 gm. may be necessary with acidosis. Before the operation, ketogenous foods should be avoided, and glucose and alkalines given, and camphor and oxygen should be preferred to strychnin and caffein for stimulants.

April 20, 1921, **29**, No. 32

Pathologic Anatomy of Lung and Tracheobronchial Glands in Children. H. Méry and L. Girard.—p. 313.
*Eosinophil Leukemia? C. Aubertin and L. Giroux.—p. 314.
Spinal Anesthesia. R. Bloch.—p. 316.

Eosinophil Leukemia?—Aubertin and Giroux report a case which closely resembles those recently described by Stillmann and by Giffin. In all three the eosinophils form from 85 to 91 per cent. of the leukocytes, and in all the spleen is enlarged. Chronic dyspnea and other signs of heart diseasee point to the heart as the seat of the primary disturbance. The condition does not seem to be dangerous, the patients showing no symptoms except those from their heart disease.

April 23, 1921, **29**, No. 33

*Correction of Unilateral Harelip. V. Veau and C. Ruppe.—p. 321.
*Present Status of Botulism. P. L. Marie.—p. 324.

Unilateral Harelip.—The twenty-four illustrations given by Veau and Ruppe show the various drawbacks of different technics, and means to insure cosmetic healing with different types of the deformity. The Jalaguier method seems to be preferable, and can be applied even after failure of most other measures. In one case described, good results were obtained with it after four operations during the first few months of life had left disfigurement. They reiterate that it is always possible and even an easy matter to correct this deformity.

Botulism.—Marie concludes his study of the present status of botulism saying that serotherapy has proved its usefulness in experiments on animals, but has been disappointing in clinical cases. Possibly the wrong strain of the bacillus was used. He quotes freely from The Journal.

April 27, 1921, **29**, No. 34

*Chemistry of the Blood in Cancer. M. Loeper, J. Forestier and J. Tonnet.—p. 333.
Variations in Chlorid Content of the Blood. G. Rodillon.—p. 334.
Examination of Retina in Light Minus Red Rays. A. Cantonnet.—p. 335.

The Blood in Malignant Disease.—Loeper and his collaborators refer in particular to what they call the paradoxic hyperalbuminosis of the blood, found in persons with cancer. It is in marked contrast to the cachexia and the inadequate intake of nourishment. Its intensity usually parallels the size of the tumor, and they explain its mechanism and the import for diagnosis and prognosis of this and other features of the blood in the course of malignant disease.

Progrès Médical, Paris

April 23, 1921, **36**, No. 17

Pneumonia not Modified by Old Tracheotomy. E. Pallasse.—p. 177.
Thyroid Treatment of Furunculosis. E. Savini.—p. 178.
Multiple Gastric Ulcers in Young Man. Potherat.—p. 179.
Operation for Tuberculous Lesions in Chest Wall. Moreau.—p. 181.

Schweizerische medizinische Wochenschrift, Basel

April 28, 1921, **51**, No. 17

*Necrosis of Myomas During Pregnancy. H. Guggisberg.—p. 389.
Some Optical Problems in Fitting Glasses. C. A. Hegner.—p. 392.
Blood Findings in Influenza and Encephalitis. Reicher.—p. 394.
*Spastic Contracture of Adductors. H. Debrunner.—p. 402.

Necrosis of Myomas During Pregnancy.—Guggisberg advocates operative measures at once when the necrosis of a myoma is suspected. Sudden development of pains and symptoms of peritonitis with known myomatosis of the uterus calls at once for surgical intervention, but with more chronic onset each case has to be decided for itself. In any event, the necrotic myoma must be removed at once after delivery. In Ihm's 18 cases in which he enucleated the myoma during gestation, the pregnancy proceeded to term in 14, but 3 of the women aborted. In Guggisberg's 7 cases all the women recovered, but in 71 cases he has compiled, there were 6 deaths. Simple myoma never calls for operative measures during the pregnancy. But in 16 cases on his service some complication compelled intervention, and in every instance the gravid uterus with its myoma was amputated above the vagina; all the women recovered.

Spastic Adductor Contracture.—Debrunner has applied Selig's operation in a case of this kind with excellent results. The nerve is resected from within the pelvis. He describes the technic in detail, and comments on its harmlessness and on the necessity and the technic for after-care. His experience has confirmed the importance of training the muscles after any such operation; the latter merely provides the soil on which the training of the muscles takes root and bears fruit. The nerve can be merely weakened if desired, and this principle deserves wide application. He describes the special measures required for the different groups of spastic contraction, according as the spasm or the shriveling predominates. [Others are reporting similar striking success with this intrapelvic extraperitoneal resection of the obturator nerve.]

Policlinico, Rome

April 1, 1921, **28**, Medical Section No. 4

*Myoclonus. G. Pilotti.—p. 137.
Mechanical Influence of Skull on Brain. Pedrazzini.—p. 174. Cont'd.

Myoclonus.—Pilotti describes the clinical course and the necropsy findings in a case of what he calls polymyoclonus in a woman of 37, comparing it with the literature. The clonic spasms could be brought on even by blowing on the skin.

Riforma Medica, Naples

April 16, 1921, **37**, No. 16

Urease Test for Urea in Urine. G. L. Malerba.—p. 362.
*Dependence of Vasomotor Phenomena in Respiratory Passages on the Vasodilatation in the Skin. A. Azzi.—p. 363.
Deep Lymphoma in the Neck. C. Bruzzone.—p. 364.
*Slight Fever from Inflammatory Tumor. C. Cantieri.—p. 367.
*Enterostomy in Treatment of Peritonitis. E. Aievoli.—p. 369.

Parallel Vasomotor Phenomena in Skin and Air Passages.—Azzi's experiments confirmed the change in temperature of the tonsils and palate and of the expired air simultaneous with the hyperemia induced on the skin by a mustard plaster. When the mustard induced much smarting, the temperature in the air passages sometimes dropped instead of rising, but it rose after cessation of the irritation of the skin. His findings supply a scientific basis for the empiric treatment by revulsion to the skin.

Slight Fever from Inflammatory Tumor.—Cantieri calls attention to the slight fever which he noted in connection with the small tumors which developed after injections of camphorated oil. The slight rise in temperature preceded and accompanied the menstrual periods, and the region where the injections had been made swelled and reddened. When the patient was first seen, the slight fever had returned for ten months. In some cases of the kind on record, the oil infiltration had to be cut out as fluid petrolatum had been used, but even vegetable oils may induce this tumefaction and transient fever.

Enterostomy in Treatment of Peritonitis.—Aievoli has compiled twenty-two cases from the literature. The enterostomy seemed to be the decisive factor in the recovery in twelve cases. The cone of intestine is drawn up and the base is sutured to the skin and a thread is run around the cone about 2 cm. from the tip. A catheter is then worked into a minute opening in the tip and the thread is drawn tight, fastening the tip of the cone to the catheter. The latter is then pushed in as far as desired, thus invaginating the cone and protecting the portion of the intestine fastened to the wall from any contact with the bowel contents. If the enterostomy fails to answer the purpose, another at another point may be justified. By relieving the bowel, secondary peritonitis may subside.

April 23, 1921, **37**, No. 17

*Preparation of Suture Material. F. Greco.—p. 386.
Safe Technic for Thoracentesis. V. Sebastiani.—p. 388.
Pathogenesis of Pernicious Malaria. R. Leone.—p. 391.
Periarterial Sympathectomy. E. Aievoli.—p. 393.

The Muscatello Method of Sterilizing Catgut and Silk Suture Material.—Greco expatiates on the numerous advantages of the sterilizing solution which has been used since 1914 in a number of Italian clinics with constantly increasing satisfaction. Catgut thus prepared is elastic and keeps for months unimpaired. The solution is a mixture of 10 gm. metallic iodin; 10 gm. of potassium iodid; 20 gm. of glycerin; 20 gm. of rectified alcohol; 60 gm. of solution of formaldehyd, and 1,000 gm. of distilled and boiled water. Each thread is wound in a single skein, and not more than 100 or 125 of these skeins are placed at one time in the liter glass jar with glass stopper. The catgut is ready for use in eight days. The iodin retards absorption but stimulates the lymphoid tissues, and the catgut is completely absorbed in time.

Revista Médica del Uruguay, Montevideo

March, 1921, **24**, No. 3

*Hydatid Cyst of the Lung. Alice Armand Ugón.—p. 121.
*Typhoid at Montevideo. J. Bonaba.—p. 125.
*Cervical Dystocia. J. C. Carlevaro.—p. 132.
*Epidemic Encephalitis in the Pregnant. A. Turenne.—p. 137.

Hydatid Cyst of the Lung.—A boy of 8 had been coughing for six months, with profuse and often fetid expectoration. Then an almost complete hydatid membrane was coughed up, and recovery followed. In a second case the spasmodic cough and blood-stained sputum were explained by the roentgen rays as due to a hydatid cyst opening into the bronchi while a second, small, closed cyst caused no functional disturbance. The rupture and elimination of the cyst in such cases do not seem to be dangerous, the child coughing up in a few seconds the huge cyst, and almost all the cases encountered have been followed by complete recovery. In one case an adult coughed up the cyst a few hours before the planned operation for its removal.

Peculiarities of Typhoid Epidemic.—Bonaba calls attention to the whipping up of latent tuberculosis in certain cases in the recent October epidemic of typhoid at Montevideo. In some children, tuberculous meningitis closed the scene. Another peculiarity of the prevailing epidemic is the frequency of relapses, sometimes after a long interval. In two cases these tardy relapses coincided with infectious rheumatism or purpura.

Cervical Dystocia.—Carlevaro operated by way of the vagina in the case of rigid cervix described, the amniotic fluid having become infected, and urges that the vaginal route is often best with limited infection. "Let us be progressive but let us not forget the old and tried methods."

Epidemic Encephalitis Complicating Pregnancy.—Turenne was unable to find any microscopic lesions in the case of fatal epidemic encephalitis in a quintipara at the seventh month of a pregnancy. Merely slight congestion in the lungs and central nervous system was all that was evident. He compares with this the cases from the literature. In three of the four on record the disease was of the maniacal form, and with neuralgia and myoclonus in two of the four. He cites Garnet's recent case in THE JOURNAL.

Semana Médica, Buenos Aires

March 3, 1921, **28**, No. 9

Epidemic Encephalitis. N. D. Rosso.—p. 247.
Inversion of Uterus. F. R. Pasman and R. Mestre.—p. 258.
Anthrax and Its Serotherapy. J. Castilla Mira.—p. 259.

Transient Mental Derangement in Child. M. Helmann.—p. 265.
Vaccine Treatment of Eczema. C. E. Pico.—p. 266.
Micellar Pseudotuberculosis. A. Nuñez.—p. 268.

March 24, 1921, **28**, No. 12

*Epidemic Poliomyelitis. J. P. Garrahan.—p. 333.
Pylorectomy. J. P. Hemmingsen.—p. 341.
*Beef Antitoxin. R. Kraus, J. Bonorino Cuenca and A. Sordelli.—p. 346.
Splenectomy after Trauma. G. C. Palacios.—p. 349.
Transient Sexual Impotency in Recruits. J. A. López.—p. 350.
The Teaching of Semeiology. G. Aráoz Alfaro.—p. 353.
The Hygienic Uniform. C. Trejo.—p. 355.

Epidemic Poliomyelitis.—This is a chapter of a manual on pediatrics now in press.

Beef Antitoxin.—Kraus and his co-workers have been using cattle instead of horses in production of diphtheria and tetanus antiserums, and report here a large number of children treated with them. In the 49 cases of diphtheria, serum sickness developed in 6 per cent.; there was no instance of serum sickness in the 56 cases in which the antitoxin was given in prophylaxis. In 93 cases, horse antitoxin had been injected on some previous occasion, and serum sickness developed in 5.3 per cent. of these. There were thus 198 cases with 4.54 per cent. serum sickness This seems to be a smaller percentage than would be found in a similar series treated with horse serum, and they thus urge the use of immune serums from cattle as a means of reducing the tendency to serum sickness.

Archiv für Verdauungs-Krankheiten, Berlin

1921, **27**, No. 4-5

*Psychic Gastric Secretion in Man. G. R. Heyer.—p. 227.
*Prophylaxis of Gastric and Duodenal Ulcer. P. Cohnheim.—p. 241.
*A Case of Atypical Gout. E. Weiss and K. Vogelgsang.—p. 265.
*Test for Acidity of the Stomach Content. W. Lanz.—p. 282.
*Fate of Bacteria in the Stomach. Van der Reis.—p. 353.
*Activity of Fasting Stomach. L. Jarno and J. Vándorfy.—p. 364.

Psychic Gastric Secretion in Man.—Heyer shows the different fallacies and misleading conclusions that have been inevitable with the methods in vogue for testing the influence on gastric secretion of mental impressions. It is impossible in man to make a Pawlow small second stomach for study of the "appetite gastric juice," but Heyer has devised a method which apparently answers the same purpose: The subject of the test receives only the desired psychic impressions and these in an intensive form, while all disturbing impressions (pain, dread, discomfort, etc.) are excluded, and the gastric secretion is obtained pure and in quantities. He accomplishes this by applying the test in hypnosis, and using a retention stomach tube with continuous aspiration. The hypnotized subject swallows the stomach tube without the slightest resistance; the end hangs out of his mouth and he lies quietly. Large amounts of gastric juice, sometimes highly acid and with great peptic power were found in most of the subjects when the stomach was supposedly empty, but there was no regularity in these findings. When no further secretion could be aspirated, after waiting five or ten minutes, the idea of a meal was impressed on the patient, the taste and the amounts suggested. He "ate" it with great relish, and this sham feeding lasted for two and a half minutes. In about five minutes, up to ten or fifteen, gastric juice then appeared, and was aspirated at five minute intervals, and examined for amount, acidity and digestive power. The findings were closely like those found by Pawlow with his dogs, the only difference being that with the dog the effect of the sham feeding lasted for several hours, while in man it lasts only for an hour. But the curves for amount and digestive power, in corresponding five minutes for man and one hour periods for the dogs, are remarkably alike. The imaginary meal consisted of bouillon, bread, and milk, and the subjects were always in good health. The findings thus show that the human stomach secretes an "appetite gastric juice," and confirm anew the extreme importance of psychic impressions for the play of the vital phenomena. They confirm further that the suggestion to feed ulcer patients through a duodenal tube is dangerous; the gastric juice, not being neutralized by food in the stomach, and its ferment content not being used up, is sure to damage the mucous membrane. The findings teach that what Pawlow learned from dogs can be applied to man far more extensively than hitherto suspected.

Prophylaxis of Gastric and Duodenal Ulcers.—Cohnheim has been analyzing the 1,086 cases of gastric or duodenal ulcer which formed 7 per cent. of his 15,500 patients in the course of twenty years. He has been impressed with the way in which the disturbances recurred in spring and fall. These are periods of increased afflux of blood to the abdominal and genital organs, and this deranges the circulation more or less. This derangement is felt at points of lesser resistance, especially in superficially healed ulcers in the digestive tract. This exposes them to further autodigestion and recurrence of disturbances. He rejects all the alleged causes for gastric or duodenal ulcer other than autodigestion, but predisposing causes in men are excesses in eating and drinking and smoking, which induce a hyperacid gastritis. In women the predisposing cause is disturbance in the blood supply of the mucous membranes, especially in chlorosis, anemia, and at the menopause. The whole secret is autodigestion of some patch in the mucosa which is suffering from an inadequate blood supply. The vagotonic symptoms with chronic ulcers, he says, are the consequences, not the cause of the ulcer. When there is a tendency to ulcer, he orders the patients to take for four or six weeks, beginning in March and September, an emulsion of oil with atropin, half an hour before eating and, one hour after eating, he gives a level teaspoonful (in a glass of warm water) of a mixture of 20 parts each of sodium sulphate and sodium phosphate with 60 parts sodium bicarbonate. This oil-alkali-belladonna treatment is imperative also, he insists, after gastro-enterostomy to prevent development of peptic ulcers. He has succeeded in this way in warding off recurrence for years in patients subject to ulcer, who were willing to follow directions and avoid excess in eating, drinking and smoking. The oil emulsion is made with one egg yolk stirred into three teaspoonfuls of olive oil, then diluted with a glass of boiled, tepid water. A third of this is taken half an hour before meals; to this are added 15 drops of an atropin solution representing 0.25 mg. per dose. Cohnheim says that he was the first to introduce the oil treatment of ulcer, but he quotes a number of writers who now endorse it.

Atypical Gout.—A case is described in which findings in the lung suggesting tuberculosis were evidently deposits of urates in lung and pleura, and treatment for gout promptly and permanently cured them. The gout in this case, besides affecting the respiratory organs, involved the nervous system and the eyes. Colchicin treatment, with dietetic restrictions seem to have cured the tendency, the woman of 58 having been free from all disturbances during the five and one-half years since.

Determination of the Acidity of the Stomach Content.—Lanz devotes seventy pages to his method of simple colorimetry applied to the stomach content, and interpretation of the findings.

Fate of Bacteria in the Stomach.—Van der Reis reports experiments in which he gave the prodigiosus along with carmin, and was able to cultivate the prodigiosus from the stools. This proved that the bacteria had not been killed in the stomach. In other tests he dipped little cubes of bacon and apple seeds into prodigiosus and staphylococcus cultures, tied threads to them, and had the patient swallow them. The bacteria could be cultivated from these when they were withdrawn one or two hours later. These tests were repeated before, during, and after meals, and the findings in all showed that the hydrochloric acid in the human stomach does not destroy bacteria as promptly or as effectually as has generally been assumed.

Interdigestive Activity of the Human Stomach.—Jarno and Vándorfy report further research which has confirmed that the human stomach does not rest in the periods between digestion. The activity of the fasting digestive tract is rendered manifest when air and fluid provide conditions favorable for rumbling. During the borborygmus the stomach is empty, but it is followed by regurgitation of duodenal content into the stomach. This in turn induces secretion of gastric juice. This mixture of gastric and duodenal juice gradually disappears, and the stomach is empty again before the borborygmus returns. This displays a tendency to periodicity. Jarno's previous study of this subject was summarized in THE JOURNAL, Oct. 16, 1920, p. 1102.

Deutsche medizinische Wochenschrift, Berlin

April 14, 1921, **47**, No. 15

*Postoperative Singultus. H. Küttner.—p. 405.
Comparative Testing of Various Tuberculins. W. Dietrich.—p. 406.
*Diagnosis of Kidney Functioning. P. F. Richter.—p. 407.
New Remedies. A. Holste.—p. 411.
*Danger from Mercury plus Arsphenamin Treatment. H. Eicke.—p. 412.
A Seroscope. H. Dold.—p. 413.
Homogenization of Roentgen Rays by Filter as Body-Tissue Equivalent. F. Kirstein.—p. 414.
Focal Distance in Deep Roentgen Therapy. Haupt and Pinoff.—p. 415.
Acute and Subacute Osteomyclitis of Vertebrae. P. G. Plenz.—p. 416.
Prostatectomy. R. Oppenheimer.—p. 417.
Extract of Carrots for Anemia in Infants. M. Fronzig.—p. 419.
Asepsis in Care of New-Born and Puerperae. H. Kritzler.—p. 420.
The Value of Tuberculosis Sanatoriums. H. Grau.—p. 421.
Rachitis. L. Langstein.—p. 422.

Postoperative Hiccup.—Küttner reports that in the course of fourteen years he has observed twelve serious cases of singultus following operations. In the severest cases the hiccup lasted several days, continuing day and night; in one no less than twelve days. It appears the day of the operation or the following day; usually lasts several hours, then stops suddenly without assignable cause and begins again without evident occasion. It is not affected by the diet, by the position of the patient in or out of bed, nor by his movements; sometimes it seemed that speaking precipitated an attack. Postoperative singultus in the severer cases weakens the patient, and Marion has reported a case in which it was one of the contributory causes of death after prostatectomy. Küttner's cases included seven following abdominal operations; four after operations on the urinary apparatus, and one following amputation of the femur in severe diabetes. The type of anesthesia, general or spinal or local anesthesia, and the position during the operation could not be shown to influence the condition. There was no increase in temperature. It was peculiar, however, that it was confined to men in the main (eleven men to one woman) and mostly to the fifth and sixth decades. As regards therapy, Küttner found himself more or less powerless. Narcotics were of no avail. Neuenahr carbonated mineral water seemed to afford some relief.

Tests of Kidney Functioning.—Richter reviews the whole field of functional tests for the kidneys, and remarks that the proposal to test the kidneys with a kind of test meal of diuretics is worth considering.

Kidney Block Under Combined Mercury and Arsphenamin Treatment.—Eicke refers to Wechselmann's admonition to watch carefully kidney function while giving arsphenamin treatment. The arsphenamin in itself does not cause nephritis, but in the case of kidneys that have been damaged by mercury or infectious disease, arsphenamin administration may be attended by a disturbance of kidney function, which may check secretion and entail more or less serious consequences. Urinalysis has become an integral part of antisyphilitic treatment. The elimination of albumin and casts cannot be taken as the sole measure of kidney function; this depends just as much on the capacity to excrete water and nitrogenous substances, and a disturbance of this capacity by no means of necessity runs parallel with other functions of the kidney. Loewy and Wechselmann have shown that, while it required large, repeated doses of arsphenamin to damage the kidneys in animals, if the animals were first treated with mercuric chlorid, even small doses of arsphenamin, which had no effect on healthy animals, caused severe damage of function, resulting in complete anuria. Eicke recalls another finding of great practical importance; namely, that in spite of badly damaged secretion, albumin-free urine may be excreted. In consequence of these findings mercury was abandoned in the dermatologic department of the Rudolf Virchow Hospital in Berlin in connection with antisyphilitic treatment. Every patient undergoing treatment with arsphenamin had the urine examined for albumin; the twenty-four hour quantity and the specific gravity were also determined. These systematic tests carried out for many years have shown that the combined treatment is not so innocuous as might be supposed from its widespread use. They have furnished evidence that disturbances of secretion in connection with mercurial treatment do not neccessarily result in complete anuria, but that the danger lies in the fact that owing to their relative and temporary character they may escape detection. An injection of arsphenamin at an unfavorable moment may injure the already damaged kidneys to such an extent that they may be rendered unable to eliminate the arsphenamin, with all the evils resulting therefrom.

Deutsche Zeitschrift für Chirurgie, Leipzig

April, 1921, **162**, No. 1-2

*Operation for Arthrodesis. E. Lexer.—p. 1.
*Operative Treatment of Hard Gastric Ulcer. Kraske.—p. 13.
*The Vagus Innervation of the Stomach. E. Borchers.—p. 19.
*Military Surgery in Former Wars. Magnus.—p. 29.
*Hypertrophy of the Prostate. A. W. Fischer.—p. 34.
*Treatment of Suppurative Peritonitis. A. Läwen.—p. 38.
*Graduation of Roentgen Ray Doses. H. Holfelder.—p. 44.
*Radium Treatment of Cancer of the Esophagus. E. Suter.—p. 50.
*Rare Disease of Vertebrae. Guleke.—p. 59.
*The Circulation in Varicose Veins. G. Magnus.—p. 71.
*Contracture after Fixation of Muscle. A. W. Meyer.—p. 122.

Operation for Arthrodesis.—Lexer states that he has now a record of seventy operations of this kind done on the ankle by driving a peg through heel and ankle. Repeated roentgen-ray examination for from eight to eleven years in a number has shown the excellent results when the fibula was used for the peg, retaining its periosteum. Without the periosteum, the implant becomes absorbed or fractured. The implant must be large enough to stand the strain, and cicatricial or other impeding tissues must be cleared away to insure good conditions for the circulation around the transplant. He has found that the twelfth week is the most dangerous period, as the tissues in the implant have been loosened by that time while reconstruction has not proceeded far enough to insure stability. When the fibula is removed leaving the shell of periosteum in place, regeneration proceeds rapidly. But even when the periosteum has been removed with the fibula, and the gap in the bone is left unbridged, there is no functional disturbance, the tibia answering all the purposes. With unilateral paralysis he takes the peg for the implant from the sound side, but with bilateral he uses a homoplastic implant with its periosteum. It is important to have the peg fit tight in place, and to keep up the immobilization in the corrected attitude for five months at least.

Hard Gastric Ulcer.—Kraske declares that malignant degeneration of a hard ulcer is extremely rare, and that this should not necessarily call for resection of the stomach any more than we should amputate a leg on account of a simple ulcer. He curets the hard ulcer and cuts around it, to transform it into a fresh wound. Then he sutures the edges of the wound together and sutures the mucous membrane over it. His experience in twenty-two cases of the kind has been extremely favorable. All the patients related that their tormenting pains had been completely cured, and all were dismissed in good condition in three or four weeks except his first patient. In this case he thought that it was necessary to drain, and fatal peritonitis followed. Since then he never drains. All have been permanently cured except two who returned later with new symptoms requiring further intervention.

The Vagus Innervation of the Stomach.—Borchers reports research which failed to substantiate that the vagus has special control of the motor function of the stomach.

Military Surgery in Former Wars.—Magnus shows that the achievements in war surgery during the last few years had all been suggested in the wars of the past, but conditions then had prevented their being fruitfully applied, and they were soon forgotten.

Pathologic Anatomy of Hypertrophy of the Prostate.—Fischer presents evidence that not the prostate but the group of glands around the mouth of the urethra are the source of the proliferation. They are distinct from the prostate proper, and the term hypertrophy of the prostate should be corrected to hyperplasia of the submucosa glands at the internal orifice of the urethra. Atrophy of the prostate may be the first stage of the process; then these peri-urethral glands enlarge as a compensating process. In conclusion he advocates Voelcker's ischiorectal technic for operating in this region as an essential improvement on all other methods. It was described in THE JOURNAL. Feb. 12, 1921, p. 487.

Treatment of Suppurative Peritonitis.—Läwen comments on the advantages of rinsing out the abdominal cavity and of

intravenous drip infusion of saline plus epinephrin. By this means the patient obtains a large amount of fluid in time without flooding the heart at any moment.

Graduation of Roentgen-Ray Doses.—Holfelder recalls the difficulty in obtaining an even supply of the radiant energy through the tumor, as it is stronger at the surface and grows progressively less in the depths. He describes a method which seems to obviate this irregularity, and allow selection of the fields for exposure so that every square centimeter through the whole irradiated zone obtains the same amount of the rays. He accomplishes this by having some colored gelatin sheets, the color graduated from an intense to a light tint, and the sheets shaped like the cone of rays from the tube. He uses them on a card within an outline corresponding to the zone to be treated. Printed triangles, squares and rings are scattered on this card to test the depth of the tint. He lays the gelatin "stencils" overlapping in such a way as to form an even tint throughout, and hide the figures below. When the even tint conceals the triangles, this is the limit of the carcinoma dose. When the squares disappear, this is the limit of the sarcoma dose. The rings must not be hidden at any point. By this means of overlapping "stencils" the dosage throughout the whole area can thus be rendered even, and the directions in which the stencils have to be pointed to realize this, show the points where the cones of the rays have to be applied to the skin, sometimes perpendicularly, sometimes slanting far to one side. Each case is a law to itself. As many of these "field selector" stencils are used as are required to cover the area. For example, a tuberculous hip-joint in one case required three fields for cross-fire, at an angle of 120 degrees to each other; 30 cm. from the joint; each field given 80 per cent. of the erythema dose. The head of the femur in this case was only 2 cm. from the skin, but in another case, in which the soft parts were very thick, the fields had to be entirely different, and the front field allowed only 50 per cent. of the erythema dose.

Radium Treatment of Cancer of the Esophagus.—Suter expresses his surprise that so little has been published on this subject although the results he and others have realized have been so excellent. Three of his six patients have had their earning capacity restored, and exploratory excision shows no further trace of the cancer. The radium applicator is a silver tube 2 cm. long, containing 40 mg. of the radium element; a stout silk thread suspends the tube. The usual exposure is for about eleven hours, about every ninth day or once a month. It is a good plan to use the esophagoscope, but as this makes such demands on the patient, it may be enough to verify the position of the tube by roentgenoscopy. The inevitable cicatricial stenosis later has to be combated by the usual measures.

Rare Vertebral Diseases.—In the first of Guleke's two cases an operation revealed scattered echinococcus disease of the spine. With the correct diagnosis he would have operated two months sooner, but it would not have made any difference in the fatal outcome. Exploratory puncture might have cleared up the diagnosis. In a second case the man of 53 had actinomycosis of several vertebrae, with fistulas. He took potassium iodid in large doses, and the disease ran a very slow course but it proved impossible to excise all the foci. A course of roentgen treatment was given, but the disease still persists although not interfering much with the general health.

The Circulation in Varices.—Magnus describes a hemodromometer with which he was able to determine that in seven of nine cases the blood in the varicose saphenous veins flows toward the heart only when the subject reclines. When he stands erect or even lies slanting, the blood flows toward the periphery. This surprising reversal of the flow explains many of the features of varicose veins, especially the absence of embolism from thrombosis in varicose veins; the stagnation of the blood at the lower part, with consequent ulceration, and the inability of such leg ulcers to heal. The blood not getting to the lungs to be cleansed is liable to have a toxic action, and aggravate the morbid condition in the leg ulcer. He reviews ninety-one articles on varices. His tests further show that in each clump of varicose veins there is always one vertical vein which runs a straight course and is free from varicose enlargement, its valves being still capable.

Muscular Contracture Under Immobilizing Bandage.—Meyer gives an illustrated description of his experiments on frogs with and without injury of the plexus.

Jahrbuch für Kinderheilkunde, Berlin

1921, **94**, No. 4-5

*Toxicosis in Infants. E. Moro.—p. 217.
Pseudojaundice in Infants and Small Children from Food Rich in Carotin. P. Ryhiner.—p. 225.
*Pylorus Spasm in Infants. Z. von Bókay.—p. 233.
*Intestinal Fermentation in Infants. I. E. Freudenberg and O. Heller. —p. 251.
*The Paradoxic Diphtheria Reaction. H. Opitz.—p. 258.
*Swelling of Muscle after Death. E. Schiff and E. Stransky.—p. 271.
*Influence of Thyroid Treatment on Elimination of Water and Chlorids in Infants. E. Schiff and A. Peiper.—p. 285.
*The Chlorid Content of the Serum in Infants. K. Scheer.—p. 295.

Toxicosis in Infants.—Moro teaches his students that the clinical picture comprises "toxicosis, exsiccosis and acidosis." He ascribes the toxic action to protein cleavage products. The lungs of infants dying from alimentary intoxication present the identical appearance of those with this "peptid poisoning." He cites data to confirm the assumption that the intestinal flora is capable of aiding in the production of amins, and suggests that research along this line on the intestinal bacteria may prove instructive. The toxicity of the bowel content must also be investigated from this standpoint, with modern methods. A further source of amin production is autolysis, and this proceeds with great intensity in typical toxicosis. The histogenous and the enterogenous poisoning are due to one and the same cause.

Spasm of the Pylorus in Infants.—Von Bókay protests against the assumption that operative treatment should be applied at once as soon as hypertrophy of the pylorus is diagnosed in infants. He says that a much larger proportion of cases is due to spasm than generally supposed, and that a narcotic should always be given before attempting to operate. He advocates systematic subcutaneous injection of papaverin hydrochlorid, not hesitating to repeat with large doses if small fail. He describes eight cases in which the pylorus could be palpated as a hard cylinder, but under the papaverin the whole subsided. One child of 2 months took, in the course of not quite two months, five 0.01 gm. doses and forty-six 0.02 gm. doses, and developed normally thereafter. One infant of 4 weeks was given 0.48 gm of the papaverin in forty-eight days. One infant of 2 months recovered on a total of 0.135 gm. in two months, and all have been thriving since, and the contemplated operation was rendered unnecessary. No by-effects were ever observed; the children bore the medication perfectly. In one of the cases the spasm returned a week after the close of a series of twenty-three injections under which the pylorus had become entirely permeable. The recurring spasm subsided anew under an additional series of ten injections.

Intestinal Fermentation.—Freudenberg and Heller discuss the information to be derived from the hydrogen ion concentration in regard to the fermentation in infant's stools.

Paradoxic Schick Diphtheria Reaction in Children.—Opitz explains the nature of the Schick reaction, and of a paradoxic response, tabulating the findings in eighty-one children.

Imbibition Power of Muscle Tissue.—Schiff and Stransky report research on the imbibing power of the muscle tissue from infant cadavers showing great loss of weight, acute or chronic.

Influence of Thyroid Treatment on Elimination of Water and Chlorids in Infants.—Schiff and Peiper report the results of their research in this line before and after thyroid treatment in infants. The thyroid is evidently a regulator of the water and chlorid metabolism, but the experiments described were under such extreme conditions that they can scarcely be compared with the physiologic.

The Chlorid Content of the Blood Serum in Infants.—Scheer found the content constant at about 0.50 to 0.59 per cent. in resting infants, but it seems to be extremely dependent on the gastric secretion, dropping rapidly as digestion begins, regardless of the character of the food. With pneumonia and with much vomiting, the chlorid content of the blood serum

may drop very low. Subcutaneous infusion of isotonic solution of grape sugar causes a reduction for several hours in the chlorid content of the serum.

Münchener medizinische Wochenschrift, Munich

April 1, 1921, **68**, No. 13

Cell Detritus in Drug Reactions. H. Freund and R. Gottlieb.—p. 383.
Permeability of Cell Membrane Under Hydroxyl Ions. Jacobi.—p. 385.
Glycosuria Versus Diabetes in Pregnancy. H. Salomon.—p. 386.
Retention of Placental Remnants at Term. W. Zangemeister.—p. 388.
Spinal Fluid Changes with Types of Syphilids. E. F. Schäber.—p. 389.
Bacteriology of Koch-Weeks Conjunctivitis. Pesch.—p. 390.
Roentgenography of Lungs and Diaphragm in Children. Duken.—p. 391.
Treatment of Rachitic Curvature of Lower Third of Leg. Görres.—p. 392.
Intravesical Operation on Bladder Fistula. W. Rübsamen.—p. 393.
Increase of Mercurial Stomatitis Since the War. Huber.—p. 393.
Zosteriform Skin Necrosis After Intramuscular Injections of Mercuric Succinate. J. Saphier.—p. 394.
Aluminum Chlorate in Therapeutics. Heinz.—p. 395.
Uniform Dosage in Roentgen-Ray Therapy. Schreus.—p. 396.
Pump for "Bauer Regeneration" of Roentgen Tubes. Wels.—p. 397.
Production of Heat in Artificial Heliotherapy. A. Lipp.—p. 398.
Sudden Death in Diabetes Without Coma. G. Denecke.—p. 398.
Nitrobenzol Poisoning in Infants (from Paint) Thomsen.—p. 399.
Large Intra-Abdominal Bilocular Hydrocele. Schütter.—p. 399.
Treatment of Eczema. L. von Zumbusch.—p. 401. Cont'd.

April 22, 1921, **68**, No. 16

Retinal Vision Explained on Purely Physical Basis. Koeppe.—p. 475.
Results of Kineplastic Amputations. A. Bethe.—p. 479.
*Sequels of Epidemic Encephalitis. O. Hess.—p. 481.
Emetin Treatment of Balantidium Colitis. W. Cordes.—p. 484.
Technic of Orthodiagraphy. G. Holzknecht.—p. 485.
Device for Roentgen Tubes. H. Gänssle.—p. 485.
Treatment of Rachitic Bone Curvatures. G. Wehner.—p. 486.
Transient Shifting of Nasal Septum. B. Griessmann.—p. 486.
Neurorelapse After Seronegative Primary Syphilis in Which the Combined Treatment Was Employed. E. Nathan.—p. 487.
Myxedema with Pluriglandular Insufficiency. Meissner.—p. 488.
Extermination of Vermin in Münich in 1920. G. Mayer.—p. 490.
Nature of Flocculation in Seroreaction. Epstein and Paul.—p. 491.

Sequels of Acute Epidemic Encephalitis.—Hess has recently reexamined 13 men and 4 women who had had epidemic encephalitis in 1919-1920. All 17 patients without exception still have complaints, some of which are serious. The most common complaints are in regard to diminished capacity for work, poor memory and weakened perceptive faculties. Many speak of lack of interest in things about them, noticeable to themselves and remarked upon by their friends. Others state that in the daytime they are sleepy and tired, fall asleep soon after retiring but are soon awake and are unable to get any restful sleep the balance of the night, the sleep they do get being apt to be disturbed by confused and horrid dreams. About 50 per cent. have either continuous or intermittent headache, which is sometimes so severe as to preclude all work. Dizziness and a feeling resembling that of inebriation were mentioned by 6 patients. Some complain of neuralgic and rheumatic pains, various painful and unpleasant sensations marked by jerks and twitches of various muscles. A feeling of weakness in arms and legs, salivation, colorless speech, singultus and yawning were often present. A feeling of unsatiated hunger, together with an enormous appetite and marked, unnatural increase in weight, was noted in 4 cases. Changes affecting the sexual sphere were referred to by 5 patients. In most of the patients the phenomena were decreasing but in 2 they had been increasing of late. Bad weather, all patients stated, seemed to affect unfavorably both physical and mental symptoms. In almost all his patients he found to a greater or less degree changes in character, tendencies and forms of activity. Lack of will power and of energy is the rule. An undue seriousness characterizes many. A peculiar stiff bearing and lack of play of the features are common accompaniments of the altered character.

Wiener klinische Wochenschrift, Vienna

April 14, 1921, **34**, No. 15

Effect of Intravenous Injections of Glucose and Acacia Solutions on Diuresis. K. Cori.—p. 169.
*Treatment of Paresis and Tabes. Wagner-Jauregg.—p. 171.
Lumbar Puncture. J. Kyrle.—p. 172.
Pain During Early Morning Hours in the Presence of Calculi of the Kidneys or Ureter. T. Bársony.—p. 173.
Treatment of Cystopyelitis. O. Sachs.—p. 173.
Bang Micromethod for Blood Sugar. Z. Ernst and S. Weiss.—p. 174.
"The Percussion Phenomenon and Its Physical and Diagnostic Interpretation." F. Hamburger.—p. 175. Reply. H. Abels.—p. 175.

Induced Fever in Treatment of Paresis and Tabes.—Wagner-Jauregg sketches his experience with paresis and tabes during the past twenty years. He refers to his successful treatment of general paresis with tuberculin in combination with mercury, an account of which was first given at the International Medical Congress in Budapest in 1909. Of the patients reported on at that time, some are still living and able to follow their calling. At first the tuberculin and mercury were given separately, but later it was found that time could be saved by combining the two. Tuberculin is injected every second day subcutaneously, the object being to produce frequently temperatures of from 38 to 39 C. By this combined tuberculin and mercury treatment he was able to bring about a distinct improvement in over half of the cases treated. The proportion would of course be even larger if only the incipient cases were selected. In not a few cases a full remission is attained, so that the patients are able to resume their regular employment. Pilcz reported in 1911 that of eighty-six cases he was able to restore twenty-three sufficiently to take up their work again. In some cases the remission is permanent; in other cases recurrences take place, which however respond to repeated treatment. Of late years he has used sometimes the Besredka typhoid vaccine, instead of tuberculin, for the febrifacient, with good results. Bacterial toxins and vaccines are, however, only an imperfect substitute for the infectious diseases by which Nature sometimes effects the cure of paresis. In 1917 he began the method of inoculating paretics with tertian malaria, and as the trial proved successful, since of the nine patients thus treated three are still able to do their work, he has been using the method since the fall of 1919 more extensively. The results have been the best that he has seen thus far from any method of treatment. More than a dozen patients have improved to the extent that they are able to attend to the duties of their occupation.

Zeitschrift für Geburtshülfe und Gynäk., Stuttgart

April 5, 1921, **83**, No. 2

*Amenorrhea. J. Novak and E. Graff.—p. 289.
Proliferative Processes in Interior of Hydatidiform Mole Villi. H. Hinselmann.—p. 313.
*Puerperal Fever. W. Schmitt.—p. 335.
*Placenta Praevia. B. Liegner.—p. 349.
*Delivery with Narrow Pelvis. W. Schmitt.—p. 366.
*Intra-Uterine Rigor Mortis. B. Liegner.—p. 400.
*Placenta Praevia Cervicalis. H. Krause.—p. 413.
*Experiences with Radiotherapy. W. Benthin.—p. 432.
Weight Curve in Breast-Fed in First Two Weeks. K. Koch.—p. 475.
Retrogressive Changes in Uterine Glands with Amenorrhea. E. Graff and J. Novak.—p. 502.

Amenorrhea.—Novak and Graff found that curetting aided in restoration of menstruation in a large number of their 111 cases of amenorrhea in women between 15 and 39. The uterus mucosa undergoes cyclic changes even without the menstrual hemorrhage. The scraps obtained by curetting show whether the mucosa is comparatively normal or atrophied, thus affording a basis for prognosis. They discovered by this means in six cases a tuberculous process in the uterine mucous membrane which had never induced any appreciable symptoms.

Puerperal Fever.—Schmitt reviews the experiences in Hofmeier's service in 20,000 deliveries. The mortality from puerperal fever was 0.12 per cent. but the infection had been acquired outside in all except nine of the twenty-four fatal cases. The management of deliveries has been approximately the same during the thirty years, and the training of students and midwives has been systematically continued. Rubber gloves are very rarely used.

Placenta Praevia.—Liegner emphasizes that the amount of the hemorrhage is decisive for the fate of the woman, and he urges that the case should be supervised later to learn the permanent effect of such hemorrhages. In his 113 cases there had been bleeding during the pregnancy in over 50 per cent. This reduces the resisting powers and favors septic infection in childbirth.

Delivery with Narrow Pelvis.—Schmitt reports further from Hofmeier's service 526 cases of delivery with narrow pelvis, including 27.9 per cent. primiparas. The total fetal mortality was 10.2 per cent.; the maternal 0.57 per cent. Premature delivery was induced in sixty-three cases, and he urges that all women with contracted pelvis should be sent to an institution at least on the inception of labor. The narrow pelvis

cases formed 5.26 per cent. of the last 10,000 deliveries. The women were delivered by cesarean section in 17.1 per cent. of the 526 cases, and by pubiotomy in four instances, but this class of operations has been abandoned since 1909. The degree of contraction of the pelvis averages high at this clinic (Würzburg), the conjugate diameter measuring from 5.5 to 7.5 cm. in 23.3 per cent.; from 7.6 to 8.5 cm. in 52.7 per cent., and from 8.6 to 10 cm. in 24.1 per cent.

Intra-Uterine Rigor Mortis—Liegner quotes forty-two cases that have been recorded and states that he has had three cases in his own experience. This intra-uterine rigor renders delivery much more dangerous, but the subsidence of the rigor may permit delivery, impossible at first. Operative delivery avoids these dangers, enabling the fetus to be extracted without damage, while the uterus can be inspected to see if harm has been done by the rigid limbs.

Placenta Praevia Cervicalis.—Krause compares with four cases on record a typical case in his own experience. The tenacious adherence of the placenta and its penetration deep into the musculature of the cervix render the anomaly almost certainly fatal. Cesarean section not only wards this off but allows inspection of conditions, so that the uterus can be removed when the conditions of placentation require this.

Radiotherapy of Uterine Cancer.—Benthin states in concluding this report of the experiences in Winter's service that he is more and more convinced that everything should be surgically removed that it is possible to remove. After this, radiotherapy comes into its rights.

Zeitschrift für Kinderheilkunde, Berlin

April 4, 1921, **28**, No. 5-6

*Hospitalism. E. Steinert.—p. 255.
*Nutrition versus Infection. E. Wertheimer and E. Wolff.—p. 295.
*Manifest Tetany in Infants. E. Nassau.—p. 310.
*The Tolerance of the New-Born for Sugar. P. Feldmann.—p. 325.
*Roentgen Exposure of Suprarenals in Diabetes. H. Beumer.—p. 329.
*Melena in the New-Born. Bernheim-Karrer.—p. 335.
*The Scurvy Question. E. Nobel.—p. 348.

Infants in Institutions.—Steinert reports the experiences at the Foundling's Asylum at Prague where 18 young infants had to be kept for a year or more. Only 4 by the end of the year had reached the normal weight for their age. These 18 children developed 77 infectious diseases; 1 child had some infection of the upper air passages every fifty days. The tuberculin test was applied every month but with negative response in all but 4. The injurious action of the institutional environment becomes apparent after the third or fourth month. The lack of fresh air, and the restlessness interfering with sleep are important factors in hospitalism. The lack of emotional and mental stimuli, and the inability to collect impressions and experiences have also an unfavorable action on the development of the children. The presence of the mother and her individual care are unable to counteract the drawbacks of the institution, even when the mother nurses her child. This confers only a relative protection.

State of Nutrition Versus Infection.—Wertheimer and Wolff explain how nutritional disturbances induce a predisposition to infectious processes and modify their course. They studied this in a number of infants during the influenza epidemic. There seems to be a passive congenital protection against infection which gradually declines, and which is independent of the child's state of nutrition. There is also a gradually increasing active protection as the cells develop and grow stronger with age; this is directly dependent on the state of nutrition, and this is the gage for the resisting power of the infant.

Manifest Tetany in Infants.—Nassau relates that among 36 infants with spasmophilia there were 16 with manifest tetany before the age of 5 months. In 7 of these the child was less than 2 months old. The tetany began with convulsions in 93.7 per cent. of the 16 infants less than 4 months old, and they all had been having some nutritional disorder, dyspepsia, toxicosis or decomposition. In the 20 infants between 6 and 12 months old there were convulsions only in 15 per cent. but 95 per cent. presented laryngospasm, and rachitis and intercurrent infections were decisive factors. The tetany in the first or convulsion group was evidently the result of the nutritional disturbance having induced exaggerated retention of sodium and potassium, in contrast to calcium. This explains the tendency to convulsions. In the older children, inability to retain sufficient calcium entails rachitis, and the losses of calcium allow the sodium and potassium salts to outbalance the calcium, and this entails the laryngospasm. In both groups there is an exaggerated response to electric tests.

Sugar Tolerance in the New-Born.—Feldmann found no sugar in the urine of 68 per cent. of 100 young infants receiving sugar to supplement breast feeding; in 22 per cent. there was less than 1 per cent. sugar, but in ten cases with intake of from 16 to 53 gm. sugar, the sugar ranged from 1 to 2.9 per cent. The concentration of the sugar seems to be decisive. She calculates from these and other experiences, that the tolerance seems to be 7.2 gm. of beet sugar per kg. a day. The limit for milk sugar is less than this—only 3.3 gm. Surpassing these limits does no harm except that a slight transient alimentary glycosuria may be induced in a few cases.

Raying the Suprarenals in Diabetes.—Beumer exposed the suprarenals to the roentgen rays in a case of severe diabetes in a boy of 6½. No by-effects were observed, and general improvement followed; it was most pronounced in the drop of the sugar content of the blood. This declined from 0.375 to 0.153 and lower after three daily exposures. The severe acidosis has subsided also, but no influence on the tolerance for carbohydrates or on the glycosuria has been detected.

Melena in the Newly Born.—Bernheim-Karrer comments on the rarity in recent years of cases of melena neonatorum when the mothers have puerperal fever, such as used to be recorded. During the last week in March, 1920, 6 cases of melena neonatorum developed at the Zurich maternity, but the blood seemed to be sterile in 3 of the children, and the coagulating time was mostly within normal range, even in the graver cases. In one case only injections of citrated blood arrested the hemorrhagic tendency after failure of gelatin, serum, etc. The blood platelets also seemed to be within normal range. In 6 of 12 melena children the hemoglobin percentage was high, and notwithstanding the hemorrhages, there were over 5,000,000 erythrocytes in 3. The general impression from these cases is that the vessels in the intestines, rather than the blood itself, are to be incriminated for the melena.

The Scurvy Question.—Nobel reports from Pirquet's service the cure of seven infants with scurvy under treatment with nothing but milk boiled from ten to thirty-five minutes up to one hour. This demonstrates that the antiscorbutic vitamin is not so sensitive to heat as generally assumed. The scurvy subsided as promptly and completely in these cases as in those treated with lemon juice, etc. The milk had been evaporated to two thirds, and this concentration increased the relative proportion of vitamins even although part might have been destroyed by the heating. The change in the diet is an important factor. Abundance of carbohydrates in the diet is always mentioned in the history of scurvy cases. Nobel has noted further that the infants were liable to sudden losses of several hundred grams of weight during the scurvy and during convalescence, without vomiting or diarrhea to explain it. He thinks that we must accept a tendency to invisible edema as part of the clinical picture of scurvy.

Zeitschrift für klinische Medizin, Berlin

1921, **90**, No. 5-6

*Sodium Edema. A. Magnus-Levy.—p. 287.
*Streptothricosis of Lung. F. Glaser and C. Hart.—p. 294.
*Determination of and Elimination of Albumin. P. Bergell.—p. 317.
*The Volume of Blood Corpuscles. F. Reich.—p. 329.
Roentgenography of Influenzal Pneumonia. E. Liebmann and H. R. Schinz.—p. 345.
*Creatinuria and Acidosis in Diabetes. M. Lauritzen.—p. 376.
*Dilatation of Vessels of Nonsyphilitic Origin. G. Deusch.—p. 386.
*Continuous Bigeminal Pulse. E. Tancré.—p. 402.

Sodium Edema.—Magnus-Levy compares the edema induced with sodium bicarbonate with that induced by sodium chlorid in a number of cases of nephritis or nephrosis, and in diabetics. Edema may develop under the influence of sodium bicarbonate on a salt-poor diet, but it is less pronounced than when salt is being taken freely. The reserves of salt in the

tissues may be drawn out into the edema, or the accumulations in the tissues may persist even with extreme and obstinate edema. The bicarbonate does not induce edema unless there is already a predisposition to sodium chlorid edema, and the edema is never so pronounced as with the latter.

Streptothricosis of Lung.—The patient was a merchant of 49, and the necropsy findings confirmed the clinical diagnosis of pulmonary mycosis. The streptothrix was discovered in the pus from the fistula.

Determination of and Elimination of Albumin.—Bergell relates that the formation of picric acid crystals in 10 c.c. of urine treated with 5 c.c. of Esbach's reagent, is a delicate test for albumin. A positive response throws light on the prognosis although the exact nature of the crystals is not quite clear. The crystals are found more numerous as recovery progresses, as he shows in a number of cases of acute and chronic kidney disease. The changes in the proportion of crystals always foretold exactly the next phase of the disease.

Volume of Blood Corpuscles.—Reich applied both the Alder and the Bence methods, and found that the results harmonized. The size of single erythrocytes showed wide variation, but the normal average seemed to be 9.22 cubic microns. Microcytosis was especially pronounced in tuberculosis.

Creatinuria and Acidosis in Diabetes.—Lauritzen's research seems to demonstrate that both the creatinuria and acidosis in diabetes are the result of defective metabolism of carbohydrates. If the creatinuria is allowed to persist, the muscles suffer in time. It can be kept under control by dieting.

Nonsyphilitic Disease of the Large Vessels.—Deusch discusses tuberculosis, arteriosclerosis and rheumatismal endocarditis as responsible for pathologic conditions in the aorta and other large blood vessels. He reports a number of instances of each, and emphasizes that we must not incriminate syphilis too exclusively even in aneurysmal dilatation in the young. Other factors may induce pathologic conditions practically identical with those of syphilitic origin.

Continuous Bigeminal Pulse.—Tancré's subheading is "Retrograde Extrasystolia," and he reports a case which he thinks is unique in certain respects. He was able to apply various tests, and states that digitalis in small doses seemed to have the most effect. An intercurrent pneumonia did not modify the bigeminus. This sustains the assumption that it is somewhat in the nature of compensation, and not necessarily a bad omen.

Zentralblatt für Chirurgie, Leipzig

April 9, 1921, **48**, No. 14

*Blood Changes After Splenectomy. A. Weinert.—p. 474.
Technic of Closure of Large Chest-Wall Defects. W. Jehn.—p. 477.
Luxation of Tendons of Extensor Digitorum. W. Levy.—p. 482.
Induced Ankylosis of Knee. F. Lemperg.—p. 486.

Surgical Significance of Blood Changes After Splenectomy.—Weinert protests against the assumption that splenectomy does not materially affect the composition of the blood. His data seem to indicate that after the loss of the regulating and inhibiting influence of the spleen on the bone marrow, the latter may functionate with extra energy in the production of blood corpuscles, especially of erythrocytes. This in turn may favorably modify the further course of the disease in question.

Zentralblatt für Gynäkologie, Leipzig

April 9, 1921, **45**, No. 14

*Management of Tubal Pregnancy. H. A. Dietrich.—p. 481.
Expectant Treatment of Advanced Extra-Uterine Pregnancy. J. Olow (Lund).—p. 488.
A Full-Term Extra-Uterine Pregnancy. Hisgen.—p. 490.
*Roentgen Rays in Extra-Uterine Pregnancy. M. Fraenkel.—p. 493.
"Concomitant Bi-Tubal Pregnancy with Spontaneous Regression on One Side." (Borell). J. Schiffmann.—p. 494.
Etiology of Tubal Pregnancy. F. Grieser.—p. 495.
Torsion of Tube in Virgin. K. Heil.—p. 498.
"Kidney Changes in Eclampsia." (Th. Fahr). M. Löhlein.—p. 499.
"Social Gynecology." M. Hirsch.—p. 500.
"Specific Ovarian Secretion." E. Herrmann.—p. 501.

Management of Tubal Pregnancy Cases.—Dietrich has gathered information on the late results in forty-two of his own cases of tubal pregnancy that came to operation, and has also studied the literature on the subject, from which he reaches the following conclusions: After operation for tubal pregnancy patients become again pregnant in 35.19 per cent. of the cases, but only 18.5 per cent. of these are extra-uterine (1 out of 5.4). Out of 4,526 cases of tubal pregnancy a recurrence was reported in 4.68 per cent. In 615 cases of operated tubal pregnancy, intra-uterine pregnancy occurred in 28.62 per cent. (in many cases, several times). On the basis of these statistics Dietrich feels that a routine, prophylactic removal of the other tube in operations for tubal pregnancy is unjustifiable.

Retrogression Under Roentgen Irradiation of Extra-Uterine Pregnancy.—Fraenkel reports the results of his endeavors in two cases of extra-uterine pregnancy to bring about a retrogression by means of roentgen rays. In the first case, extra-uterine pregnancy in the second month, he employed at the first sitting (July, 1914) an irradiation with 80 X, which was repeated the following day with the same dosage. The result was a distinct and unequivocal retrogression of the previously existing enlargement of the adnexa on that side. The patient was dismissed in about two weeks as apparently cured. The second case was in a woman of 21, married one year, who had been subject to profuse and debilitating menses at three-week intervals and lasting a week. Examination revealed a small, infantile, pear-shaped uterus. The ovaries were not palpable on either side. Jan. 23, 1921, the patient was seized with a severe headache and pain in the abdomen. On the right side a spot, painful on pressure and about the size of a small apple, was discovered. There was no fever, but during the examination a trace of blood was noted; likewise the following day, so that extra-uterine pregnancy in the middle of the second month was suspected. The gynecologist who was called in confirmed the suspicion. The patient's family refused immediate operative intervention; therefore, roentgen irradiation was undertaken at once, six fields being irradiated, a total of 18 E. D. at a sitting, 4 mm. of aluminum being used as a filter. The day following the same dose was repeated. Examination three days later disclosed the existence of the painful spot still, but the swelling was considerably smaller, and receded further during the next few days, until it was only the size of a filbert. The left ovary was not palpable. The uterus was unchanged. Further observation revealing no changes, the patient was dismissed. Fraenkel communicates these two case reports for discussion without drawing any conclusions from them. The subject, he thinks, deserves further investigation.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

March 12, 1921, **1**, No. 11

*Treatment of Sciatica. A. C. Wittenrood.—p. 1403.
Technic for Tonsillectomy. H. Burger.—p. 1416.
Transfusion of Blood. T. Joekes.—p. 1422.
Epidemic Encephalitis. P. H. Kramer.—p. 1424.
Friedmann's Treatment of Tuberculosis J. van Tilburg.—p. 1432.

April 23, 1921, **1**, No. 17

Examining the Blood in Malaria. B. Eisendrath.—p. 2268.
Function of the Intercostal Muscles. C. van Gelderen.—p. 2272.
The Albee Operation in Pott's Disease. R. J. Harrenstein.—p. 2279.
Sending the Tuberculous to the Mountains (Switzerland). A. G. W. van Waveren.—p. 2282.
Formation of Inulinase in the Intestines. E. Sluiter.—p. 2286.
Training for Work in Insane Asylums. W. H. Cox.—p. 2289.
Aneurysm in Abdominal Aorta. J. R. Rijtma.—p 2302.

Treatment of Sciatica.—Wittenrood presents arguments to combat the prevailing prejudice against mechanical treatment of sciatica. He discovered the advantages of it in his own person twenty years ago as he cured himself of right sciatica, rebellious for a year to ordinary measures. In pulling off his sock he felt a sharp pain in the right buttock, and surmising that this was from the stretching of the sciatic, he drew up the foot with both hands, trying to touch his forehead with it. The pain was sharp, but after repeating the movement several times in succession the sciatica was cured. The next day conditions were apparently absolutely normal. Years later, another attack of sciatica was cured in the same manner. Since then he has applied it to others, and gives the details of twenty-one cases, and the technic as he has systematized it after research on cadavers. The stretching of the nerve is done by the trochanter being pushed under the

nerve by outward rotation of the leg, abduction and flexion, the foot in the median line and brought up as close to the forehead as possible. The anatomic findings in the cadaver at the different stages of the process are shown in nine illustrations. The sensations of the patient are the guide against too much or too little stretching, and hence anesthesia is best dispensed with. Neuritis is not a contraindication, and success may be realized in the old as well as the recent cases. The course of treatment took from one day to one month in the twenty-one cases tabulated, except four in which from seven weeks to five months were required.

Hospitalstidende, Copenhagen

March 2, 1921, **64**, No 9

Case of Hypertrophy of Muscles. K. H. Krabbe.—p. 129.

March 9, 1921, **64**, No. 10.

*Generalized Vaccinia. O. Thomsen.—p. 145.
*Heredity of Dementia Praecox. J. C. Smith.—p. 152.

Generalized Vaccinia.—The revaccinated older children had evidently infected the two younger, and—predisposed by eczema—they developed generalized vaccinia.

Heredity of Dementia Praecox.—Smith traces the mendelian laws in a family in which the father committed suicide in melancholia and the mother died twenty-eight years after internment for dementia praecox. The two sons had dementia praecox, and one daughter drowned herself at the age of 13. The second daughter had been under treatment on two occasions for manic-depressive psychosis, but later recovered, and has been self-supporting for fifteen years, apparently normal.

April 20, 1921, **64**, No. 16

*Aneurysm of Spinal Cord Artery. F. Bang.—p. 241.
Hospital Paratyphoid Epidemic. O. R. Schow.—p. 250. Conc'n No. 17.

Aneurysm of Spinal Cord Artery.—The retrospective diagnosis after the sudden death had been embolism in the central nervous system from a cardiac defect, surmised from the attacks of pain in the heart region. But necropsy revealed hematomyelia, the result of rupture of a minute spinal cord artery, the blood having spread up into the medulla oblongata.

Hygiea, Stockholm

Jan. 30, 1921, **83**, No. 2

*Sterility in Women. F. Westermark.—p. 33.
Concussion Psychosis. B. A. Boye.—p. 48.

Sterility in Women.—Westermark reviews the numerous factors which may interfere with the spermatozoa reaching the ovum, and the various conditions which might prevent fertilization after the junction had been effected. Broman asserts that the failure of the ova to ripen may be due to defective development of the sex glands, and that this in turn may be the result of a too luxurious mode of life. Fahlbeck has demonstrated that the families of the nobility in Sweden seldom survive beyond the third generation. He found that the last male descendants of 433 Swedish titled families were either unmarried (45 per cent.), or were childless though married (11 per cent.); 39 per cent. had died before reaching maturity, and to 5 per cent. only daughters had been born. Westermark agrees with Broman to the extent that he believes that genius, great talents or wealth lead to the extinction of the family in a few generations. In some women the ovum evidently does not come to maturity; menstruation seems to be normal until the age of 25 or 30, and then it gradually dies out and the women grow fat. The ova do not ripen. Degeneration processes may be responsible for negative chemotaxis, a repelling influence from the ovum. In short, he concludes, the incurable cases of sterility still form the majority. He gives a long list of congenital causes in the husband which may be responsible for the absence of conception, and of four groups of acquired causes, including necrospermia as well as azoospermia. In operating for adnexitis, he is careful to free the fimbriated end of the tubes so as to leave them permeable. An operation to release the tubes and straighten the anteflexed uterus may remove the obstacle to conception. In 26.4 per cent. of fifty-three women thus operated on, a pregnancy followed, and the outcome is not known in forty-two other operative cases of the kind. The outcome encourages operative treatment of sterility even with salpingo-oophoritis. The fimbria have to be freed until they spread out as in normal conditions, the normal relation with the ovaries restored. Retroflexion of the uterus dating from childhood or puberty is usually associated with defective development. Correction may require shortening of the round ligaments, but secondary retroflexion seldom requires this.

Ugeskrift for Læger, Copenhagen

March 17, 1921, **83**; No. 11

Study of Circulation in the Capillaries. K. Secher.—p. 367.
Treatment of Flat-Foot. E. Nyrop.—p. 373.

April 14, 1921, **83**, No. 15

*Gastric Hypersecretion and Ulcer. K. Faber.—p. 491.
*Electrotherapy in Gout. L. Andresen.—p. 503.

Gastric Hypersecretion and Ulcer.—Faber emphasizes that what functional tests reveal is merely of a symptomatic nature, giving no hint of the cause. He found hyperacidity, for example, in only 21 per cent. of 61 operative cases of juxtapyloric ulcer. The percentage was still less with ulcers in the body of the stomach; the pains are the work of the ulcer itself, not from secretory disturbance. Digestive or continuous hypersecretion was found in 75 per cent. of the 61 juxtapyloric ulcers, but in less than 12 per cent. of his 50 ulcers in the body of the stomach. The juxtapyloric ulcers are the only ones accompanied by pylorospasm. Motor disturbances occur from spasm or paralysis of the pylorus, and the latter is common with corpus ulcers. The more pronounced the hyperacidity, the greater the presumption of ulcer, but intestinal disturbance is often responsible alone for hyperacidity or hypersecretion, and both subside as conditions in the bowels return to normal. Thaysen found high gastric secretion in 70 per cent. of all his cases of habitual constipation. Abuse of alcohol depresses instead of exaggerating gastric secretion. Acid gastritis frequently accompanies ulcer, and may be responsible for symptoms persisting after healing of the ulcer. Faber's experience has been that a cure by medical means alone can be counted on if there have been only three years of ulcer symptoms; in over 50 per cent. a permanent cure, even in many cases of over twenty years' standing. Treatment should include psychotherapy as well as the dietetic measures in many cases, especially when symptoms persist after operative treatment, and with the hyperacidity of nervous dyspepsia or vagotonia.

Arsonvalization in Treatment of Gout.—Andresen calls attention to his constant success in relieving the disturbances in his fourteen cases of muscular gout with distressing infiltration in muscles, tendons and subcutaneous fat tissue. Massage and baths are only palliative and are painful, but under teslaization the relief was prompt and the infiltrations disappeared, the benefit thus being permanent even in cases of twenty-three years' standing. The sittings were for from fifteen to forty-five minutes, and from twenty to twenty-eight sittings were required to free the patient completely from his symptoms and restore him to active life.

April 21, 1921, **83**, No. 16

*Bacteriology of Whooping Cough. A. H. Meyer.—p. 523.
*Gastroscopy. C. U. Maaløe.—p. 525.

Whooping Cough.—Meyer found pertussis bacilli in from 63 to 77 per cent. of 120 cases of whooping cough during the catarrhal stage, before the paroxysmal cough had developed. In the first week of the paroxysmal cough, the bacilli were found in 57 per cent. of 277 cases; in 61 per cent. of 201 in the second week; in 40.5 per cent. in the fourth week, and in 9 per cent. of 107 in the fifth week or later. In the 1665 specimens of sputum suspected of pertussis, in 559 it could be excluded. He urges that blood should be sent, along with the sputum, in dubious cases; deviation of complement occurs from the third week and persists for months or years.

Gastroscopy.—A colored plate shows twenty views of the interior of the stomach inspected with Elsner's gastroscope. Maaløe has applied it 500 times since 1912. With this technic it is possible to detect ulcers which escape all other means of investigation. In his ninety-five cases nearly a third had been classed as mere nervous dyspepsia until the gastroscope revealed the ulcer.

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DISORDERS OF THE PITUITARY GLAND

RETROSPECTIVE AND PROPHETIC *

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AN ALLEGORY

We find ourselves embarked on the fog-bound and poorly charted sea of endocrinology. It is easy to lose our bearings for we have, most of us, little knowledge of seafaring and only a vague idea of our destination. Our motives are varied. Some unquestionably follow the lure of discovery; some are earnest colonizers; some have the spirit of missionaries and would spread the gospel; some are attracted merely by the prospect of gain and are running full sail before the trade wind. Traders, adventurers, even pirates are certain to follow on the heels of exploration. In every profession, even ours, are to be found those who gather up beads of information of little intrinsic value which are exchanged for the property of credulous people, as gullible as the natives of a new-found land. Thus do discoveries become exploited and there were discreditable chapters in the histories of all the Great Companies of days gone by.

The impulse which launched us in such amazing numbers on our several missions some future historian may have to tell. There is nothing comparable to it, for the development of a specialty is usually a very slow process, but the endocrinologist seems to have generated spontaneously everywhere.

To our present short sight it would appear that this sudden enthusiasm to put to sea under the pennant of the ductless glands was largely influenced by the chance discovery in 1909 that certain hitherto uncharted though easily recognizable disorders are due to a state of pituitary insufficiency. There followed a deluge of papers,[1] and soon after, the endocrinologist came into being, with the establishment a few years ago of this association whose official organ represents a sort of mariner's almanac of the subject.

This organization has become, indeed, a sort of geographic society, and though from time to time it may unwittingly foster the publication of supposed discoveries which may long delay progress, these are merely comparable to the errors of the geographer of old, who assumed that he was in Cathay when he sighted the Bahamas and later spent much unprofitable time in the broad mouth of each new river looking for a northwest passage which wasn't there. If this organization is to play its proper rôle it should act as a much-needed stabilizer which, by proper recognition, will enable the profession and the public to distinguish the Cooks from the Pearys of our profession; for though imagination is a desirable quality in research as well as in exploration, it must be disciplined and, even so, cannot be drawn upon in making out official reports.

To be sure, if our allegory may be continued, there have been many independent and notable voyages in days gone by. Though the Frenchman, Théophile de Bordeu, was among the first to state the modern theory, his was purely theoretical reasoning, as Fielding H. Garrison [2] says, with "an intolerable deal of verbiage spread over the smallest substructure of fact." But many actual, though isolated, islands of fact came to be subsequently encountered and charted by Parry, Claude Bernard, Addison, Brown-Séquard, Kocher, Marie, von Mering, Gley and others. They made the discoveries. Colonizers followed in their wake. But no one could venture to say whether the lands in this new archipelago were good for much or whether the mainland had even been attained.

The thyroid alone was within easy reach and had been thoroughly surveyed before the beginning of the century. The importance, too, if in lesser degree, of the islands of Langerhans had been recognized, though their inaccessibility was a deterrent to colonization. But, despite their importance individually, even thyroid and pancreas until recent times appeared to have nothing more than a theoretical interdependence. As for the other glands, aside from their latitude and longitude, no prolonged interest was manifested even when Brown-Séquard, the Ponce de Léon of our predecessors, thought he had in reality found the fountain of perpetual youth.

HYPOPITUITARISM

It is perhaps of no great importance what particular discovery led to the stampede of which I have spoken. Though my assumption that it was largely related to the pituitary body may be historically incorrect, it nevertheless will be admitted that suddenly before our eyes there was found to exist a large group of individuals whose physical peculiarities, previously regarded as within normal physiologic limits, were due to a disordered function of this obscure gland. As may be recalled, the state of our confusion had been such that, after Marie's acromegaly had been shown to be

* Presidential Address before the Association for the Study of Internal Secretions, Boston, June 6, 1921.

1. A plotted chart of the number of articles relating to the pituitary gland published annually during the past two decades shows that in 1907 there were thirty-four papers of which twenty-four dealt solely with acromegaly. In 1912, the year of my monograph, the curve rose so abruptly that the Index Medicus perforce rearranged its headings and for the first time assembled under one heading the publications dealing with the internal secretions. In 1913 there were 298 titles on the subject of the pituitary alone.

2. Garrison, F. H.: Ductless Glands, Internal Secretions and Hormonic Equilibrium, Pop. Sc. Month., December, 1914, p. 351 et seq.

associated with tumor, many futile attempts had been made to reproduce the condition experimentally by extirpating the gland. Hence when Alfred Fröhlich under the title "Ein Fall von Tumor der Hypophysis cerebri ohne Akromegalie" published his brief paper describing an example of adiposogenital dystrophy with tumor, the observation was utterly mystifying, until it was disclosed some years later, through a series of experiments in the Hunterian Laboratory, that this condition and not acromegaly was the consequence of pituitary insufficiency.

By this demonstration not only was a new light shed on the entire group of pituitary disorders but also on the derangements of the ductless glands in general, for here was another of these structures which, like the thyroid, gave recognizable clinical signs of functional loss which could be contrasted with those assumed to be due to functional excess. Indeed, it soon became apparent that evidences of dyspituitarism, particularly on the side of lowered function, were as common, if not more common than were corresponding states due to functional deficiency of the thyroid which, in this country at least, are relatively uncommon. What is more, in many disorders showing a polyglandular participation there is an obvious hypophysial influence at work, whereas this is far less, if at all, apparent in those maladies which seemingly originate in the thyroid. Again, the diseases of the pituitary gland immediately interested a much larger public. It included the neurologist, the ophthalmologist, the rhinologist, the obstetrician, the urologist, the dentist, the pediatrician, the psychiatrist, and many others beside the general surgeon and the physician to whom alone the diseases of the thyroid were a matter of special concern.

THERAPEUTIC EXPLOITATION

These are but a few of the influences which have led us in such numbers to embark glandward ho! and a good many of us, I fear, have completely lost our bearings in the therapeutic haze eagerly fostered by the many pharmaceutical establishments. For this, however, a credulous profession is largely responsible. An enthusiastic writer says, "We are now in the epoch of pragmatic endocrinology and should make the most of the splendid opportunity." Children are either too short or too tall, too fat or too lean. Their adolescence is too early or too late; they have too little or too much hair. They are intellectually backward or stupid, even defective or epileptic. The sella turcia is too small or too large and its bedposts are of the wrong shape or may even coalesce. The pineal gland casts a shadow and must be causing trouble. The basal metabolism, laboriously calculated, is found to be a little low or a little high. All this needs attention and can be corrected by some whole-gland extract, usually with a pinch of thyroid thrown in.

Pituitary extract is advocated in parturition, shock, baldness, impotence, epilepsy, scleroderma, amenorrhea, dementia praecox and a multitude of other conditions, which hitherto have baffled us, and if it does not suffice by itself you are earnestly recommended, according to the directions in the enclosed folder, to try this or that combination of hormones which contain the active principle of several glands: "In hypertensive conditions use hormotone without post-pituitary," we are advised. Never before has there arisen such an opportuinty for polypharmaceutical charlatanism. The subject has fired the imagination of the stay-at-homes as did the Mississippi Company and the South Sea Bubble, and there is likely to be the same final crash and then ridicule when common sense begins to breed a proper skepticism. Here are a few samples taken at random from the hundreds of paragraphs that might be quoted from standard medical journals.

"Speaking in relative terms and in view of its relation to the posterior pituitary it is a male gland just as relatively speaking the thyroid is a female sex gland."

"It is the normal action of the anterior pituitary which is concerned with that cerebral trophic stimulation and with that maturity of mind and with that judgment which in most men act as restraining factors to the coarser instincts."

"As a corollary to the clinical use of pineal gland in accelerating the chemical movement of the brain in the backward child, it has appeared to me justifiable to try it in premature decay of the mental powers in old people. I have found that while it will not make over hardened arteries of a dilated heart, it will quicken the slowed-down mental processes of old age, improve the memory, and produce a remarkable cheerfulness and sense of well-being. Some of my elderly patients have taken it for years, and decline to be without it."

"We note that we can identify gonadal difficulties by the position, shape, or absence of the lateral incisors; we can detect pituitary compensation in the male and adrenal compensation in the female as a result of these gonadal disturbances."

"The pituitary, we have found, controls all functions based on periodicity-menstruction, the rhythm of poetry and music, punctuality, neatness, order, all of these have their origin in the pituitary. We find clinical corroboration of this in diseased conditions of the gland, when a sudden fondness and aptitude for music make their appearance simultaneously with a new growth which activates certain secretions of the pituitary."

"In diagnosis it is no longer a question of bimanual examination, of listening to the lungs, to the heart, testing the blood-pressure, examining the urine, examining the blood, etc. It is a matter of observation and also of tests to determine what the endocrines have been doing to a patient before she comes to us, and then it is for us to determine what the endocrines are doing at the time the patient consults us; and if the patient suffers from too little of a secretion necessary to her well-being, what is easier than to administer it?"

Certainly nothing is easier, but what buncombe this is for a profession like ours. I know of nothing similar unless it was the furore over phrenology. There was much of value in Gull's early doctrines, but when speculation regarding the cerebral "faculties" and their relation to bumps on the skull was allowed to run away with the subject, it came to be treated with derision and soon passed into oblivion. After the death of Gull thirty-three years elapsed before the rebirth of the topic with Broca's attempt to localize the faculty of speech. Exploitation makes enormously more difficult the task of the serious-minded colonists who realize that the clearing of the land will be a slow and wearisome process before marketable profits can be taken from the soil.

SLOW PROGRESS OF KNOWLEDGE

Past experience with the thyroid should be a sufficient lesson, and this was perhaps the simplest problem. Yet how slow has been our progress! Largely by making it subversive to surgical procedures its clinical phenomena have been laboriously disentangled from those of the adjacent parathyroids; its manifestations of inactivity in childhood and adult life have become understood and it has been found that the administration of its extracts will largely counteract the loss of secretion produced by operative removal or disease. Its varied expressions of overactivity have begun to be disentangled and we have found a fairly accurate means

of mathematically recording their degree. By slow steps the relation of the gland to iodin has been discovered, and finally its active principle in crystalline form has actually been isolated. The thyroid colony has, in other words, been longest established, and though it has been a far cry from Schiff's experimental thyroidectomies in 1856 to Kendall's synthetic production, in 1914, of thyroxin, yet how little do we really know of the background of thyroid disorders, of their relation to the emotions and the sympathetic nervous system, and their pluriglandular interplay.

With the pituitary gland we are still far behind all this, nor can we profit very greatly by past experiences with the thyroid except that we must avoid certain traps and pitfalls of observation which have been located by our predecessors. We must exercise patience and expect even slower progress, for we are dealing with a far more complicated structure and one whose problems evidently cannot be solved without consideration of their relationship to other glands. Of its great importance to the economy, particularly in its influence upon growth and reproduction, and hence, to quote Arthur Keith, upon the evolutionary processes affecting many of man's racial characteristics, there can be little doubt; but these speculative theories are not for the practicing physician. He must await the tedious accumulation of facts which the experimental laboratory and clinic alone can supply.

The process is somewhat as follows: We first come to recognize an unusual clinical syndrome. This in time is ascribed to the disorder of a particular gland, usually because it is the seat of tumor or enlargement. These tumors exert pressure on neighboring structures and for mechanical reasons have to be removed. Extirpation of the gland whether conducted in laboratory or operating room, reproduces for us in some degree the clinical picture resulting from glandular want. Consequently to secretory excess we venture to ascribe the reverse clinical picture. We in time come to differentiate various modifications of both of these types and endeavor to treat them therapeutically. For states due to oversecretion our only recourse at present is surgery or some form of radiation. The attempt is made to atone for secretory deficiency, on the other hand, by one or another method of glandular administration, awaiting the time when this can be done with greater accuracy after the discovery and synthetization of the active principle.

Still, important as this discovery will be, it will by no means be the last step, for we have had epinephrin for twenty years and yet have made less progress with the disorders of the suprarenal than we have with those of the thyroid in complete ignorance of thyroxin. We will only be approaching the end—as near as one ever is to the end in medicine—when chemical substances come to be known, possibly the active principles of other glands, whose administration will counteract states of functional overactivity. But this time is very remote, and so long as there is tumor formation, giving neighborhood disturbances apart from those attributable to the disorders of internal secretion, so long will the surgeon be needed, and in the interval he should feel it his duty, so far as possible, to blaze a trail which can be easily picked up by those better trained who follow and who in turn will lay the road for all comers.

SIGNIFICANCE OF THE TUMOR

Were it not for the tumor, indeed, clearly indicating the seat of trouble, how little would we now know of the thyroid, for it is only of late years with some knowledge of basal metabolism that we have ventured in its absence to speak, at least with any assurance, of hyperthyroidism. Certainly without the combination of tumor and modern principles of surgery we might still be groping in the wilderness over thyroid insufficiency. But certain goiters pressed on the windpipe and demanded removal. Kocher and Reverdin found the way to do so and the cause of myxedema was disclosed, and then of cretinism and finally of tetany. In the bare statement, this seems simple enough today, but even the technical difficulties of these early thyroidectomies were such that only the boldest operators, whose exciting adventures Professor Halsted [3] has so vividly described, dared to undertake them. Still, formidable as these surgical difficulties appeared to be, they were as nothing when compared with the subsequent intellectual tasks that were necessary for an interpretation of the results.

In the case of pituitary disorders we are not far beyond the stage of tumor. One may recognize outspoken acromegaly without a roentgenogram of the sella, just as one may exophthalmic goiter without seeing the neck. But in the absence of neighboring pressure signs, to say that a child who is undersized, or fat, or whose dentition or adolescence is delayed, or that an adult who has the texture and color of skin, the adiposity, impotence, subnormal temperature, and so on, known to characterize certain individuals with hypophysial adenomas, is really a subject of pituitary want, is purely a matter of guesswork. If this admission must be made regarding these fairly characteristic pituitary syndromes, what is there to say of a pluriglandular complex except to acknowledge an abysmal ignorance?

PITUITARY OPERATIONS

Hence it is that with the therapeutics of hypophysial disorders we are still mired in the crude path-breaking stage of surgery, and progress is necessarily slow. Indeed, it is only within a few years that such a thing has even been deemed possible. Yet this need be no occasion for wonderment since only of late with the development of roentgenology and the more extended use of the ophthalmoscope and perimeter can a diagnosis of pituitary disease apart from acromegaly be made with any probability. Unlike the thyroid enlargements, an hypophysial or parahypophysial growth can be determined only by indirect methods, for next to the brain stem itself, the hypophysis lies in possibly the best protected and most inaccessible place in the body—one reason for assuming that it may be a most important member of the endocrine series.

Surgeons have assailed it from below through the nasal cavities, and from above through the skull by elevating the frontal lobe either from in front or the side. It is certain that no one method is applicable for all conditions of pituitary tumor and that for some no satisfactory procedure has been devised. Speaking for myself, I find that I am conducting proportionately fewer rather than more transphenoidal operations, though in favorable cases with a large ballooned sella I believe the latter to be the simplest and easiest method, the one most free from risk and most certain to lead to a rapid restoration of vision. However, in increasing numbers, both in children and adults, suprasellar tumors giving secondary hypophysial symptoms are

3. Halsted, W. S.: The Operative Story of Goitre, Johns Hopkins Hosp. Rep. **19**: 71-257, 1918.

being recognized, and if the sella is not enlarged an approach from above is necessitated.[4]

The first thing we must learn to do, therefore, is to recognize and classify the types of pituitary disease which are unmistakable owing to the presence of tumor. Even this has many difficulties, as is evident from the number of patients referred to the clinic as examples of pituitary disease because the roentgen ray supposedly shows a partially destroyed and distended sella. Though it is well known that the pressure of tumors elsewhere in the cranial chamber may produce secondary hypophysial manifestations, it has not been sufficiently emphasized that these conditions are apt to produce a more or less marked degree of sellar distortion with thinning or actual absorption of the posterior clinoid processes.[5] A still more common pitfall lies in the misinterpretation of plates showing what is supposed to be an abnormally small fossa, and if this finding is regarded as an indication of pituitary insufficiency, a prolonged course of futile glandular therapy is usually instituted. But even in the presence of unmistakable tumor we are as yet little more advanced with our problem than were those, who, in the eighties and early nineties began to operate upon goiter merely for the relief of pressure symptoms. It will be long, I fear, before hyperpituitarism will come to be attacked by operative measures as hyperthyroidism has been, and ere then it is not impossible that some form of therapeutic radiation may prove so effective as to take the matter entirely out of the surgeon's hands.

DIABETES INSIPIDUS

That we are not far on our way is evidenced by the present discussion concerning diabetes insipidus. We were long misled by the early experiments which appeared to indicate that posterior lobe extracts were diuretic in their action—an error due to the brevity of the usual physiologic experiment. Until Motzfeldt's studies which showed that these extracts were really antidiuretic in action it was difficult to understand why diabetes insipidus was so often an accompaniment of pituitary insufficiency rather than of its counter state. This observation gave us for the first time a rational basis for the treatment of the disorder, but unhappily posterior lobe extracts appear to be ineffective when given by mouth, as so many glandular extracts are, and there are limits to daily hypodermic injections of a substance such as pituitary extract. Again, no sooner do we appear to have a clear understanding of the cause of diabetes insipidus than we are confronted by the old contention that it is not hypophysial in origin after all, but is due to a lesion of the tuber cinereum, and the view has even been advanced that the somnolence and adiposity assumed to be hypophysial are also of like origin.

In short, does a suprasellar tumor so affect the hypophysis as to cause adiposity, tardiness of adolescence, diabetes insipidus and the like, or are these symptoms attributable to an adjacent cerebral lesion? We may of course have suprasellar tumors which produce none of these effects; but when they occur, what is the explanation? Roussy and Camus, Houssay and others have revived this subject in favor of the nuclear origin, and Percival Bailey and F. Bremer by very exact surgical methods have succeeded repeatedly during the past year in making under direct vision a minute lesion in the tuber cinereum of the dog which results in the permanent establishment of a polyuria of high degree. This is a brilliant achievement; but, nevertheless, since they have found that injections of pituitary extract will temporarily abolish the experimental polyuria of their animals just as it does the diabetes insipidus of man, we are left in some doubt as to whether the function of the hypophysis may not after all be affected even by this procedure.

Of these matters all that can be safely said at present is that many pituitary disorders, like those of the thyroid, probably have some neurogenic background of which we know little. It was with this in mind that some years ago the attempt was made with Weed and Jacobson[6] to trace the pathway of fibers influencing the gland from the fourth ventricle by way of the cervical sympathetics.[7] When there was available glycogen stimulation of this pathway provoked glycosuria even though impulses could not reach other ductless glands, and we were led to believe that through a chemical messenger the pituitary had a definite influence upon the utilization of glycogen.

METABOLISM STUDIES

These particular experiments were the outcome of studies made largely by Conrad Jacobson and incorporated in my monograph of twelve years ago, regarding the sugar tolerance of our experimental animals and

4. At the present time there have been in the writer's series 255 examples of what was regarded as primary pituitary disease. In over 200 of these cases there was unmistakable evidence of tumor, the nature of which has been verified by operation in 190 cases.

Of these 190 patients, 155 were operated on by the transsphenoidal route, ten of them on more than one occasion, with a case mortality of 9.7 per cent. Forty of them have been operated upon by the osteoplastic transfrontal route, usually for suprasellar tumors, with a case mortality of 7.5 per cent. In four patients both methods have been used, two of them cases in which a transsphenoidal operation was ineffective in restoring vision: two of them cases in which a transfrontal operation revealed an unperforated glandular capsule and hence an operation from below was preferred.

Only a few of the 190 surgical cases were acromegalies. The others showed many and varied forms of dyspituitarism. A great number of these patients have been induced subsequently to follow out prolonged courses of glandular treatment. I cannot say that I have ever seen any definitely beneficial results of so doing except when there has been some concomitant thyroid want indicating the coincidental use of thyroid extract.

5. Under these circumstances the ophthalmoscope will usually make the diagnosis, but this is not invariable, for a choked disk rather than primary atrophy may occasionally accompany an intrasellar tumor. We have recently had three striking examples of this. But with the combination of ophthalmoscope, perimeter and roentgen ray there should rarely be room for differential doubt.

6. Weed, Cushing and Jacobson: Further Studies on the Rôle of the Hypophysis in the Metabolism of Carbohydrates: The Autonomic Control of the Pituitary Gland, Bull. Johns Hopkins Hosp. **24**: 40-52, 1913.

7. Efforts to reproduce experimentally the clinical states assumed to be due to glandular overactivity, like hyperthyroidism or acromegaly, have so far been unavailing. When some method of accomplishing this is finally discovered it will act as a star shell in the night to illumine the entanglements among which we are groping. It was a brilliant conception of Cannon's that one might stimulate a gland by shunting into its governing nerve supply the rhythmic impulses which pass along the phrenic to the diaphragm. He endeavored to overstimulate the thyroid in this way by anastomosing the phrenic and cervical sympathetic of the cat and in some cases a state resulted which bore a certain resemblance to hyperthyroidism. These experiments, however, were repeated the following year by Gilbert Horrax with the difference that in the animals of his series a preliminary excision was made of the thyroid on the side of the anastomosis. In a few animals the same phenomena was observed that Cannon had described. Some other interpretation than his, therefore, must be forthcoming. One might argue that the impulses must have primarily affected the hypophysis and secondarily, if at all, the thyroid. This most ingenious method deserves further employment.

Of late Cannon has been engaged in perfecting a method of registering the functional activity of a gland by electrical measurement, a difference of electrical potential being regarded as an evidence of secretory activity. All such experiments directed toward the underlying neurogenic influences of glandular action, if capable of development, promise the greatest reward.

Without any basis of experimental control clinicians have from time to time evolved speculative hypotheses regarding the relation of the nervous system to the endocrine series. Pineles was among the first to discuss the matter; but, as he once told me, it is difficult to tell whether the sympathetic nervous system is the performer that plays on the ductless glands, particularly the suprarenal, thyroid and pancreas, or whether, on the contrary, the secretion of the ductless glands twangs the strings of the nervous system and sometimes makes agreeable chords, sometimes discords.

The views of the Vienna school as expressed by Eppinger, Falta and Rudinger are well known, but whether we will get very far with an analysis of sympathicotonic versus vagotonic states without a better understanding of normal function is somewhat doubtful and the subject has become almost too complicated for ordinary understanding

of pituitary patients. It was observed that in states of insufficiency there was often an enormous increase in the animal's or patient's sugar-holding capacity, and we hoped that the estimation of sugar tolerance might prove to be as reliable a measure of the individual's degree of hypopituitarism as it is of hypothyroidism—in short, a measure of his food combustion. The method in the end proved far too cumbersome and inaccurate for clinical purposes.

We at the same time were led, rightly or wrongly, to see resemblances in our experimental animals to certain hibernating states, and knowing that the basal metabolism in hibernation had been shown to be exceedingly low, one of my co-workers, John Homans, subsequently made some metabolism studies in Dr. Benedict's laboratory on hypophysectomized animals, with results sufficiently encouraging to make us pursue the subject into the clinic. With this in view, W. M. Boothby installed in the Brigham Hospital the first laboratory, to my knowledge, for the methodical study of the metabolism of ductless gland disorders. He soon observed that deviations in the normal respiratory exchange were more extreme in thyroid than in pituitary disorders, but nevertheless it has continued to be a hospital routine since 1912 to determine whenever possible the basal metabolism of our hypophysial as well as of our thyroid cases. Before Dr. Boothby's departure, ninety patients with unquestionable pituitary disease were studied, and since then estimations have been made on almost as many others by Miss Tompkins and Dr. Sturgis. The results have never been published, but in brief it may be said that in the early stages of acromegaly there is a definite increase in metabolism though it rarely exceeds + 20, whereas in the reverse states, those showing a slow pulse, subnormal temperature, lethargy, adiposity, and so on, the rate, as would be anticipated, averages at least 20 points below normal.

The observations are of greater physiologic interest than of practical application, and there is no reason why every one should feel that a metabolism estimation is needed for every patient showing a pituitary dystrophy. One can make a diagnosis of valvular disease of the heart without the employment of the electrocardiogram, and, after all, these elaborate instruments of precision are more suitable for the research laboratory than for the clinic. One finds advertised that a metabolimeter hyas been perfected which requires no calculation, the accuracy of which is guaranteed and which does its work in five minutes. The difficulty is to know what we are to do with the information when we get it, and I have heard Dr. Benedict say that any fool can make a basal analysis but few can interpret it.

In this connection, too, it should be recalled that even in normal individuals the estimation of the respiratory exchange is a matter of considerable difficulty and uncertainty. It is very easy to say that when the metabolism is low give thyroid extract, and when high give a counter extract, possibly some lutein. This is a good deal like the hypertension bugaboo, the outcome of the blood pressure apparatus which encourages the attempt to lower tension if it is too high or to raise it if it is too low. We ought to be beyond this variety of pure symptomatic treatment, for hypertension is not a disease any more than is tachycardia or bradycardia, discussions of which flooded the literature after the introduction of the pulse watch. When our clinical tests get too far in advance of our powers of interpretation, theory is apt to elope with practice.

INSTRUMENTS OF PRECISION

The profession perennially aspires to make diagnosis and therapy less of an art and more of an exact science. The introduction of instruments of precision unquestionably has enabled us to substitute some degree of numerical exactitude in place of the more or less rough methods of estimating and recording certain clinical phenomena, but our tendency is to become so dependent upon these accessories to bedside clinical observation that we are prone to lose sight of the patient as a whole while investigating in detail a single symptom of his disease. If overdone it has a particularly bad effect on our students, who, relying too little on their special sense organs and too much on the laboratory, come to feel that there is little use in ever trying to arrive at a diagnosis without these aids which are but subsidiary ones.

The introduction of instruments of precision is by no means a new idea. Galileo and Kepler had it, for in the sixteenth century they played with the thermometer and pulse counting, while Sanctorius undertook primitive metabolism experiments. Unquestionably many of our seemingly elaborate instruments of the present day may in time become simplified and put to routine use, for it is to be remembered that three centuries elapsed before the profession, after coquetting with the clinical thermometer, passionately adopted it after Wunderlich's classical studies in 1868 on animal heat in disease. I am far from wishing to belittle, therefore, the utilization of instruments permitting exactitude of measurement, but merely wish to distinguish between instruments which in their present form are useful for research, like the calorimeter and electrocardiogram, and those really necessary for a diagnosis.

UNSOLVED PROBLEMS

But I am permitting myself to digress too far from the main topic of this address—the pituitary body and its derangements, in furthering our knowledge of which every possible agency must be brought to bear and all must take a part—the experimental zoologist, the comparative anatomist, the biochemist, the histologist, and many others besides the clinician. From whatever side the problem is approached the rewards are likely to be great. Studies such as those of Phillip E. Smith on the pigmentary and growth alterations in tadpoles deprived of the epithelial rudiment of the hypophysis are an example. The physiologist will perfect new methods to replace the simple observation on the kymographion of the blood pressure raising quality or otherwise of ductless gland extracts. The pathologist has by no means as yet done his share. The pituitary gland in disease has been insufficiently studied by histologic methods, and we have as yet nothing in any way comparable to Halsted's compensatory thyroid hypertrophy, which for so many years has been the basis of our interpretation of hyperthyroidism. There has been as yet no serious attempt toward a histologic classification of the pituitary adenomas, and this is hardly possible until we have learned more regarding the stages of activity of the normal anterior lobe cells; for there is still doubt as to whether the basophilic and acidophilic cells differ in function or represent different stages of activity of the same cell. Neither can we as yet by staining methods clearly differentiate the secretory granules and mitochondria.

GLANDULAR THERAPY

The physician or surgeon, meanwhile, even if incapable of participating in these underlying studies, must

do the best he can with the mere recognition and classification of clinical types, and should he venture to try glandular therapy he must be slow to draw conclusions from the apparent effect of glandular extracts given by mouth, particularly when more than one is given at a time. It has been claimed that the body picks out the substance it needs and will discard the others, but this has the familiar sound of the gunshot doses of earlier days. The experience with pituitary extract in diabetes insipidus shows that the substance only acts when given hypodermically, and we have very little evidence that other glandular extracts have any action when given by mouth.

It has been the experience of all time that the less one knows of a disease the more enthusiastically are certain therapeutic agents advocated for its cure, and I know of nothing comparable to the present furore regarding the administration of glandular extracts unless it be the plant pharmacology of the middle ages, based on the "doctrine of signatures." A patient is bilious—therefore he has some disease of the liver. The leaves of a certain plant resemble in their color and appearance the surface of the liver—therefore a concoction of these leaves is good for biliousness, and the plant comes to be called hepatica. But then, lest it may not really do this, we will add several other things to the concoction as well. This is about the basis on which glandular extracts are administered today. And it will be noted that most of them contain a certain amount of thyroid extract, which possibly is the only one of these substances having any definite action when given by mouth.

And so, if I may return again to my underlying allegory, if this society wishes to play a useful rôle in furthering advances in endocrinology, it must, so far as possible, through the pages of its journal, keep such an exact almanac that those pursuing the subject in the proper spirit may be able to avoid unfavorable winds, currents and counter currents. It must discountenance the exploitation of the few discoveries which have already been made by those who recklessly under full sail plow through a fog bank of therapeutics, their horns tooting.

Surely nothing will discredit the subject in which we have a common interest so effectively as pseudoscientific reports which find their way from the medical press into advertising leaflets, where cleverly intermixed with abstracts from researches of actual value the administration of pluriglandular compounds is promiscuously advocated for a multitude of symptoms, real and fictitious. The Lewis Carroll of today would have Alice nibble from a pituitary mushroom in her left hand and a lutein one in her right and presto! she is any height desired.

Endocrinology as a special subject, if it wishes to survive and come to be a factor in medical practice, must look out for the character of its clinical advance agents lest it come to be utterly discredited. We have nothing as yet, in the treatment of pituitary insufficiency, comparable to what Victor Horsley and his pupil Murray accomplished for myxedema, and we are still further behind in the case of the other glands. Indeed, no Magellan or Balboa for ductless gland therapeutics in general has yet appeared, though let us hope he may be on the way. Meanwhile there is many an imitator of Cortez or Pizarro to trade on the superstitious awe of the natives, who will soon come to be fully disillusioned.

NERVE INJURIES DUE TO ERRORS IN TECHNIC IN MAKING INTRAVENOUS ARSPHENAMIN INJECTIONS

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Accidents following the intravenous injection of arsphenamin are apparently uncommon, notwithstanding the frequency with which such injections are made. The nerve injuries which are discussed in this paper are reported to emphasize the necessity of extreme care in making these injections; for, if the solution is injected into a nerve or the sheath surrounding it, the nerve will be severely damaged. The subsequent sloughing of the soft tissues adjacent to it may render nerve repair difficult or unsatisfactory.

REPORT OF CASES

CASE 1.—*History.*—A man who entered the Presbyterian Hospital, Feb. 3, 1921, said that two years before he had been given an intravenous injection of arsphenamin, the left median basilic vein being used. Immediately after the injection, he experienced severe pain in the region of distribution of the median nerve. The pain gradually subsided after several hours. Shortly after the injection, the arm became greatly swollen. The skin on the inner side of the arm, just above the elbow, sloughed, leaving an ulcer measuring 3 inches in length by 1 inch in width, which healed very slowly.

Examination.—The scar which remained after the healing of this ulcer was densely adherent to the underlying tissues. A typical median nerve palsy had developed. Anesthesia, corresponding in area to that usually associated with median nerve lesions, was found. The patient could not flex the index finger; and the flexor longus pollicis, the outer head of the flexor brevis pollicis and the opponens pollicis were paralyzed. There were no marked trophic disturbances. The patient had protected the anesthetic areas carefully. This accounted for the absence of the so-called trophic ulcers which are usually the direct result of trauma. When the scar just described was palpated, no neuroma could be found on the median nerve. While some tingling was complained of when the tissues were palpated, it was not the tingling or referred pain such as is experienced when a neuroma is touched.

Clinically the patient had a median nerve paralysis which had developed within a few hours after an attempted intravenous injection of arsphenamin. The needle either passed through the median basilic vein or was inserted into tissues adjacent to the vein when the injection was made. The immediate onset of severe pain indicated that the solution came in contact with the median nerve immediately after the injection.

Treatment.—An operation was performed on February 4, with the intention of repairing the median nerve, the anatomic continuity of which had apparently been interrupted. The incision was made anterior to the dense, firmly adherent scar in the skin mentioned before. This scar had all features of the scars following war wounds, which so frequently liquefied and melted away when their connections with subjacent tissues were interfered with.

The median nerve could be exposed without much interference with this scar. As the distal end of the proximal segment of the median nerve was dissected out, it presented a peculiar appearance. The usual neuroma was not found, but the nerve was considerably enlarged for the distance of an inch and a half. When this part of the nerve was resected, heavy scar tissue was found. It seems that the arsphenamin had destroyed the neuraxes for a considerable distance, but that the epineurium and connective tissue elements of the nerve had been preserved, causing this peculiar long enlargement composed of scar tissue. The arsphenamin when injected had evidently traveled along the fatty sheath of the nerve, for the epineurium was considerably thickened, at least

3½ inches above the point of injection. At this point, fused and gelatinous-appearing or edematous funiculi were found, resembling those found after resection of the neuroma of a divided nerve. The epineurium was considerably thickened, even at this level. The defect remaining after resection of the scar tissue measured about 3½ inches. The ends were separated by about an inch when exposed, and were embedded in scar tissue. An end-to-end suture could be made when the nerve ends were mobilized and the forearm was rather acutely flexed. The skin was closed in the ordinary way, the dissection having been made without much interference with the dense scar in the skin. Flexion of the forearm was maintained by a cast.

The sutures were removed at the end of a week and another cast applied. The wound was healed. The patient left the hospital at the end of eight days.

Subsequent Course.—A letter which was received subsequently stated that, two weeks after the patient left the hospital, it became necessary to remove the cast on account of the odor. When the cast was removed, it was found that the lower part of the adherent scar had sloughed. In war wounds, the densely adherent scars occasionally seemed to liquefy and slough, leaving an ulcer which repaired slowly. This scar, following the destructive action of arsphenamin apparently, acted much the same way.

A letter received the first of May stated that the patient could not yet completely extend the forearm. Complete extension was apparently prevented by a rigid, contracted muscle. The patient stated that at this time there seemed to be some improvement in sensation, but there was no evidence of return of motion.

Case 2 was studied at Fort Sheridan. The clinical data have been kindly furnished me by Dr. L. J. Pollock.

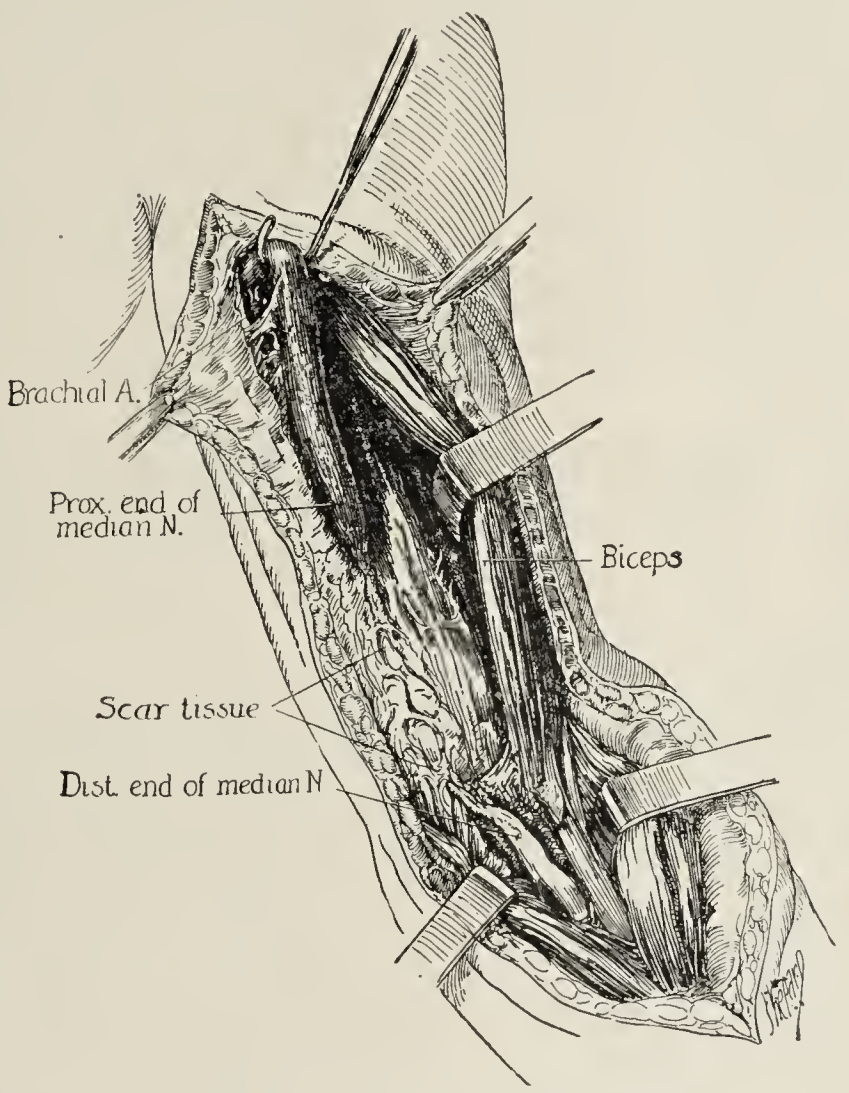
CASE 2.—*History.*—In August, 1918, an ulcer developed on the patient's penis. On Sept. 8, 1918, an intravenous injection of arsphenamin was attempted, the median basilic vein being used. It was evident that the needle had not entered the vein for the patient complained of severe pain in the fingers of the right hand, and marked contractions of the muscles were noted as soon as the injection was made. A considerable amount of the solution apparently escaped into the subcutaneous tissues. The forearm and hand became discolored and swollen. The swelling developed rapidly, and the shirt sleeve had to be ripped in order to remove it. The swelling persisted for about five weeks. Sloughing of the skin did not occur. The patient was admitted to U. S. General Hospital No. 28, Feb. 23, 1919. He was given a three-day leave, returning Feb. 29, 1919.

Examination.—An examination made at this time revealed the following motor disturbances: flexion of the right hand, weak; adductor pollicis, very weak; abduction of the little finger, impossible; contractures of the flexor group of muscles; ankylosis of the first and second phalanges of the index finger at about 80 degrees (firm ankylosis). The interossei muscles were atrophied, as was the adductor pollicis. Moderate atrophy of the muscles of the hypothenar group was noted. The skin of the hand was very thin. Marked transverse ridges were noted on the nails. There was a hypertrichosis. The patient had occasionally noted pain in the hand, and the entire palm of the hand was hyperaesthetic. No anesthesia was noted at the time the examination was made. Burning of the hand and wrist was noted in December, 1918, but the feeling now was nearly normal.

Diagnosis.—A recovering ulnar and median lesion was the diagnosis.

Treatment.—April 18, 1919, a splint with spring traction bands and keys was applied. April 29, 1919, it was noted in the history that the fingers were much relaxed. A Tinel sign was elicited over both the median and the ulnar nerves, and the areas supplied by them were sensitive to deep pressure.

The subjoined note was made, June 20, 1919: "Nerve injury due to arsphenamin solution injected Sept. 8, 1918. There is marked clawing of the right hand. Flexors of the wrist normal in power. Atrophy of the interossei, adductor pollicis, and muscles of the hypothenar group. Opponens pollicis has good power. The nails are curved and have transverse ridges. The muscles of the palm are very sensitive to pressure. It is not possible to measure the strength of the interossei muscles because of the fibrosis and tendon contractures. Some motion is, however, noted in all. The interossei muscles of the index finger have extensive but weak movement. There has been a marked improvement in the sensory disturbances since May 13. The patient does not need an operation and is considered ready for discharge."



Destruction of the median nerve by arsphenamin.

These two examples of nerve injury caused by errors of technic in making arsphenamin injections are reported to emphasize the need of extreme care. Pain radiating into the fingers when the first few drops of the solution are injected should be a warning that the needle is not in the vein and that the solution is being injected directly into a nerve or into the tissue surrounding it.

Arsphenamin injected into or about a nerve may have a marked destructive action, causing extensive degeneration of neuraxes and the development of large amounts of scar tissue. The densely adherent scar which follows sloughing of the skin, if such occurs, may seriously interfere with or render unsatisfactory a nerve suture.

122 South Michigan Avenue.

Army Experiments with Carrel-Dakin Technic.—Experiments just completed by the surgical service at the Walter Reed General Hospital indicate that the use of soap solution is not essential in Carrel-Dakin technic in the treatment of septic empyema cases. The following technic is now being carried out: The tubes and gauze packings are removed and the wound flushed out with the Dakin's solution to remove the detritus and the surface then sponged off with cotton pledgets soaked in the Dakin solution. The petrolatum impregnated gauze is then removed, the skin cleansed with benzin and alcohol and new gauze reapplied. Tubes and gauze packings are then replaced. The surgical service reports that irritation of the skin is not observed and that having the Dakin solution of the proper titer is of more importance than the use of soap. The solution is made fresh daily.

CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN IN RHEUMATIC FEVER

COMPARATIVE THERAPEUTIC EFFICIENCY, TOXICITY AND RENAL FUNCTIONAL EFFECTS *

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AND
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WITH THE COLLABORATION OF
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AND
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Cinchophen and neocinchophen (introduced by Chemische Fabrik auf Aktien as Atophan and Novatophan) are being advertised as superior substitutes for salicylates in the treatment of rheumatic fever. These agents, it is claimed, possess to a marked degree all the beneficial qualities of salicylates, and are free from their detrimental qualities, such as symptoms of salicylism "toxicity" and renal injury. As these agents are related chemically to salicylate, it would be rather surprising to find such marked differences between them. On the other hand, if the claims are true, cinchophen and neocinchophen would represent a distinct advance in the treatment of rheumatism and similar affections.

The claims for novaspirin appear to be somewhat less pretentious; nevertheless, they give the impression of superiority over other salicyl compounds. The manufacturers claim that this agent is less powerful than acetylsalicylic acid, but more prolonged in its action and also free from the deleterious qualities of salicyl. Evidences for this claim are lacking.

The literature contains practically no scientific data on the actions and uses of novaspirin and neocinchophen in rheumatism, and very few on cinchophen. The few reports on cinchophen are uncritical and indecisive. Therefore, we resolved to make some observations on the therapeutic efficiency of these agents in rheumatic fever, observing at the same time, when feasible, the effects on renal function, and the development of symptoms of "toxicity." Although only a brief period of time could be allotted to this study, and the number of patients and other individuals observed is relatively small, certain of the objectives aimed at were definitely attained. Briefly, the results obtained indicate that cinchophen and neocinchophen are promising therapeutic agents for the treatment of rheumatic fever. Novaspirin is worthless. Both cinchophen and neocinchophen produce symptoms of salicylism ("toxicity"), and cinchophen is injurious to the kidney, while neocinchophen was found to be variable in this respect.

METHODS EMPLOYED

The method of determining therapeutic efficiency was practically the same as that used in a previous study [1] on salicylate. Briefly, this consists in the initial administration of the new agent to patients with rheumatic fever, until definite effects, or symptoms of drug action, occur. Then the medication is stopped, and, if no relief is obtained, a full therapeutic (toxic) dose of sodium salicylate as the standard is administered in the usual way. The criteria of complete relief consist of a sustained fall and return of temperature to normal, prompt disappearance of swelling, redness and pain in joints, and a sense of well-being. Although some relief may be obtained with small doses of cinchophen and neocinchophen, this does not necessarily constitute complete relief in the sense of a full therapeutic response to salicylate, as defined in previous publications. Small doses of salicylate also will give partial and temporary relief in acute rheumatic fever, but, in our experience, the treatment of this condition demands intensive medication with massive doses in order to obtain complete and lasting relief. Therefore, the use of large doses of the agents presently to be described is correct in principle. In this connection, the effects on other organs, especially the kidney, must not be overlooked.

Injury to the kidneys was studied by observing the appearance of albumin, casts and white blood corpuscles in the urine before and after administration of the drug. Albumin was usually sought qualitatively by the heat and acetic acid test, and sometimes by the acetic acid ferrocyanid test. The urines of several patients showed the presence of albumin before medication. In such cases the changes after administration were interpreted as best possible. Under the circumstances, quantitative estimations, other than the phenolsulphonephthalein excretion test, were not feasible. Two-hour excretion periods of phenolsulphonephthalein in the majority of patients were studied in the usual way before and after administration of the drugs, in order to gain an idea of the functional efficiency of the kidney. In a few of the urinary specimens, the estimation of phenolsulphonephthalein was

TABLE 1.—GRAND SUMMARY OF EFFECTS OF CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN

Drug Used	Total Number of Administrations	Number of Different Individuals	Number of Patients with Rheumatic Fever	Number of Other Disease Conditions	Number of Patients Showing Complete Therapeutic Relief in Rheumatic Fever	Number of Individuals Exhibiting Symptoms of "Toxicity"*	Albuminuria or Casts or Both Present in	Individuals Showing Diminished Phenolsulphonephthalein Excretion	Pulse Rate Slowed in
Cinchophen†	17	17	7	10‡	7 (100%)§	11 (65%)¶	5 (71%)#	5 (100%)	9 (90%)**
Neocinchophen	10	10	3	7††	3 (100%)	2 (20%)	5 (50%)	9 (44%)	4 (100%)‡‡
Novaspirin	6	6	3	3§§	none¶¶	1 (?)	none	.....	none
Total	33	33##	13	20	10	14	10	14	13

* Symptoms of toxicity: nausea, vomiting, buzzing in ears, fullness of head, pain in epigastrium; sometimes delirium.

† Only one comparison made with salicylate, namely, with cinchophen on Pt. C.

‡ Chiefly chronic or subacute arthritis (two) and convalescents (seven).

§ Seven convalescents not included.

¶ Five convalescents not included.

Only seven patients properly examined; nine patients were examined too soon after stoppage of drugs.

** Ten patients were observed.

†† Subacute arthritis (three); convalescents (five).

‡‡ Four patients were observed.

§§ Three practically normal individuals received: 10 gm. (D. S.), 16 gm. (H. R.) and 13 gm. (L. B.), respectively, without any symptoms whatsoever in two (D. S. and H. R.). L. B. vomited 3 gm. during the administration, and retained 13 gm. None of these individuals showed the presence of albuminuria.

¶¶ Complete relief in each case obtained with cinchophen later.

Less four who were used twice for different agents = 29.

* From the Pharmacological Laboratory, Western Reserve University School of Medicine, and Medical Clinic of City Hospital.

1. Hanzlik, Scott and Gauchat: J. Lab. & Clin. Med. 4: 112 (Dec.) 1918.

somewhat impaired by the appearance of a smoky-brown color on the addition of alkali. This is characteristic of urines after the administration of certain coal tar derivatives. With the majority of the urines, no such difficulty was encountered. Unfortunately, no other quantitative tests for determining the renal functional efficiency could be made. After administration of the drug was stopped, some time was allowed to elapse so as to allow full development for action on the kidneys. This varied from two to twenty-four hours before the tests were applied.

"Toxicity" was judged by the appearance of symptoms of salicylism, consisting of nausea, vomiting, dizziness, ringing in the ears, and other subjective complaints, such as epigastric pain, headache and colicky pains, which could be ascribed to the medication. The temperature and pulse and respiratory rates were observed by the usual hospital routine methods.

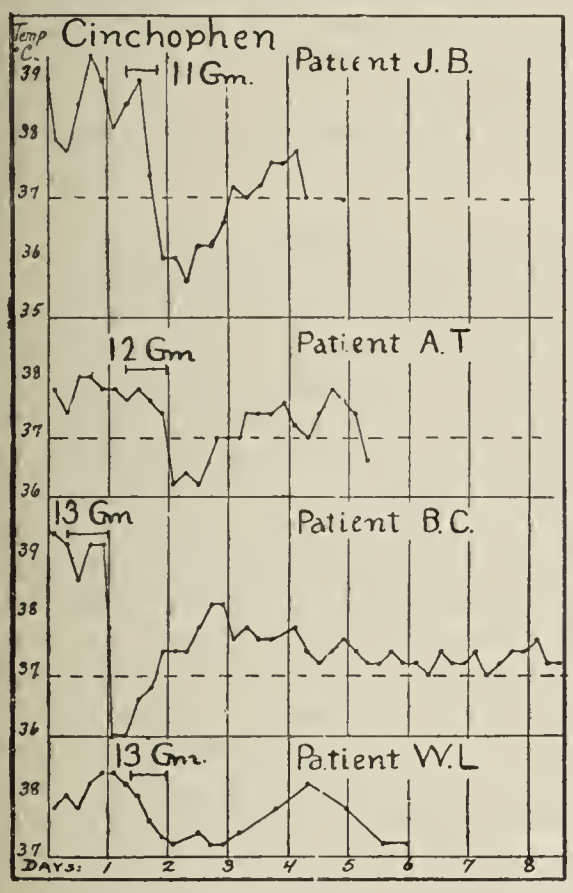


Chart 1.—Effect of cinchophen on temperature in rheumatic fever.

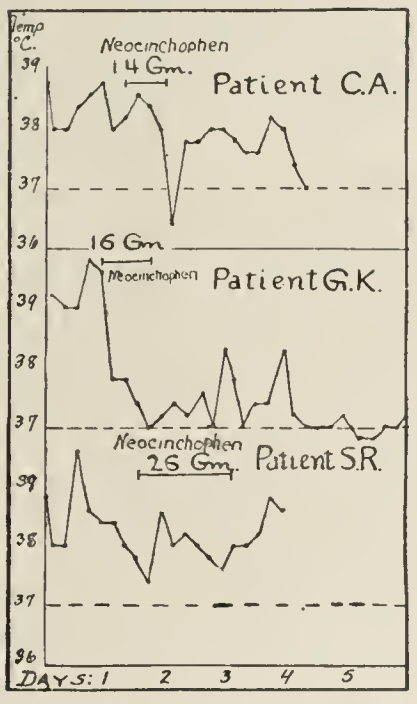


Chart 2.—Effect of neocinchophen on temperautre in rheumatic fever.

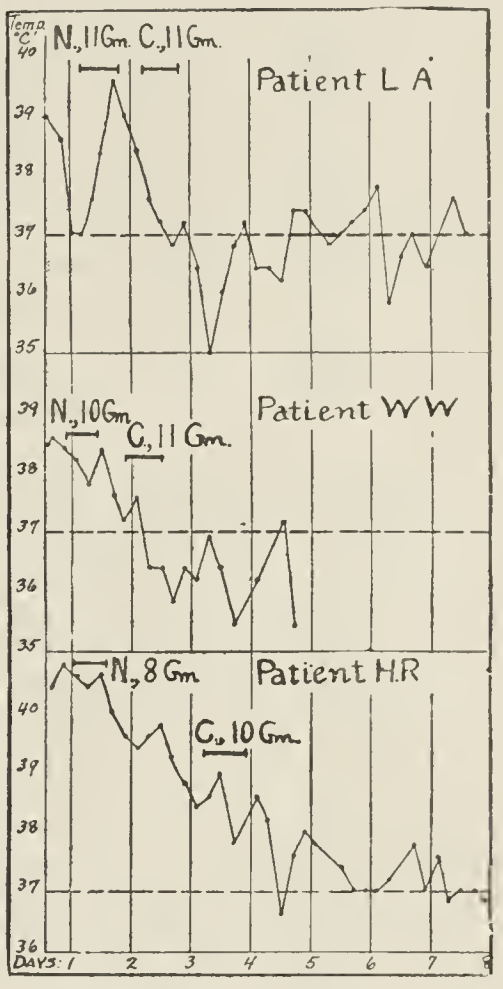


Chart 3.—Comparative effects of novaspirin and cinchophen on temperature in rheumatic fever: *N*, novaspirin; *C*, cinchophen.

No other medication was administered, the object being to observe the effects of the agents themselves. Cinchophen and neocinchophen were administered in tablet form, 1 gm. of the drug being used every hour until definite symptoms of drug action were manifested. Novaspirin was administered in powder form, with a dosage of 1 gm. an hour until a total dosage whose salicyl content was equivalent to the ordinary toxic dose of salicylate was administered. A few persons received larger doses.

DESCRIPTION OF THE AGENTS USED

Chemically, cinchophen is phenylcinchoninic acid, and neocinchophen is the ethyl ester of its methyl derivative. Cinchophen is more soluble than neocinchophen, and, therefore, should be more active, readily absorbable and also more irritating and toxic.

Novaspirin is a compound of anhydromethylenecitric acid and salicylic acid. It contains 62.2 per cent. of salicylic acid, 1 gm. being the equivalent of 0.62 gm. of salicylic acid or 0.726 gm. of sodium salicylate. Hence, in equal dosage it would be expected to be somewhat weaker than sodium salicylate. Being practically insoluble in water, its absorption and, therefore, its therapeutic efficiency would be correspondingly diminished. Novaspirin is decomposed by alkalis into its components, with the liberation of salicylic acid and formaldehyd. To what extent this takes place in the intestine is not known definitely, but our excretory data indicate that it is rather limited. In view of the negative results obtained in the treatment of rheumatic fever, and its low excretion in the urine, further experiments to elucidate the influence of alkalinity on decomposition and solubility of novaspirin were deemed unnecessary. For further information concerning the physical and chemical properties of these agents, the descriptive articles in New and Nonofficial Remedies [2] may be consulted.

The results that were obtained may now be described. A grand statistical summary of all the results is presented in Table 1. Table 2 shows the relation of dosage of cinchophen and neocinchophen to the degree of therapeutic relief in rheumatic fever. Table 3 contains the results on excretion of salicyl after the administration of novaspirin. Table 4 contains the diagnoses, dosage of all drugs used and the summary of results on renal functional changes. Table 5 contains data on circulatory effects. The accompanying charts present the changes in temperature after the administration of the different drugs to patients with rheumatic fever.

THERAPEUTIC EFFICIENCY IN RHEUMATIC FEVER

Cinchophen.—All of the seven patients with rheumatic fever, and treated with doses of the drug ranging from 10 to 13 gm., were completely relieved of subjective and objective symptoms of the disease (Table 1). Charts 1 and 3 show that the febrile temperatures of all patients were promptly lowered to subnormal levels

2. New and Nonofficial Remedies, 1921, pp. 85, 86 and 267.

in the majority, and then returned to practically permanent normal levels. All patients showed evidences of marked diaphoresis before full relief from all symptoms was obtained.

The small number of patients observed does not warrant definite conclusions as to the minimal effective dose of cinchophen for complete relief in rheumatic fever. However, some idea of the relation of dosage to the degree of therapeutic relief may be gained from the results that are presented in Table 2. This contains data obtained from five of the rheumatic patients treated. Partial relief, as indicated by beginning sense

TABLE 2.—RELATION OF DOSAGE OF CINCHOPHEN AND NEOCINCHOPHEN TO DEGREE OF THERAPEUTIC RELIEF IN RHEUMATIC FEVER

Patient	Partial Relief After	Further Relief After	Complete Relief After	Comment
		Cinchophen		
L. W.	6 gm.	10 gm.	13 gm.	
A. T.	4 gm.	.....	12 gm.	
J. B.	.....	7 gm.	11 gm.	
J. K.	5 gm.	.....	13 gm.	Chronic arthritis
L. A.	3 gm.	6 gm.	11 gm.	
W. W.	5 gm.	10 gm.	11 gm.	
H. R.	5 gm.	.....	10 gm.	
		Neocinchophen		
J. R.	8 gm.	10 gm.	13 gm.	Required cinchophen later for subacute arthritis
G. K.	3 gm.	.....	16 gm	
S. R.	7 gm.	.....	11 gm.	15 gm. additional administered
C. A.	4 gm.	10 gm.	14 gm.	

of well-being, falling temperature, lessened pain, and some improvement in joint mobility, appeared after the administration of from 3 to 6 gms. Further relief from these symptoms was not demonstrable until from 6 to 10 gm. was administered, and complete relief occurred only when the patients had received from 10 to 13 gm. At this time, the patients could move their joints freely without pain; tenderness was absent; fever had practically disappeared or the temperature was subnormal; diaphoresis was marked; some of the patients attempted to walk, and the majority volunteered complete subjective relief of all symptoms of the disease. However, all of the patients exhibited variable degrees of salicylism "toxicity" shortly before or at the end of medication. This will be discussed in the next section.

The favorable results obtained by us agree with the more extensive series reported by Heller,[3] Bendix [4] and Klemperer [5] on the use of cinchophen in the treatment of rheumatic fever, and the clinical improvement in the single case reported by Smith and Hawk.[6] On the other hand, McLester [7] failed to obtain relief from pain in the two cases of rheumatic fever treated with cinchophen, and Heller reports from twenty-five to fifty per cent. of his rheumatic patients as having obtained only partial or temporary relief. However, this lack of success appears to be largely a matter of dosage, although it would not be surprising to find patients with rheumatic fever who failed to respond to cinchophen, just as certain failures are encountered in salicylate therapy.

The facts do not warrant the allegation that cinchopen offers a superiority over salicylate in the smaller dosage that is advocated, or that cinchophen offers something specific or essentially missing in salicylate for rheumatism. On the contrary, intensive and massive doses of cinchophen are necessary for complete relief, just as with salicylate. Although the mechanism of action of cinchophen in rheumatic fever has not been ascertained, as stated by Klemperer, it is reasonable to suppose that this is quite similar, if not identical with, that of salicylate. That is, the favorable action depends on symptomatic relief, namely, analgesia and antipyresis.

It appears justifiable to conclude that the therapeutic relief in rheumatic fever obtained with cinchophen is about equal to that of sodium salicylate, both as to dosage and to relief of symptoms. There was no opportunity to compare cinchophen with salicylate on the patients themselves, as originally contemplated, since the treatment with cinchophen gave complete relief. What advantage over salicylates, if any, is possessed by cinchophen would depend on the relative freedom from objectionable side actions. This will be discussed later. *A priori,* however, it may be said that this would be of relatively minor importance as indicated by the symptoms of "toxicity" and renal injury, which were present, though somewhat less pronounced than those after the administration of salicylate under similar conditions.

Neocinchophen.—The summaries in Tables 1 and 2 indicate that the three patients with rheumatic fever that were treated with neocinchophen obtained complete relief from subjective and objective symptoms of the disease after doses of 11, 14 and 16 gm. One patient (S. R.) received with impunity 15 gm. additional to the 11 gm., which gave him complete relief. In fact, the functional efficiency of the kidneys after this large dosage was slightly improved, if anything, and there was only a slight albuminuria. Partial relief was obtained after from 3 to 7 gm. of the drug. The effects of, and the character of recovery from rheumatic symptoms induced by, neocinchophen were practically indistinguishable from those of cinchophen, and need not be repeated here. Chart 2 shows the effects on the fever in the patients that were treated. With one exception (Patient S. R.), the defervescence of the fever in the patients observed took about the same course as after cinchophen. Patient S. R. remained

TABLE 3.—QUANTITATIVE EXCRETION OF SALICYL AFTER ADMINISTRATION OF NOVASPIRIN

Subject	Quantity of Novaspirin Administered, Gm.	Quantity of Salicyl * Excreted, Gm.	Total Percentage of Novaspirin Excreted†	Duration of Excretion, Days
D. S.	10	1.08	17.3	3
H. R.	16	2.43	23.4	4
W. B.‡	13	1.19	14.8	3

* Expressed as salicylic acid.
† By calculation from the total excretion of salicyl.
‡ Vomited 3 gm.; was not able to tolerate 16 gm.

febrile because of a complicating bronchopneumonia on the third day of treatment. However, the symptoms of rheumatic fever had completely disappeared when the bronchopneumonia was recognized.

Comparison with salicylate in these patients was again precluded because of the complete recoveries after the administration of neocinchophen. It remains to be seen whether neocinchophen can sustain this reputation with a larger series of patients. The small number of cases reported by us does not permit the drawing of final conclusions, although, as will be seen later in the text, neocinchophen, though weaker in action than cin-

3. Heller, E.: Berl. klin. Wchnschr. **48**: 526, 1911.
4. Bendix, H.: Therap. d. Gegenw. **53**: 301, 1912.
5. Klemperer, G.: Therap. d. Gegenw. **15**: 257, 1913.
6. Smith, C. A., and Hawk, P. B.: Action of Atophan and Novatophan in Gout and Iritis, Arch. Int. Med. **15**: 181 (Feb.) 1915.
7. McLester, J. S.: Studies on Uric Acid of Blood and Urine, with Special Reference to the Influence of Atophan, Arch. Int. Med. **12**: 739 (Dec.) 1913.

chophen and salicylate, appears promising and offers some advantage over these agents as indicated by the somewhat less pronounced side actions.

Novaspirin.—This compound was found to be entirely worthless in rheumatic fever. This is indicated by the data in Table 1 and the temperature curves of Chart 3. To three different patients, 8, 10 and 11 gm. were administered. Not one was relieved of the subjective and objective symptoms of the disease. In fact, the temperature continued to rise during the medication in one patient (L. A.) and remained practically unchanged in the other two patients (W. W. and H. R.) Intense pains in the joints, which remained swollen and red continued, and the patients were so miserable that it was necessary to secure prompt relief by other measures.

the results in Table 5. A slowing of the pulse would be expected from the doses of novaspirin used, namely, 8, 10 and 11 gm., if complete decomposition of the compound with liberation of the salicyl occurs. Theoretically, the quantities of novaspirin used should yield about 5.8, 7.3 and 8.0 gm. of sodium salicylate, respectively. Apparently, however, complete decomposition of the compound does not take place in the alimentary tract. This is indicated by the following data obtained on three other persons.

Novaspirin, or anhydromethylenecitryl-salicylic acid, is supposed to be decomposed in the alimentary canal with the liberation of salicylic acid, really sodium salicylate in the presence of the alkaline juices of the intestine. Therefore, an idea of the absorption of the compound could be gained from a quantitative study of

TABLE 4.—SUMMARY OF RENAL, FUNCTIONAL AND URINARY CHANGES PRODUCED BY CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN *

Patient	Diagnosis	Total Dose, Gm.	Albuminuria		Casts and White Blood Corpuscles		Phenolsulphonephthalein Excretion: Percentage in 2 Hours		Phenolsulphonephthalein Excretion: Time of Test After Last Dose of Drug	Phenolsulphonephthalein Excretion: Diminished (—) or Increased (+) by
			B	A	B	A	B	A		
					Cinchophen					
F	Aortic insufficiency with edema	10	+ ft. tr.	+ m. incr.	+ oc.	+ incr.	5	0	(2 hrs. and 23 hrs.)	—100%
B	Permanent rheumatic endocarditis; mitral stenosis	10	—	+	—	+	35	28	(23 hrs.)	—20%
C	Normal	10	—	—	—	—	43	26	(5½ hrs.)	—40%
B. C.	Rheumatic fever	13 then 12	+ (?)	—	—	—				
L. W.	Rheumatic fever	13	—	—	—	—				
T. D.	Convalescent rheumatic fever	12	—	—	—	—				
M. D.	Convalescent rheumatic fever	13	—	—	—	—				
A. T.	Rheumatic fever	12	—	—	—	—				
J. R.	Subacute arthritis	13	—	—	—	—				
H. R.	Rheumatic fever	10	+ ft.tr.	+ tr.	+ oc.	+				
W. W.	Rheumatic fever	11	+ ft.tr.	+ ft.tr.	+ oc.	+				
L. A.	Rheumatic fever	11	—	—	—	+ oc.				
S.	Convalescent from erysipelas	8	—	+ ft.tr.	—	—	59	39	(3 hrs.)	—34%
M.	Convalescent from pneumonia	8	—	—	—	+	50	16	(3 hrs.)	—68%
J. K.	Chronic arthritis	19	—	—	+ oc.	+ oc.				
J. B.	Rheumatic fever and acute myocarditis	11	—	+	+	+				
H. W. (boy 13 yr.)	Rheumatic endocarditis; febrile	4								
					Neocinchophen					
Sc.	Cerebrospinal syphilis	5	—	—	+	+ incr.	36	51	(3 hrs.)	+42%
St.	Convalescent pleurisy	5	—	—	—	+	32	41	(3 hrs.)	+28%
Ra.	Convalescent laryngitis	5	—	—	—	+ sl.	31	21	(3 hrs.)	—32%
C. A.	Rheumatic fever	14†	—	+ tr.	+	+	37	41	(11 hrs.)	+11%
G. K.	Rheumatic fever	16	+	—	+	+ oc.	47	41	(18 hrs.)	—12.6%
E. W.	Convalescent from pneumonia	10	—	—	—	—	63	42	(5½ hrs.)	—33.5%
Ru.	Convalescent from chronic arthritis	10	—	—	—	—	57	33	(5½ hrs.)	—42%
Ri.	Syphilis	10	—	—	—	—	32	60	(2 hrs.)	+88%
								44	(23 hrs.)	
S. R.	Rheumatic fever	26	—	+	+	+ incr.	65	75	(24 hrs.)	+15%
J. R.	Subacute arthritis	13	—	—	—	—				
					Novaspirin					
H. R.	Rheumatic fever	8	+	+	+ oc.	+ oc.				
W. W.	Rheumatic fever	10	—	—	—	—				
L. A.	Rheumatic fever	11	—	—	—	+ oc.				

Urine examined "at toxicity" or immediately after last dose of drug

* The plus sign (+) means present or increased, the negative sign (—), absent or diminished; abbreviations have meanings as follows: oc., occasional; incr., increased; tr., trace; ft., faint; sl., slight; m., marked; B, before; A, after drug.
† No relief after 4 gm.; first relief noticed after 10 gm.; complete relief after 14 gm.

Through a misunderstanding of orders, cinchophen was prescribed for all three patients instead of sodium salicylate, which was originally contemplated as the standard for comparison. However, the cinchophen gave complete relief from all symptoms promptly and efficiently in the same way as in the patients treated with cinchophen alone described above. Therefore, the unexpected administration of cinchophen served our purpose admirably. In Patient H. R. the temperature had fallen considerably before the administration of cinchophen was begun. However, the remaining objective, and also subjective, symptoms had not been ameliorated until the cinchophen medication was instituted.

A further indication of the general inactivity of novaspirin on various functions is the absence of changes in pulse rates of all three patients, as shown by its excretion, and, consequently also, its therapeutic efficiency. This was done on three convalescent and practically normal persons. Doses of 10, 13 and 16 gm. were administered to the different subjects, and their urines were collected until they ceased to give positive tests for salicyl. This was ascertained by the application of ferric alum to the ethereal extracts of the acidified urines. The salicyl was then estimated by the distillation colorimetric method previously described by Hanzlik and Thoburn.[8] The results obtained are presented in Table 3.

These show that only a very small portion of the salicyl contained in novaspirin is excreted in urine. The recoveries amounted only to 14.8, 17.3 and 23.4 per cent. The excretion lasted three days in two patients (D. S. and W. B.) and one day longer, i. e., four days,

8. Hanzlik and Thoburn: J. Biol. Chem. **23**: 163, 1915.

in another (H. R.), who received the largest dose. Accordingly, therefore, the inefficiency of novaspirin as an antirheumatic agent is ascribed to an inadequate concentration of the salicyl (liberated from it) in the circulation and tissues. Presumably, the compound is only partially decomposed in the alimentary tract, for under similar conditions, sodium salicylate has been shown to be almost completely absorbed, and up to about 80 per cent. of it is excreted in the urine of normal persons.[9] The low excretion of salicyl after novaspirin could not be due to retention, since the urines were collected until the excretion was completed.

The fate of the undecomposed novaspirin was not ascertained. Presumably, it is expelled with the feces. One subject (W. B.) vomited 3 gm., only 13 gm. of the 16 gm. intended for him having been retained. No symptoms of intestinal disturbance were experienced by any of the subjects. In view of the very small quantities of salicyl excreted in urine after the very large doses of the drug administered to these subjects, further study of the absorption and ultimate fate of the undecomposed novaspirin was deemed unprofitable. This was regarded as irrelevant to the problem under discussion, for the therapeutic efficiency of a salicyl compound (novaspirin included) in rheumatic fever depends chiefly, if not exclusively, on an adequate concentration of the salicyl group in the tissues. In practice, prompt and complete relief in rheumatic fever is obtained by the administration of massive doses, rapid and prompt absorption, resulting in high concentration in the tissues with corresponding prompt and marked analgesic and antipyretic effects. This could not be attained by a slowly decomposable, relatively unabsorbable and, therefore, therapeutically inefficient compound, such as novaspirin. Further proof of the inefficiency of novaspirin is the total absence of symptoms of salicylism ("toxicity") after the very high doses that were administered to the various individuals in this study.

From all this, it is justifiable to conclude that novaspirin is therapeutically inert and worthless in the treatment of rheumatic fever.

TABLE 5.—EFFECTS OF CINCHOPHEN, NEOCINCHOPHEN AND NOVASPIRIN ON PULSE RATE IN FEBRILE AND AFEBRILE INDIVIDUALS

Patient	Drug Administered	Dose, Gm.	Pulse Rate Before Administration	Pulse Rate After Administration (Maximal Slowing)	Change in Pulse Rate	Febrile or Afebrile Condition
L. A.	Cinchophen....	11	85	74	Slowed	Febrile
W. W.	Cinchophen....	11	100	72	Slowed	Afebrile
H. R.	Cinchophen....	10	100	91	Slowed	Febrile
J. B.	Cinchophen....	11	60	95	Increased	Febrile
J. K.	Cinchophen....	19	75	60	Slowed	Afebrile
A. T.	Cinchophen....	12	126	72	Slowed	Febrile
B. C.	Cinchophen....	13	122	60	Slowed	Febrile
L. W.	Cinchophen....	13	75	72	Slowed	Febrile
H. W.	Cinchophen....	4	120	115	Slowed	Febrile
J. R.	Cinchophen....	13	95	72	Slowed	Afebrile
C. A.	Neocinchophen	14	80	60	Slowed	Febrile
G. K.	Neocinchophen	16	95	82	Slowed	Febrile
S. R.	Neocinchophen	26	115	87	Slowed	Febrile
J. R.	Neocinchophen	12	95	85	Slowed	Febrile
L. A.	Novaspirin.....	11	82	80	Unchanged	Febrile
W. W.	Novaspirin.....	10	100	100	Unchanged	Febrile
H. R.	Novaspirin.....	8	120	120	Unchanged	Febrile

SYMPTOMS OF SALICYLISM OR TOXICITY

Cinchophen.—The majority, or 65 per cent., of seventeen persons receiving variable doses of cinchophen exhibited signs and symptoms of salicylism (Tables 1 and 4). These consisted of headache, dizziness, fulness of the head, buzzing in the ears, nausea, sometimes vomiting, and pain in the epigastrium. Patient J. B., who received 11 gm., exhibited a rather pronounced delirium of about twelve hours' duration. With the exception of pain in the epigastrium, the remaining symptoms are the same as those caused by full therapeutic doses of salicylate, though less severe. Practically all of the patients receiving cinchophen complained of pain in the epigastrium, presumably due to gastric or intestinal colic from local irritation of the free phenylcinchoninic acid. No attempt was made to correct this by the administration of bicarbonate or other alkalis, and the symptom disappeared uneventfully. One of us (P. J. H.) can testify to the occurrence of rather disagreeable dull pains in the epigastrium and intestine of four days' duration after the ingestion of 2 gm. of cinchophen for headache. This is rather unfavorable to the use of cinchophen, and agrees with the observation of Heller that cinchophen causes gastric irritation and anorexia.

For convenience, the effects on pulse and respiration may be discussed in this connection. Changes in respiratory rate produced by cinchophen were negligible and require no further consideration. The pulse rate, however, was definitely and considerably slowed in the majority of ten persons, who received doses ranging from 4 to 19 gm. This is indicated by the results presented in Table 5. Since the pulse was slowed in afebrile as well as febrile individuals, the slowing did not occur as a result of antipyretic action of the drug, but rather of direct circulatory (presumably cardiac) depression. This is more or less characteristic of all aromatic derivatives, and also occurs with large doses of salicylate.

Neocinchophen.—Of ten individuals receiving doses ranging from 5 to 26 gm. of the drug, only two, or 20 per cent., exhibited definite signs and symptoms of salicylism (Tables 1 and 4). The doses administered to these two patients were 14 and 16 gm., respectively. The symptoms produced were relatively mild and qualitively about the same as those produced by cinchophen. Neocinchophen, therefore, seems to possess some advantages over cinchophen and also salicylate. This is apparently due to its relatively low solubility in water and weak alkalis. Correspondingly, also, somewhat higher doses are necessary for relief in rheumatism than with cinchophen.

The pulse rates in the four individuals that were observed were definitely, though variably, slowed (Table 5). Whether this occurred as a result of the antipyretic action, or was due to a direct action of the drug cannot be said, since all of the patients were febrile before medication was begun.

Novaspirin.—No symptoms of "toxicity" whatsoever were observed in any of the six individuals observed, who received doses ranging from 8 to 16 gm. of the drug.

In the three patients that were observed, the pulse rate remained unchanged after doses of 8, 10 and 11 gm. These results agree in general with the claims of the manufacturer as to absence of tinnitus aurium and cardiac depression after the administration of novaspirin. However, this is not surprising, since the totally negative results, both as to therapuetic relief and to symptoms of toxicity, are easily explained by the inadequate liberation of salicyl from the drug in the body.

9. Hanzlik, Scott and Thoburn: J. Pharmacol. & Exper. Therap. **9**: 247 ,Feb.) 1917. Hanzlik and Wetzel: Ibid. **14**: 25 (Sept.) 1919.

RENAL INJURY

Cinchophen.—According to the results presented in Tables 1 and 4, a moderate degree of albuminuria and, occasionally, casts and white blood corpuscles, were demonstrated in five, or 71 per cent., of the seven individuals that were properly observed. The remaining nine exhibited either no increase in or no albuminuria at the time of "toxicity" or immediately after the last dose of cinchophen. It is possible that not enough time had elapsed for a full development of the action on the kidney, and, therefore, the results from these nine individuals are not conclusive. The seven who were examined from three to twenty-three hours after the last dose of cinchophen showed the presence of albumin in the majority. However, the severity of the albuminuria was certainly much less than that caused by corresponding doses of salicylate previously reported. There seemed to be no constant relation between dosage and the occurrence of albuminuria.

Concerning the functional efficiency of the kidney, the data in Tables 1 and 4 indicate that this was considerably diminished, so far as the excretion of phenolsulphonephthalein is concerned. The five individuals that were observed uniformly excreted less phenolsulphonephthalein after than before administration of the cinchophen. This diminution amounted to from 20 to 100 per cent., and did not appear to be influenced by the dosage. These results, taken together with those on albuminuria, show conclusively that cinchophen in large doses, such as are necessary in the treatment of rheumatic fever, is injurious to the kidney. This denies the assertion of Friedberg [10] that renal irritation can be avoided by the use of atophan (cinchophen) in the treatment of rheumatic fever, and that of Bendix as to undesirable side actions.

Neocinchophen.—The results in Tables 1 and 4 indicate that only 50 per cent. of the ten individuals that were observed showed the presence of albumin or formed elements (casts and white blood corpuscles) in their urines. These urines were examined in from three to twenty-four hours after administration of the last dose of neocinchophen, allowing in this way sufficient time for the development of the action on the kidney. The albuminurias that appeared were even less severe than those caused by cinchophen, and certainly much less severe than those observed after corresponding doses of salicylate previously reported.

The lack of uniformity in the occurrence of albuminuria agrees with the variable results on excretion of phenolsulphonephthalein. Only 44 per cent. of the nine persons that were observed showed diminutions in the excretion of the dye; these ranged from 12.6 to 42 per cent. The remaining subjects exhibited increases in excretion, ranging from 11 to 88 per cent. The tendency of the individual results was toward a moderate diminution in excretion by some of the persons observed, with a greater tendency to increase in excretion by the majority. The variability in excretion cannot be accounted for by differences in dosage of neocinchophen, for variations occurred with both very small and large doses. What was responsible for the variation is not known. Nevertheless, it may be concluded that neocinchophen is variable, though less injurious to the kidney than cinchophen, and distinctly less so than salicylate.

No attempt will be made here to reconcile our results with the apparently conflicting results of Myers and Killian [11] with cinchophen and neocinchophen, since these are as yet but incompletely reported. It is conceivable that the dosage may be the determining element.

COMPARISON WITH SALICYLATE

It is quite evident that the actions and therapeutic effects of cinchophen and neocinchophen resemble those of the salicylates. This is as would be expected from their close chemical relation, all of them being aromatic derivatives. Our results do not indicate that cinchophen and neocinchophen are more efficient therapeutically than salicylate. This is deduced from the dosage necessary to give complete relief, rather than by direct comparison with salicylate, which was precluded. As far as total dosage is concerned, cinchophen would appear to be about equal to salicylate. Neocinchophen, because of its low solubility and consequently, diminished absorbability, needs to be administered in larger quantities than either cinchophen or salicylate. Some relief is obtainable by less than "toxic" doses of both cinchophen and neocinchophen. The same holds true of salicylate and other analgesics. For instance, it is a common practice in many hospitals to administer codein or morphin when the rheumatic patient first arrives with the object of mitigating the intense pain. Relief is usually obtained temporarily, and the same undoubtedly is obtained by small doses of the coal-tar analgesics (cinchophen, salicylate, etc.). However, complete relief follows only after intensive administration of massive doses of these remedies.

As to the appearance of undesirable side actions ("toxicity"), cinchophen, and especially neocinchophen, appear to have some advantage over salicylate. The differences are mainly quantitative. Qualitatively, the symptoms of salicylism produced by cinchophen are almost indistinguishable from those of salicylate. The only qualitative difference from salicylate was the presence of epigastric pain complained of by the majority of our patients receiving cinchophen. This is not an accompaniment of the symptoms of salicylism after salicylate, and also was not present in our patients after the administration of neocinchophen. Presumably, the pain is due to local irritation by the cinchophen (phenylcinchoninic acid) in the same manner as that produced by free salicylic acid. The simultaneous administration of bicarbonate would tend to mitigate this by conversion of the compound into the less irritating sodium salt in the same way as sodium salicylate is less irritating than salicylic acid. However, this was not tried, our object being to compare the different drugs themselves directly without the intervention of other agents.

Neocinchophen is less irritating, because it is less soluble. Correspondingly, the absorption is also less, and this is indicated, to some extent at least, by the greater dosage necessary for partial and complete therapeutic relief than with cinchophen. In some cases neocinchophen appears to be quite innocuous. One patient (S. R.) received a total of 25 gm. in twenty-five hours at the rate of 1 gm. per hour, without marked disturbances of any kind whatsoever, even in the renal excretory function. On the contrary, the excretion of phenolsulphonephthalein was increased, and albumin disappeared from the urine.

Concerning renal injury, as judged by the appearance of albuminuria and excretion of phenolsulphonephthalein, neocinchophen and cinchophen present

10. Friedberg: Fortschr. d. Med. **31**:318, 1913.

11. Myers and Killian: J. Biol. Chem. (Proc.) **46**: 17, 1921.

certain advantages over salicylate. Of the two, neocinchophen appears to be less injurious than cinchophen. The albuminurias produced by both neocinchophen and cinchophen were certainly less intense than those produced by the administration of salicylate in corresponding doses. "Toxic" doses of salicylate were invariably found to cause albuminuria, and frequently this was so severe that the ordinary heat and acetic acid tests gave voluminous precipitates of albumin which could be easily photographed in test tubes. On the other hand, the albuminurias after the administration of cinchophen and neocinchophen were variable and characterized by very small precipitates, at times amounting only to traces, though nevertheless definite; but in every case distinctly less pronounced than the albuminurias after the administration of salicylate. The occurrence of casts and white blood corpuscles after the administration of cinchophen and neocinchophen, though observed, is obviously fraught with greater danger of misinterpretation as to cause than even the albuminuria. The presence of these formed elements seemed to be inconsequential. However, more data are necessary before anything definite can be said about this.

The effect of cinchophen on renal functional efficiency was definitely and markedly reduced as indicated by the diminished excretion of phenolsulphonephthalein in the five individuals that were observed, and independently of the dosage. On the other hand, neocinchophen was variable. Less than one half of the nine individuals that were studied exhibited a diminution in the excretion of the dye, and this in some cases was practically negligible. On the contrary, the majority of individuals showed either a definite and quite marked increase or no change in the excretion of the dye. These effects occurred independently of the dosage. According to this, the effects of cinchophen resemble those of salicylate, which almost invariably lessened the excretion of phenolsulphonephthalein. Neocinchophen differs to some extent from both salicylate and cinchophen by increasing the excretion in at least one half the individuals studied by us. In this respect, therefore, cinchophen would have no advantage over salicylate, while neocinchophen would appear to possess some advantage, though not uniformly, and this cannot be predicted. Even though neocinchophen does improve the renal excretory power for certain dyes and metabolites, it does not follow from this that its value as an antirheumatic remedy has been enhanced thereby. On the contrary, it might be argued, that this hyperfunction of the kidney is an evidence of early nephritis, as has been suggested by some from observations on "hyperpermeability" or "superpermeability" of the kidney to other agents; and if so, the administration of neocinchophen is injurious. Mere speculation, however, does not help; a complete pharmacologic study of the actions of neocinchophen and cinchophen is needed.

Our data indicate that novaspirin is worthless in rheumatic fever. This is due to the inadequate concentration of salicyl in the tissues, which is due in turn to the relative insolubility of the compound and poor absorption from inadequate liberation of salicyl from it in the alimentary tract. The use of novaspirin in place of the more soluble and absorbable and also more therapeutically effective sodium salicylate is illogical and irrational.

CONCLUSIONS

1. Cinchophen gave partial relief from symptoms in rheumatic fever with doses of from 3 to 6 gm., and complete relief with doses of from 10 to 13 gm. (seven patients), while neocinchophen required a somewhat higher range of dosage, namely, from 3 to 8 gm. for partial, and from 11 to 16 gm. for complete relief (three patients).

2. Novaspirin was therapeutically worthless in the treatment of rheumatic fever (three patients) not giving even partial relief from subjective symptoms. This is due to inadequate concentration of salicyl in the tissues, as indicated by the low (from 14.8 to 23.4 per cent.) excretion of salicyl in urine after large doses of the drug.

3. Large doses of cinchophen and neocinchophen, such as are necessary in the treatment of rheumatic fever, produce characteristic symptoms of salicylism ("toxicity") which, however, are less pronounced than those caused by corresponding doses of salicylate. Cinchophen differs from salicylate by causing epigastric pain owing, presumably, to local irritation by the drug. Pain in the epigastrium was absent after large doses of neocinchophen, presumably because of its relatively low solubility in water and weak alkalis, possibly also because it is an ester.

4. Large doses of cinchophen were found to slow the pulse rate of both febrile and afebrile individuals, and the same occurred after neocinchophen in febrile patients. Therefore, the cardiac slowing produced by cinchophen is due to a direct depressant action on the circulation.

5. Cinchophen is injurious to the kidney, as indicated by the occurrence of albuminuria, and sometimes casts and white blood corpuscles, in the majority of seven individuals that were observed, and a diminution in the excretion of phenolsulphonephthalein in the five individuals that were studied. Neocinchophen is variable, albuminuria, and a diminution in the excretion of phenolsulphonephthalein occurring in about one half of the nine individuals that were observed.

6. As compared with salicylate, cinchophen appears to be about equally efficient, while neocinchophen is somewhat less efficient, as judged by the dosage necessary for therapeutic relief in rheumatic fever. The symptoms of "toxicity" are about the same and renal injury somewhat less after cinchophen, and both the "toxicity" and the renal injury are less pronounced after neocinchophen than after salicylate in corresponding doses.

7. Further observations on the therapeutic use of cinchophen and neocinchophen in rheumatic fever, and a study of their pharmacologic actions, are desirable.

Wet Grinding Dangerous Occupation.—In a report prepared by Dr. W. Herbert Drury, U. S. Public Health Service, the revelation is made after an exhaustive investigation that grinding and polishing by wet process in factories instead of being a dustless and innocuous employment is under certain conditions a dusty and exceedingly dangerous process. Dr. Drury shows that in a large ax factory the death rate from tuberculosis among the workers in the grinding and polishing shops, who for six hours a day breathe the atmosphere of relatively high humidity heavily laden with acutely angular hard siliceous duct is 19 per thousand; and that of other workers in the same mill but not in the grinding and polishing shops is only 1.6. Pulmonary infections other than tuberculosis showed 4.3 deaths per thousand among polishers and grinders as against 1.7 per thousand among other mill workers.

A PLEA FOR BETTER UNDERSTANDING OF PHYSICAL DIAGNOSIS

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Of the methods of examination now so universally recognized, the ancients employed but two, namely: inspection and palpation. Inspection was quite generally employed, but palpation was used only in special cases, as in the examination of fractures, dislocations, enlarged glands, tumors or marked deformities, and for the purpose of determining the presence of fever, pain, tenderness and swelling.

The first intimation we have of any other method of examination was in 360 B. C., when Hippocrates accidentally discovered the succussion splash while examining a patient suffering from a condition which we now recognize as hydropneumothorax. Later he was able to demonstrate this phenomenon again by placing his ear to the patient's back and shaking him vigorously. Because of the infrequency of the pathologic conditions necessary to produce succussion sounds, the method soon fell into disuse and direct auscultation was forgotten.

Throughout the middle ages there was practically no advancement in the study of clinical medicine and no further development in the art of physical diagnosis. During this period, called the scholastic period, philosophy ruled supreme, and more recent writers have referred to it as the age of dreamers.

How little progress had been made in the study of clinical medicine and pathology is well illustrated in a description in 1670 of pneumonia by Willis, a leading practitioner and teacher of his day. He wrote: "The essential cause of this disease is believed to be a boiling of blood in the narrow air passages of the feverish lung, sticking to the walls of the more narrow passages, engendering there an obstruction, causing inflammation." It is needless to say that the pathology of pneumonia was unknown and that carefully conducted necropsies were not the rule at that time.

Even the great Syndenham had but little knowledge of pathology and physical diagnosis, yet his clear description of the symptoms of disease, in 1683, has seldom been equaled. Morgagni, from his experience in the mortuary, was quite familiar with gross pathology and the appearance of the human viscera after death, yet he knew very little of the principles of physical diagnosis. His examination of the living was confined to inspection and palpation. Boerhave, founder of the Leyden School of Medicine, was one of the most noted teachers of his day, and students from all parts of Europe flocked to his clinic in order to learn his methods; yet he taught practically nothing of physical diagnosis. His method consisted of a study of the symptoms, a painstaking inspection of the patient, a discussion of the clinical course of the disease, and an outline of the treatment that should be carried out in each particular case. His methods were introduced into England, Scotland and France, and he became so famous that he was called by his followers the "Dutch Hippocrates."

One of his most distinguished pupils, Sir John Rutherford of London, introduced the Leyden methods of teaching at the Royal Infirmary in 1747. How little he knew of physical examination is well illustrated by this quotation from one of his public lectures: "I shall show you the patient, give you a history of his disease in a general way, inquire into the cause of it, then give you my opinion how the disease is likely to terminate, and outline the treatment." Nothing is said of the physical signs of the disease or of any examination having been made, and we must infer that none was made. I have searched through the available literature of that time and consulted all the books on the history of medicine, but am unable to find any recorded instances in which reference is made to a general physical examination, as we understand it today. Up to this time the sense of sight had dominated all physical examination. It is true that, in rare instances, inspection was supplemented by palpation; but percussion and auscultation apparently were unknown.

Later in the reformation period (1761), there appeared in Austria a little book designated "Inventum Novum ex Percussione," Auenbrugger, in which was described a new method of physical examination, namely: "direct or immediate percussion." Auenbrugger had fully developed this method and had confirmed his contentions and principles by numerous postmortem examinations, yet his claims were ridiculed by his contemporaries. This illustrates again the fact that a great truth prematurely announced is often met with ridicule and opposition, and dies for the time being, only to burst forth with renewed life at some future and more appropriate time. So it was with Auenbrugger's immediate percussion. The time was not ripe, and the art of percussion had to wait for the keen mind of Corvisart, to be rediscovered and placed in its proper sphere in the medical world. Corvisart might easily have claimed the method as his own, for it was just fifty-seven years after the appearance of the "Inventum Novum ex Percussione," Auenbrugger, that he presented the results of his experiences with the method of direct percussion to the medical society of his home town, near Paris. Baron Corvisart is to be admired for the magnanimous manner in which he presented his paper, which began: "It is he (Auenbrugger) and his beautiful invention, which rightfully belongs to him, that I wish to recall to life and present to the medical profession anew." Corvisart, although a man of great wealth and culture, was an ardent student of medicine and science. Later he became one of the foremost teachers in Paris and had for his pupils such men as Dupuytren, Cuvier and Laënnec, names which will live forever in the annals of medicine.

In 1828, Pierre Adolph Piorry invented the plexímeter, and to him we owe the discovery of indirect or mediate percussion. This method was accepted at once and became very popular in France and the neighboring countries of Europe. The hammer percussion, although it has much to commend it, has never become popular in America, where the finger percussion is almost universally employed.

WORK OF LAËNNEC

Although auscultation by the direct method had been practiced from time to time since the days of Hippocrates, it remained for the great Laënnec to place it on its proper plane. His invention of the stethoscope in 1819 marked a new era in the advancement of physical diagnosis. Although his first stethoscope was merely a cylindric roll of paper, it demonstrated a principle which was at once accepted by all thinking medical men. An instrument having an ear piece and a bell shaped

end to fit the chest was soon produced. This proved very efficient, and the monaural stethoscope became at once popular throughout Europe, where it is still the instrument of preference. Later a binaural, with all its modern attachments, was developed, and this is the instrument of choice with us.

To Laënnec belongs the credit of discovery and development of the art of auscultation. He justly became the most widely known and highly esteemed clinician of Europe, and by his painstaking research laid the foundation for all accurate knowledge of the diseases of the chest. He developed the entire field of physical diagnosis, applying all the then known methods to the study of disease, and compared the physical findings with the pathologic conditions found in the mortuary. He not only put the diagnostic sounds of cardiac and pulmonary disease on a firm basis, but was the first to recognize bronchiectasis, pneumothorax, hemorrhagic pleurisy, and emphysema of the lungs. The condition known as Laënnec's cirrhosis was first recognized and described by him. Laënnec was the originator of most of the descriptive terms now used in physical diagnosis. Such terms as egophony, pectoriloquy, bronchophony, sibilant and sonorous râles, and rhonchi originated in his fertile brain. It can be truthfully said that Laënnec did more for physical diagnosis and clinical medicine than any other man before or since his time. To us who teach physical diagnosis, his work is a revelation, and he inspires us to attempt to do better work ourselves. When we consider what he has done for medicine in the field of physical diagnosis, and how little has been added since, we realize that his was a master mind.

Louis (Pierre Charles Alexandre), one of his pupils, carried on the work enthusiastically and, by closely comparing the symptoms and physical signs with the findings after death, he was able to correlate the physical signs and the anatomic changes of disease. Other clinicians soon caught the spirit. Clinical medicine was revolutionized by carrying the hippocratic method from the bedside to the mortuary and there comparing the signs and symptoms of disease with the conditions found after death. Careful records of such studies were kept at all the leading institutions of learning, and competition became keen in the various medical clinics of Europe. Physical diagnosis was now at its zenith. Physicians at these clinics became experts in physical diagnosis and prided themselves on their diagnostic skill. But alas! all was changed in a few years. With the advent of laboratory diagnosis, physical examinations became a neglected art. For many years it was taught only in a haphazard manner by physicians who knew little of the subject themselves and imparted less to their students.

NEGLECT OF PHYSICAL DIAGNOSIS

The pendulum of learning swung into the new field. Less and less time was given to the study of the old methods, until we became a nation of bacteriologists, chemists and pathologists. For years, physicians and many of our well known teachers have leaned so much toward laboratory methods that physical diagnosis has almost become a lost art. Patients frequently are sent to the diagnostic laboratories without a pretense of a physical examination before hand. (Oh, for another Laënnec to make us see the light again!)

Later came the specialties: eye, ear, nose and throat; skin and venereal diseases; immunity; hygiene and sanitation, and now, the study of the chemistry of metabolism. Time must be found for all these subjects and, in consequence, the fundamental branches suffer. Even the addition of the fifth or hospital year has not helped us very much, because the fundamental subjects must all be given in the prescribed four year course. We must demand more of the fundamental sciences in our premedical course, and need an additional year to cover all the required work. There is just a little tendency to make research workers and specialists out of our students instead of the good old fashioned family doctor.

Why does the physician make so many mistakes in diagnosis? Is it because he cannot make a Wassermann test or a complement fixation? That he cannot make a differential blood count or a careful blood culture? Find the ova of *Ancylostoma duodenale* or *Dibothriocephalus latus* in the stool? No! most emphatically No! It is because he does not make a thorough physical examination of his patient; or, if he does, he is not able correctly to interpret his findings. He may be able to recognize certain changes in the respiratory function or in the heart sounds, but because of a lack of experience in the practical work in physical diagnosis under an experienced instructor, he is unable to determine the cause.

THE ART OF PHYSICAL DIAGNOSIS

Physical diagnosis is an art. It appeals to all our senses; and in order to develop these senses, we must have experience. We must develop our powers of observation, if we hope to become experts in inspection, and this department of physical diagnosis is by far the most important. He who sees most by inspection will become the best diagnostician. The sense of touch needs developing, and to learn what to feel and how to feel it best needs long practice and close application. To feel a thrill, a friction rub, the heart shock and apex beat, to palpate the liver, spleen and kidney, all need careful training and long experience. Percussion calls for the development of the sense of touch and hearing, but particularly, for constant training in the proper technic. It is very difficult for the beginner, and many physicians never properly learn the art of percussion at all. The use of the direct and indirect methods must be practiced constantly over a long period, in order to become proficient, and this can be learned only by careful supervision.

Auscultation, either the direct or the indirect method, needs long and careful training under the most favorable conditions. The use of the stethoscope should always be supplementary to the use of the unaided ear, whenever such a course is possible, because we can hear so much more and hear it better with the unaided ear, if we learn how to use it. The stethoscope may be more suitable for examinations of the heart; but for pathologic conditions of the lung it should be confirmatory, and be used to analyze the sounds heard by direct auscultation. The ear should be the low power lens and the stethoscope the high power, to examine the condition in detail.

Mensuration is of value in certain conditions, and every medical man should have a good tape measure and learn how to use it.

Fluoroscopic examination and roentgenography should never be used until a most thorough physical examination has been made and the results of this examination carefully recorded on the history sheet. These should be confirmatory only; and, if used in this manner, both

methods are of the greatest value in physical diagnosis. The interpretation of the pathologic findings needs long and careful training and must be classed as a special branch in diagnosis. From what has been said you must not allow yourselves to think that I am not a believer in laboratory methods, for I am. I am a firm believer in the laboratory, as an aid to diagnosis, but not as a substitute for physical examination.

No one who has not mastered the fundamental branches, anatomy, physiology and pathology, can hope to become a good diagnostician. On this all are agreed. But how shall we be able to use this knowledge in the study of disease, if we are not familiar with the physical signs of the normal living human body?

We must train our students in the art of physical examination by actual experience on the living subject in order that they may become familiar with the normal findings. This means small classes, with competent individual instruction and long experience; frequent repetition to perfect technic. The art of percussion and auscultation can be learned only by concentrated personal effort and unlimited patience. After the student has become familiar with the normal findings, the instructor should demonstrate the abnormal, have him compare the two conditions, and reason out the cause of the difference in the physical signs. Let the student study the difference between the consolidated lung of pneumonia and pleurisy with effusion. The physical signs of each are distinctive, and there should be no difficulty in differentiating the two conditions, if he knows his physical diagnosis and pathology.

Why should there be any question regarding the area of cardiac dulness? The signs are so definite that any one familiar with the art of percussion should have no difficulty in outlining the area of dulness with accuracy. Yet when one sees a comparison of such outlines with fluoroscopic shadows, one soon realizes that not all are perfect in the art of percussion! This should not and need not be, if we train our students in the art of percussion with the same care and thoroughness demanded in the use of the microscope and other instruments of precision.

Why do physicians so frequently mistake pneumonia for appendicitis or gallbladder disease? The physical signs are so characteristic that there should be no chance for error, if a thorough physical examination has been made by one who is familiar with the physical signs of disease.

Why are aneurysms of the aorta so frequently overlooked and these patients treated with a cough mixture? Why is cardiac incompetence so frequently called asthma? Why are patients suffering pain from locomotor ataxia so frequently operated on for gastric ulcer or gallstones?

Ask yourselves these questions and try to answer them truthfully, and you will always come back to the weakest link in the chain of medical education, that is, a lack of a thorough understanding in the art of physical diagnosis.

THE TEACHING OF PHYSICAL DIAGNOSIS

If this subject is so essential to the physician, it is even more necessary for the medical student and it is our duty as teachers to bring about such changes in the curriculum of our schools as are necessary to improve the teaching methods in this very important branch of medicine. Correlation of subjects from beginning to end should be our aim; frequent departmental conferences to assure harmony and similarity in instruction, and conference between the heads of departments and their associates, to outline a definite course of instruction and prevent unnecessary repetition of subjects, thus saving much time for the student. The departments of anatomy, pathology and clinical medicine should harmonize perfectly in order to produce the best results. Anatomic studies on the cadaver should be correlated by physical examination on the living; normal organs should be compared with pathologic conditions in the same organs; the course of a disease, the clinical symptoms and physical signs should all be discussed in relation to the anatomy and pathology, showing how one condition is dependent on the other, and how the physical signs and symptoms are produced. In other words, correlate these subjects so as to establish a closer relationship between the symptoms, physical signs and pathology. This is the ideal way in which to teach physical diagnosis so that it will be of the greatest value to the student of medicine, and enable him to practice his profession more intelligently and render a greater service to mankind.

30 North Michigan Avenue.

NONOPERATIVE TREATMENT OF FRACTURES OF CERVICAL VERTEBRAE WITH CORD INJURY

THE RESULT IN FOUR CASES *

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During the last three years I have had occasion to observe the end-result in four cases of injury to the cervical vertebrae and cord in which operation was not performed. The problem as to whether, in a given case of cervical cord injury, operation should or should not be performed is always a delicate one, and the decision is always of prime importance to the patient. The question of the indications for operative interference in recent fractures of the spine is efficiently dealt with by Elsberg,[1] who says:

> A most difficult problem is presented to the surgeon when he is confronted with the question whether there is or is not a complete transverse crush of the cord. In many instances the indications for treatment will depend upon the decision he arrives at. Operative interference in a complete transverse crushing of the cord is useless and frequently harmful, but an operation may be urgently necessary if there is no complete transverse lesion. The difficulty is to determine whether there is a transverse crush or whether the symptoms are due to concussion of the cord or to an acute edema of the cord tissue.
>
> There are undoubted cases on record in which some of the reflexes were preserved or where some of the reflexes returned in spite of the presence of a complete lesion. In the majority of instances, however, a complete motor paralysis and loss of sensation below the level of the injury, with loss of all cutaneous and tendon reflexes and paralysis of the bladder and rectum, point to a spinal cord injury of such severity that

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* Read in part and patients presented at joint conference of the staffs of the Neurological Departments of Columbia University and New York Post-Graduate Medical School, Jan. 17, 1921.

1. Elsberg, C. A.: Diagnosis and Treatment of Surgical Diseases of the Spinal Cord and Its Membranes, Philadelphia, W. B. Saunders Company, 1916, p. 215.

immediate operative interference is contraindicated. If the symptoms are due to spinal concussion in which considerable lengths of the cord are affected, a local operation will do little if any good, and it may do much harm.

If, on the other hand, the symptoms are due to an incomplete crush or to compression of the cord, there will surely be some improvement within the first few days, and then operative interference will offer much better chances of success.



Fig. 1 (Case 2).—Anteroposterior view of cervical vertebrae, showing subluxation between fifth and sixth vertebrae.

When some motor, sensory or reflex power remains immediately after the trauma, and a complete motor and sensory paralysis later supervenes, operative interference should not be delayed, especially if compression of the cord by dislocated or fractured bone or by blood has been demonstrated.

After the decision to interfere surgically is arrived at, one then immediately subjects his patient to the dangers of operation on the cervical cord, which are chiefly liable to cause edema and consequent interference with the functions of the vagus and phrenic nerves, namely, respiratory and cardiac paralyses. The results of operation on the cervical cord resulting from spinal injury are none too good. Elsberg states that without operation "fully 70 per cent. succumb to the immediate or remote effects of the injury." Good functional recoveries, he says, occur most often after cervical injuries, as against injuries to other levels of the cord. Our experience with the four cases reported shows this to be true. The most frequent residuals are pareses in the extremities and atrophies in the small muscles of the hand, with stiffness in one or both of the lower limbs. The loss of sensation accompanying such injuries often leaves only a scant residual. Root pains in our cases seemed to be limited to one upper extremity. All three of our patients who recovered had no residual bladder or rectal disturbances. Elsberg refers to the fact that operations for recent fracture of the spine with injury to the cord have fallen into disrepute, particularly because complete transverse lesions were found. It is true also that it is occasionally impossible to decide whether a given patient has a transverse lesion which is complete or not. It is only after waiting several weeks that one can be definitely sure of this point. The return of superficial and deep reflexes in the extremities, even with known partial cord injuries, may not occur until several weeks after the injury.

Elsberg teaches that unless there is evidence, such as the retention of these reflexes, pointing to a partial lesion, no operation should be performed. Granting that, exceptionally, surgical experience justifies the dictum that partial cervical cord injuries from fracture or dislocation should be operated on, one finds scant basis for this in the statistics showing the general results of such operation in the hands of most operators. Elsberg refers to the quotations of Dr. Quervain, who compiled 218 cases in which the patients were subjected to operation. These were cases of injury to all regions in the vertebral column and to the spinal cord at various levels, and were not limited to cervical cord injuries. Of these 218 patients, 13.8 per cent. were cured, 22 per cent. were improved, 37.2 per cent. were unimproved, 1.8 per cent. were made worse, and 25.2 per cent. died from the operation. Burrell compiled 244 cases of fracture of the spine with a mortality of 64.5 per cent. In this group the operations for injuries in the cervical region gave a mortality of 85.7 per cent. In eighty-two of Lloyd's 185 cases the operation was performed quickly after the injury, with a mortality of 72.2 per cent. Chipault's 167 cases with operation gave a mortality of 78.5 per cent., and Thorburn had a mortality of 67.8 per cent in fifty-six operative cases. In spite of this, Elsberg says that:

If the cases are carefully selected, the operative results should not be as poor as those quoted and, based upon my personal experience and a study of the literature of the subject, I believe that the results of operative interference are steadily improving. The surgeon who sees many cases and operates only upon the selected ones will have the best results. The greatest improvement will occur in fractures of the lower dorsal and lumbar regions.



Fig. 2 (Case 2).—Lateral view.

For a long time I have felt that the greatest degree of conservatism should be the proper attitude in dealing with cervical cord injuries, and my experience with the cases reported here makes me more firm in my belief that injuries to the cervical cord, regardless of whether the neurologic signs present indicate a partial or a complete lesion, should be operated on only in

very exceptional cases. While no such case has occurred in my experience with injuries to the cervical vertebrae, I can see how the presence of disabling root pains might some time after the injury be an indication for operative procedure.

REPORT OF CASES

CASE 1.—A man, aged 30, who was injured, July 16, 1920, by falling from a roof across a boiler, striking his back, was not unconscious when found by the ambulance surgeon, and was able to move both upper extremities; but both lower extremities were completely paralyzed. Half an hour later the upper extremities also became involved. The pulse soon became irregular, and breathing difficult. Later the breathing was entirely abdominal. The paralysis of the diaphragm seemed to point to involvement of the second cervical segment (phrenic nerve). When I saw him ten days after the injury, at the Mineola Hospital, Mineola, L. I., the surgeons were seriously considering operating. In view of the fact that all types of sensation in the upper and lower extremities and the entire body up to the fifth cervical level were gone, I strongly advised against operation. There was complete loss of bladder, rectal and sexual functions. The quality of the pulse and breathing pointed to edematous involvement above the level of the injury. All the deep and superficial reflexes in the extremities were gone. Later the plantar reflex on the left side returned. Dr. Elsberg had this patient under observation a few weeks after I saw him at the Post-Graduate Hospital. He refused to operate on him, and the patient died within a few weeks.

The roentgenogram taken at the Mineola Hospital showed fracture dislocation of the body of the third cervical vertebrae and of the spinous process and lamina of the fourth.

CASE 2.—A man, about 44 years of age, was working in a stable, Aug. 11, 1920, when a bale of hay fell from the hay loft and struck him in the back of the head and neck. He immediately became unconscious, and remained so for about an hour. He could neither move his arms nor his legs for ten weeks after the accident, and the legs were drawn up in semiflexion. He had a complete loss of control over the bladder, rectal and sexual functions. He was taken to the Jewish Hospital in Brooklyn, and later to the Kings County Hospital.

The neurologic findings at the hospital, while not detailed as completely as one might wish, seemed to show that there was not a complete lesion of the cord. Instead of there being a total flaccid paralysis, all four extremities were held somewhat spastically in flexion, the deep reflexes being quite active, with the presence of a double Hoffmann sign in the upper extremities but no Babinski reflex on the left side, although the right Babinski reflex was quite active and has remained so to date.

The sensory examination, made soon after the injury, was not very exhaustive but seemed to point to a level lesion situated at about the fifth cervical level. Gradually the patient began to move his arms and legs, and the spastic attitude in flexion was relaxed. Soon complete control over the bladder and rectum returned, leaving a residual difficulty in control to date. The man suffers from urgency and has to void fairly promptly. There is a fair sexual return. About three months after the injury the patient began to walk, and at present the positive neurologic findings are:

Both pupils are small, the right somewhat smaller than the left (spinal myosis). Their reactions to light, accommodation and consensually, however, are perfect. The right pupil is somewhat irregular in outline. The gait is still somewhat stiff, although the patient gets around without a cane, and is able to get up and down stairs and walk for several miles without fatigue. He gets up from the floor in a prone position in the typically infantile way. The deep reflexes show that the right triceps is less active than the left, although the right biceps reflex is the more active one. The right patellar is more active than the left. The right abdominal and cremasteric are the more active superficial reflexes, while the Achilles reflex is slightly more active on the right side. There is a definite right Babinski and double Hoffmann sign. Muscle strength is much greater in the lower extremities than in the upper, but he is gradually recovering power in all four extremities. With the dynamometer he can exert 30 pounds pressure with both hands at present. He complained at first of sharp, shooting pains in the left upper extremity down the inner surface of the arm and forearm and into the ring and little fingers. These have cleared up. There is diminution to pin prick, cotton, heat and cold in the left ulnar distribution, with fairly marked atrophy of the small muscles of the left hand. The deep sensations are hardly disturbed, with the exception of vibratory sensibility in the little finger. The patient does not complain of pain in the neck, but has difficulty in bending the head forward or backward and cannot rotate it with any facility. The most marked limitation is in flexion of the head backward, and this is the only movement that is accompanied by pain. The man's condition is gradually improving. The patient was roentgenographed in the lateral



Fig. 3 (Case 3).—Fracture of odontoid process.

aspect and two anteroposterior aspects by Dr. Leopold Weiss, who reported some subluxation between the fifth and sixth cervical vertebrae. The vertebral column above the sixth vertebra appeared to be pushed to the right and axially rotated.

CASE 3.—A man fell off a skid while at work, July 20, 1919, and landed on the back of his neck. He was unconscious for sixteen hours. He was treated at the Gouverneur Hospital, where a roentgenogram was said to be negative. The recent roentgen-ray examination by Dr. Darling shows injury to the first and second cervical vertebrae. Dr. Darling reports:

"The cervical spine shows definite evidence of a fracture of the odontoid process at the base, with displacement of this and the first cervical directly backward about one-fourth to one-half inch. There is no lateral displacement and nothing to indicate a fracture of the first cervical, the whole of which is displaced backward, as stated, until its spine projects back-

ward one-half inch posterior to the second cervical spine. There would seem to be room for the cord. There is no other fracture or dislocation seen.

"Conclusion: A fracture of the odontoid process of the second cervical with displacement of it and the whole of the first cervical directly backward from one-fourth to one-half inch, and with consequent tilting of the whole of the head upward and backward. There is no lateral displacement. There is a definite amount of bony deposit in the region of the base of the odontoid in its present position, and the appearance is consistent with good union and a bony fusion with the vertebra below, as no line of separation can be made out."



Fig. 4 (Case 4).—Method of treatment.

When the patient regained consciousness he was completely paralyzed in all four extremities, and could not even raise his head. The neurologic examination at the institution, while not extensive, seemed to point to a complete lesion in the upper cervical cord. Three days after the injury he began to move the left lower extremity and hand. On the following day he moved the right leg, and two weeks later was able to move the fingers of the right hand. For four weeks there was complete retention of feces, and for the first few days complete incontinence of urine. On and after the third day the patient was able to void his urine under complete control. He suffered from terrific pains in both upper extremities for a week or more, could hardly talk, and could not swallow. He could not move his tongue; pulse and respirations were rapid and irregular, and there was very little chest movement in breathing. Unfortunately, the only sensations that were tested were tested for by pin prick, cotton, heat and cold. The statements about his sensations were general and not definite. It seems, however, that for three days after his injury there was complete loss of sensation for the things tested below the level of the fourth cervical segment. The patient himself states that they pricked him with a pin and tested him out with the faradic current, and he could not feel either stimulus in any of the four extremities for the first two or three days. Gradually the loss of sensation disappeared, and he had anesthesia only in the right upper extremity, which very slowly cleared up. About four weeks after his injury he was able to get up out of bed, and gradually began to walk by means of holding on to beds and tables and with the aid of a cane.

I saw the patient for the first time, June 29, 1920, less than a year after his injury. At that time, although movements of the tongue in all directions were normal, as were also the movements of the palate, the patient said that he tired easily, especially from eating. He also tired when he talked a lot. This condition gradually cleared up, and now he is able to swallow and talk without difficulty or fatigue. His gait was definitely spastic, more so on the right side, and he walked with his upper extremities abducted somewhat and slightly flexed at the elbows. He complained of severe pains in the neck, radiating down the right hand into the fingers. This has gradually cleared up under treatment. The deep reflexes in both upper and lower extremities were exactly equal but very active, the patellar and Achilles responding with clonus. There is a double Babinski and the only superficial reflex present is the left cremasteric. There was a crossed adductor and periosteal reflex present on both sides. There was definite weakness and spasticity in all four extremities, the most marked being in rotation of both shoulders outward. The neck was freely movable in all directions. With the dynamometer the right hand exerted a pressure of 30 and the left of 25 pounds. This has been increased to 40 for each hand.

Careful sensory examination for all modalities, both superficial and deep, was absolutely negative for objective disturbances. At present the patient is able to get around without a cane; has perfect control over his bladder, rectal and sexual functions, and has shown improvement in muscle strength in all four extremities. The root pains have disappeared but, particularly when the weather is bad, the stiffness in both lower extremities is quite annoying. He is able to raise both hands above his head, and can move both shoulders in all directions. There is no wasting in the left hand muscles, and only very slight wasting in the small muscles of the right hand. This man has not ceased improving, and is responding quite satisfactorily to massage and exercise.

CASE 4.—A man, aged 39, slipped on the ice while carrying a bag of soft coal, Jan. 24, 1920, and struck the back of his head. He was not unconscious, and was able to go home alone. For a few days his head and neck were held rigidly to the left, but gradually this traumatic wry neck was overcome. He also complained of sharp, shooting pains in the left upper extremity, which were at first very annoying and disabling. There was no disturbance of any of the bladder, rectal or sexual functions. He was admitted to the Third Surgical Division of the New York Hospital (History No. 228207), February 18, almost three weeks after the accident, complaining bitterly of the pain in the neck and the left upper extremity.

The neurologic findings were said to be absolutely negative objectively. A roentgenogram which illustrates the fracture of the body of the third cervical vertebra, with posterior angulation of the lower fragment and crush of the body of the fourth cervical vertebra, was taken, February 12, by Dr.



Fig. 5 (Case 4).—Fracture of body of third cervical vertebra, with posterior angulation of lower fragment and crush of body of fourth cervical vertebra.

Hoag, through whose courtesy I am able to make use of this case for this series. I saw him, Oct. 12, 1920, and he complained only of stiffness in the neck and inability to turn his head and neck to the left because of pain. He made some complaints about the pain in the left upper extremity, which he said was not severe and came only occasionally. My examination was completely negative neurologically, with the exception of a very definite hypesthesia of all qualities of sensation fairly accurately limited to the left ulnar distribu-

tion. There was slight wasting of the small muscles of the left hand.

The notes taken at the New York Hospital show that at the time of examination the only neurologic findings referred to an increase in the deep reflexes in the right upper and lower extremities, and definite mention is made of the fact that no sensory disturbances were found. The sensations tested for were heat, cold and pain. My examination confirmed the negative neurologic findings found at the New York Hospital, with the slight exceptions noted.

This remarkable case of injury of a very severe nature to the third and fourth cervical vertebrae with crushing is of interest particularly because of the practically negative neurologic residuals. The cord itself probably escaped injury entirely, with the possible exception of a slight hemorrhage in the lower cervical segment, or an involvement of the roots on the left side. The slight sensory disturbances and atrophies on the left side would seem to point to this. The increase in the deep reflexes on the right side may have been due to pressure exerted by a slight pial hemorrhage around the lateral columns of the right side of the cervical cord, or of the left pyramid before the crossing in the medulla. There was undoubtedly also some pressure on the lower cervical roots, which explained the complaint of pain in the left upper extremity. The patient is working now and has practically no disability. The method of treatment employed by Dr. Hoag is illustrated in Figure 4.

COMMENT

These four cases gave a mortality of 25 per cent. with undoubted cord injuries. From the neurologic findings, the first case was probably a complete crush of the cervical cord, and resulted, as all of these cases do, in death within a few months after the injury. The other three cases were examples of partial involvement of the cervical cord, and all three of the patients recovered without operation.

A glance at the statistics mentioned by Elsberg and quoted above will show that if these patients had been operated on, especially by surgeons not trained in modern neurosurgical technic, the law of averages would have resulted in a probable mortality in these three cases of possibly two. The last patient no sane surgeon would have thought of operating on.

ANESTHESIA IN THE TREATMENT OF BOTULISM *

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AND
HARRY WEISS, A.M., PH.D.
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In the course of investigations designed to establish the path of absorption of botulinus toxin in guinea-pigs, a number of animals were kept under ether for the purpose of surgical manipulation. It was observed that death was greatly delayed in such animals following the introduction of large amounts of toxin. Thus, guinea-pigs of 350 gm. weight given 80,000 minimal lethal doses [1] of botulinus toxin intraperitoneally show symptoms of dyspnea in one hour and invariably die in about two hours, whereas guinea-pigs similarly injected but put under ether anesthesia for two hours as soon as dyspnea occurs (i. e., one hour after the injection of toxin) will survive for four hours. By prolonging the period of anesthesia, the life of the animals can be correspondingly prolonged.

The question at once arose whether advantage could be taken of this delay in the rate of the progress of botulinus intoxication under ether anesthesia to permit toxin-antitoxin combination to take place.

As described elsewhere,[2] a series of guinea-pigs was given 80,000 minimal lethal doses of toxin intraperitoneally, and in one hour when definite dyspnea was evident a sufficient quantity of homologous antitoxin was given intravenously to test its power to neutralize the toxin injected. The pigs died in from two and a half to three hours after the toxin injection in spite of the administration of antitoxin. Another series was given a similar dose of toxin, and antitoxin was injected after the same interval and in the same manner. At the time antitoxin was given, however, the guinea-pigs were anesthetized and kept under ether anesthesia for two hours. The series survived and appear normal after three months.

A subsequent experiment was planned to approximate more nearly the conditions in the cases of poisoning in human beings, that is, giving toxin by mouth. Two series of guinea-pigs were fed 50,000 minimal lethal doses of toxin. Guinea-pigs thus fed show dyspnea in about six hours and die in about twelve hours. After six hours the first series received antitoxin intravenously, while the second series was given antitoxin in a similar manner but put under ether anesthesia, which was continued for two hours. The pigs in the first series died in eighteen hours, while those in the second series survived.

This delay in fixation of toxin by the tissues under the influence of ether anesthesia suggests that etherization may even be of service while one is waiting for antitoxin, which is not always immediately available.

Incidentally, in addition to this direct effect of anesthesia on the progress of intoxication, attention is called to two other beneficial factors. The patient throughout the progress of botulism remains conscious of his condition and apprehensive of its significance. Anesthesia for a time relieves this mental distress. Moreover, as the amount of toxin ingested is unknown, it is advisable to give very large doses of antitoxin intravenously. Etherization is known to counteract the tendency to anaphylactic shock.

We recognize the difficulty of applying anesthesia by inhalation in advanced cases of botulism, but favorable action may possibly be accomplished by rectal or subcutaneous administration of ether in oil.[3] This and other methods are being tried on laboratory animals.

At the suggestion of our colleague Dr. C. K. Drinker, we have tried luminal sodium (sodium salt of phenyl-ethyl-malonyl urea) as an anesthetic for this purpose. Guinea-pigs were given 50,000 minimal lethal doses of botulinus toxin by the mouth; and after four hours, 100 mg. of luminal sodium per kilogram of body weight was injected subcutaneously in 5 per cent. solution. Ether was then administered for from five to ten minutes to hasten the onset of anesthesia. Antitoxin given twelve

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* This work is a part of the investigation of food poisoning, conducted under the direction of Dr. M. J. Rosenau, professor of preventive medicine and hygiene, Medical School of Harvard University. The investigations were made under the auspices of the Advisory Committee of the National Research Council on the Toxicity of Preserved Foods, and under a grant to Harvard University from the National Canners' Association.

1. The minimal lethal dose used throughout this paper is the smallest amount of toxin that is necessary to kill a 15 gm. mouse in less than four days after intraperitoneal injection.

2. Bronfenbrenner, Jacques, and Weiss, Harry: Proc. Soc. Exper. Biol. & Med., April, 1921.

3. Gwathmey, J. T.: Synergistic Colonic Anesthesia, J. A. M. A. **76**: 222 (Jan. 22) 1921; New York M. J. **110**: 96 (July 19) 1919.

hours after the administration of toxin protected the animal, while the control pigs not treated with luminal sodium died in spite of the administration of antitoxin.

We have been unable to obtain definite information as to the practicability of complete anesthesia with luminal in human therapy, nor could we find reference as to any untoward effect such procedure may have on the patient. However, the observations of W. L. Symes [4] are encouraging. He kept experimental animals under complete and continuous anesthesia by luminal (and under forced feeding) for two and three weeks without observing any change in the metabolism of these animals.

This paper is a preliminary communication in order that the facts may be available and the method applied in cases that may occur.

Further experiments are being carried out which attempt to gain an insight into the nature of the phenomenon, how far it can be applied with relation to other toxins, and the effect of other anesthetics. The quantitative and time relationships are also being studied.

INFLUENCE OF MENSTRUATION ON THE FOOD TOLERANCE IN DIABETES MELLITUS

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We are all likely to underestimate the influence of the emotions on the food tolerance in diabetes mellitus. This influence was aptly characterized in the remark of the late Dr. Theodore Janeway, that when the stock market went down the sugar in the urine of certain patients went up.

TABLE 1.—OBSERVATIONS IN CASE 1*

	Intake			Urine		
Date	Fat	Protein	Carbohydrate	Sugar	Acetone and Diacetic Acid	Comment
1/26/20	179	100	80	0	0	
2/15/20	179	100	80	0	0	
2/22/20	179	100	80	22.0	0	Menstruating
2/23/20	179	100	80	20.0	0	Menstruating
2/24/20	179	100	80	18.2	0	Menstruating
2/25/20	179	100	80	17.6	0	Menstruating
2/27/20	179	100	80	Trace	0	Menstruation over
2/28/20	179	100	80	0	0	
3/10/20	179	100	80	0	0	
3/17/20	179	100	80	0	0	
3/20/20	179	100	80	18.0	0	Menstruation started
3/21/20	179	100	80	16.5	0	Menstruating
3/22/20	179	100	80	17.0	0	Menstruating
3/23/20	179	100	80	15.0	0	Menstruating
3/24/20	179	100	80	12.8	0	Menstruating
3/25/20	179	100	80	Trace	0	Menstruating
3/27/20	179	100	80	0	0	Menstruation over
4/ 5/20	179	100	80	0	0	
4/12/20	179	100	80	0	0	
4/15/20	179	100	80	0	0	
4/16/20	7	10	15	0	0	Menstruating
4/17/20	22	24	15	0	0	Menstruating
4/18/20	19	43	15	+	+	Menstruating
4/19/20	31	48	17	+	+	Menstruating
4/20/20	50	50	20	0	0	Menstruation over
4/22/20	179	100	80	0	0	
4/30/20	179	100	80	0	0	

* The patient, a woman, aged 30, had been diabetic one year.

This paper contains certain studies on two cases of diabetes mellitus in which the patients lost all their food tolerance with the onset of their menstrual period. That menstruation is accompanied by many somatic and phychic symptoms in many women is well known. Its effect on the food tolerance in diabetes mellitus has been neglected.

Naunyn [1] thinks that menstruation has a tendency to increase glycosuria. He quotes Lecorche as stating that menstruation has a tendency to diminish glycosuria. Harrop and Mosenthal [2] have shown that menstruation in the diabetic they studied was accompanied by an increase in the acidosis and by an increase in the glycosuria. They also think that diabetic patients should be closely observed during the menstrual period. I agree with these observers and feel that diabetics showing a tendency to acidosis or glycosuria during their menstrual period should be placed on a starvation diet throughout their menstrual period.

TABLE 2.—OBSERVATIONS IN CASE 2*

	Intake			Urine		
Date	Fat	Protein	Carbohydrate	Sugar	Acetone and Diacetic Acid	Comment
5/ 2/20	174	90	75	0	0	
5/ 3/20	174	90	75	0	0	
5/ 4/20	174	90	75	12.0	0	Menstruating
5/ 5/20	174	90	75	11.5	0	Menstruating
5/ 6/20	174	90	75	12.5	0	Menstruating
5/ 7/20	174	90	75	7.2	0	Menstruating
5/ 8/20	174	90	75	Trace	0	Menstruating
5/ 9/20	174	90	75	0	0	Menstruation over
5/20/20	174	90	75	0	0	
5/27/20	174	90	75	0	0	
5/30/20	174	90	75	0	0	
5/31/20	174	90	75	14.5	0	Menstruating
6/ 1/20	174	90	75	15.0	0	Menstruating
6/ 2/20	174	90	75	12.6	0	Menstruating
6/ 3/20	174	90	75	11.5	0	Menstruating
6/ 4/20	174	90	75	Trace	0	Menstruating
6/ 5/20	174	90	75	0	0	Menstruation over
6/ 6/20	174	90	75	0	0	
6/20/20	174	90	75	0	0	
6/28/20	7	10	15	0	0	Menstruation started
6/29/20	7	10	15	0	0	Menstruating
6/30/20	7	10	15	0	0	Menstruating
7/ 1/20	22	24	15	0	0	Menstruating
7/ 2/20	40	40	30	+	+	Menstruating
7/ 3/20	174	90	75	+	+	Menstruation over
7/ 7/20	174	90	75	0	0	
7/15/20	174	90	75	0	0	

* The patient, a woman, aged 30, had been diabetic three months.

It may be seen by a study of the accompanying tables that on placing the patients on starvation diets, the glycosuria that previously developed during menstruation did not reappear. Patient 1 later during her menstrual period developed an acute acidosis and died. During this period she was on a diet that previously kept her sugar free and free of acidosis. This case resembles the one described by Harrop and Mosenthal.

It is well known that before or during menstruation there is present an increased function of the chromaffin tissue as shown by the facts that:

1. In the premenstrual period the glycosuric action of epinephrin is increased.
2. There occurs a swelling of the thyroid gland in the premenstrual period.
3. The suprarenal cortex increases in size.
4. The interstitial glands increase in size.
5. The pituitary gland increases in size.

On account of these facts I believe that the explanation of the loss of food tolerance in the two cases here described is due to some temporary alteration in the function of the gonads, either an increased secretion or a lack of correlation with other of the endocrine organs. It will be interesting to study the effect of various endocrine products in these cases.

120 West Seventieth Street.

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DIFFERENTIATION OF TYPE A AND TYPE B BOTULINUS TOXINS IN FOOD

A RAPID AND SIMPLE METHOD*

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A provisional diagnosis of botulism in man and some of the lower animals is often made without difficulty, though the syndrome apparently does not permit a differential diagnosis of a Type A from a Type B intoxication. In recent outbreaks of botulism coming to our attention, information relative to the type of botulinus intoxication has been of extreme importance and desired at the earliest possible moment. Bacteriologic examination of the suspected food or toxin typing determinations with the aid of specific antiserums may be dispatched if laboratory facilities are available, and as ultimate and final procedures constitute an invaluable aid to the clinician. However, at best they are time consuming, while the rapidity and serious proportions of some outbreaks of botulinus intoxication demand immediate prophylactic and curative measures. Time, even a few hours, is a vital factor in some instances, and the recognized accurate time-consuming tests are of little or no immediate aid to the clinician.

The A and B types of botulinus toxins have never, so far as available records and experience indicate, been encountered together in a single sporadic outbreak affecting man or animals. The specific polyvalent A and B antitoxins are indicated in all outbreaks wherein the prevailing type of intoxication is unestablished, though monovalent antitoxin A or B is desirable in known types of the disease. In the use of polyvalent antitoxins, one or the other type is inert or inactive. This fact is not an important consideration except in grave cases wherein the amount of antitoxin to be employed is largely determined by the condition of the patient. In such instances it seems highly desirable to obtain the highest unit value in the least possible volume of antiserum. This is particularly true in intravenous administration. The specific monovalent antitoxin can obviously be employed to advantage in outbreaks if a knowledge of the type of the disease is at hand. It has been found that apparently reliable information of a differential character may be obtained by a rapid and simple method without undue delay. The procedure involves the direct exposure of chickens to the poisonous food.



Paralytic syndrome in fowl twenty-four hours after feeding 1 c.c. of suspected spinach liquor.

CHICKENS SUSCEPTIBLE TO B. BOTULINUS, TYPE A

Dickson of California has called attention to the fact that chickens are highly susceptible to botulinus toxin. Associated with a sporadic outbreak of human botulism, a paralytic syndrome in fowls was simultaneously observed following the consumption of a contaminated food that had produced illness in human beings. The results of experimental tests that we have conducted, wherein unfiltered toxic broth cultures of *B. botulinus,* Types A and B, were fed to separate groups of chickens, repeatedly suggest that these fowls are susceptible to Type A toxin, yet are highly refractory to Type B toxin. Furthermore, the result of bacteriologic studies of sporadic cases of so-called limber neck in poultry, unassociated with botulism in other species, suggest that *B. botulinus,* Type A, may be associated with avian botulism, exclusive of *B. botulinus,* Type B. In no instance have we encountered a Type B strain in avian botulism; and in repeated feeding exposure tests using different strains of *B. botulinus,* Type B, manifest symptoms of illness in chickens could not be induced. The toxigenicity of the Type B strains were established in guinea-pigs, wherein 0.000001 c.c. of some strains proved fatal to guinea-pigs of a given weight.

DIFFERENTIAL SUSCEPTIBILITY TEST

The practicability of employing chickens as a means of rapidly distinguishing between the Type A and Type B toxins in food has thus been suggested. In recent outbreaks of human botulism, the type of intoxication was sought in this method by us and accurately determined in less than twenty-four hours. From 1 to 5 c.c. of liquor from the suspected food was given to mature chickens, and from 25 to 50 gm. of the suspected food in solid form. Subsequent bacteriologic and immunologic tests verified the preliminary interpretation of the avian susceptibility tests.

Fortunately, chickens are available in practically every locality, and in sufficient numbers so that if the occasion demands varying amounts of the suspected food may be given to several birds. To expedite matters, the liquids or solids may be forced into the esophagi of the fowls, while they are restrained by an assistant. The positive value of the exposure test in chickens is limited to the recognition of Type A toxin which, if present, is manifest in a general paresis and coma in a few hours. If the birds remain healthy after receiving poisonous food, the intoxication may be a Type B, though this must be confirmed by bacteriologic and immunologic tests. Other possibilities would obviously not be eliminated in negative exposure results.

Occasionally the refuse of the kitchen, including the suspected food, has been discarded and specimens are not available. Careful inquiry in such instances might be made as to whether a general paresis may have occurred sporadically in the chickens, since it is com-

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mon practice to feed garbage to fowls. Characteristic illness and death of exposed birds are highly suggestive and, so far as we are able to determine, constitute reliable evidence of a Type A botulinus intoxication.

GROWTH OF INFLUENZA BACILLI WITHOUT BLOOD *

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Influenza bacilli have been accepted generally as being hemoglobinophilic or hemophilic in spite of a great deal of work which has been done to show that they are not. Grassberger,[1] and Ghon and von Preyss [2] were unable to grow them on mediums containing hematin instead of hemoglobin except in symbiosis with other bacteria. Davis [3] considered hemoglobin essential for their growth. Fleming [4] offered proof which seriously interferes with the hemoglobinophilic claims for these bacilli by securing a growth on agar to which had been added a small amount of fluid obtained in treating blood with an equal quantity of normal sulphuric acid and then neutralizing it with normal sodium hydroxid. Fildes [5] considered two factors necessary for the growth of these organisms, both of which are in blood, but neither is hemoglobin in the form of hemoglobin. Thjotta and Avery [6] have found two substances essential. Both are in blood. One resists excessive heating, the other does not. The latter substance was found also in various bacteria and vegetables. Rivers and Poole [7] were able to grow influenza bacilli on 2 per cent. peptone water or agar to which were added an autoclaved extract of blood clot and a yeast extract sterilized through a Mandler filter. They concluded that two factors were necessary for the growth of these bacilli, one autoclave stable, the other autoclave labile.

As far as is known, no one, except possibly Thjotta and Avery, has been able to grow influenza bacilli in the total absence of blood. Even Neisser [8] and others who grew them on nutrient or meat-infusion agar in symbiosis with other bacteria, and Thjotta and Avery, who grew them on "blood-free broth" plus boiled slime from Friedländer's bacilli, have failed to show absolutely that they are not hemophilic, because enough of the heat-stable substance from blood might have been present in certain lots of meat extract and meat infusion to support growth when the heat-labile factor was furnished by symbiotic bacteria or their extracts. Thjotta and Avery did not state how their blood-free broth was made, and the foregoing statement does not apply to their work if they did not use meat extract or meat infusion in the preparation of their broth.

Since the autoclave-labile substance has been found in bacteria and vegetables, a search was made for the heat-stable factor outside blood. Egg, at the suggestion of Dr. John Howland, was used first. Fresh eggs without any evidence of embryos were always used. Egg infusion broth made as stated below has been found to support the growth of influenza bacilli for many generations. Into 250 c.c. of 2 per cent. peptone (Fairchild's) water, p_H 7.6, three eggs were stirred, boiled one minute, filtered through cotton, and autoclaved in 100 c.c. quantities for fifteen minutes under 15 pounds of pressure. When this came out of the autoclave there was a large amount of a fluffy precipitate present which was allowed to remain because, if it was filtered out, growth was not supported for many generations. To each hundred cubic centimeters of the autoclaved egg infusion broth were added from 10 to 20 c.c. of a filter-sterilized years extract, and this mixture was tubed in 10 c.c. quantities under sterile conditions. The medium was incubated forty-eight hours before it was used to be sure of its sterility. The first inoculation was made with a loop of influenza bacilli from a blood agar slant. Subsequent transplants were made daily with a pipet, 0.5 c.c. of the culture being carried over each time. A heavy growth was obtained for the first two or three generations, and then only a light one for eight, ten, and fifteen generations. The cultures were plated on blood agar frequently and were always found pure, yielding from 100 to 300 colonies from each loop. The culture is still being carried on in this medium. Several lots of egg infusion broth have been used in this work. The strain of *B. influenzae* with which these experiments have been made was isolated by the New York Board of Health and has been in this laboratory for a year. Its cultural characteristics are known, and it can be identified absolutely by a homologous immune serum.

Peptone was the only possible substance in this medium that might have contained blood derivatives. As most peptones are made from meat or blood, it was presumed that Fairchild's was no exception. As controls, however, 2 per cent. peptone water, 2 per cent. peptone water plus filter-sterilized yeast extract, and egg infusion broth autoclaved and filtered till absolutely clear plus filter-sterilized yeast extract were used, and with these mediums no growth of influenza bacilli was secured, or for only one or two transplants. Growth for as many generations as desired, even though it was a light one, was obtained only on the egg infusion broth made as described above, which contained a great deal of precipitate in the bottom of the tubes.

The precipitate is apparently one of the important factors in the medium. It is part of the egg not removed in boiling and filtering, and should take up at least half the space occupied by the whole medium. If a large coagulum is present when the flasks are removed from the autoclave, this should be broken up by shaking into a fluffy mass of small particles which settles to the bottom, leaving a practically clear supernatant fluid. It is not always easy to make the medium as desired, and sometimes several attempts are necessary before a satisfactory one is obtained.

If, as some [5] think, iron is one of the essential factors for the growth of influenza bacilli, it may be that the hematogen described by Bunge [9] in eggs furnishes the iron in the necessary form. The factors, however, essential for the growth of influenza bacilli have not been isolated in this laboratory. The study of these will have to be made by well trained chemists. It has been shown [7] that there are probably two factors necessary for these organisms. While both of these occur in

* From the Department of Pathology and Bacteriology, the Johns Hopkins University.

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blood, they may be found in other substances, for example, the autoclave-stable factor in eggs, the autoclave-labile one in yeast. It seems that the hemophilic or hemoglobinophilic claims for influenza bacilli will be discontinued in the future.

NOTE.—Since this article was sent in for publication the author has been able to grow influenza bacilli in a medium which contained no peptone. The avoidance of peptone excludes the possibility of the introduction of blood derivatives from that source. The following is the composition of the medium which has been substituted for peptone water in this work:

	Gm. or C.c.
Glycerin	30
Sodium chlorid	5
Calcium chlorid	0.1
Magnesium sulphate	0.2
Dibasic postassium phosphate	2.0
Ammonium lactate	12.0
Asparagin	0.5
Tryptophan	2.5
Distilled water	1,000

Medium titrated to p_H 7.4 and autoclaved in 100 c.c. quantities. Eggs and yeast extract added as desired.

DIAPHRAGMATIC SPASMS IN ANIMALS PRODUCED WITH A STREPTOCOCCUS FROM EPIDEMIC HICCUP

PRELIMINARY REPORT *

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The etiology of epidemic hiccup is obscure. Its occurrence at times in epidemic proportions suggests a microbic origin. Epidemiologic and clinical facts suggest that the cause of the condition is similar to the cause of epidemic encephalitis. Hiccup frequently occurs in cases of epidemic encephalitis. The two diseases occur simultaneously in many localities and over widespread areas of population.[1] Epidemic encephalitis has occurred in persons who have had recent attacks of uncontrollable hiccup, as well as after prolonged contact with patients with epidemic hiccup.[2]

Mindful of the extreme specificity of bacteria isolated from various foci of infection in other diseases I have studied, I thought that such areas might harbor the etiologic agent of epidemic hiccup. Three patients with prolonged uncontrollable hiccup have been studied from this standpoint. The material was obtained on the second day of a three day attack from the first patient; from the second, on the seventh day of a recurrence three weeks after an initial attack lasting ten days; from the third, on the fifth day of an attack of seven days' duration. These patients were well otherwise, and all recovered.

The tonsils appeared normal on inspection, but a considerable amount of pus was expressed from each, and a suspension of the pus obtained was made in 2 c.c. of salt solution. Washings from the nasopharynx, and suspensions of pus from pyorrhea pockets were also studied. From these suspensions blood-agar plate and glucose-brain broth cultures were made. Animals were inoculated directly with the suspensions in salt solution, and with the cultures in glucose-brain broth. From 0.2 to 0.01 c.c. of the salt solution suspension, and from 0.2 to 0.0001 c.c. of the culture in glucose-brain broth were injected intracerebrally into rabbits and monkeys.

After a period of incubation lasting from one to seven days, depending largely on the size of the dose and the virulence of the strain, a remarkable train of symptoms developed, in which rhythmic clonic spasms of the diaphragm were the striking feature (Fig. 1). The spasms of the diaphragm varied greatly in severity and duration. In some animals the spasms were mild and were noted for short periods at one or more intervals only, and recovery was the rule. In others they were intense, associated with hiccup, and continued with little interruption for many hours, often to the point of complete exhaustion of the animals. The spasms were temporarily controlled by the administration of ether; they were controlled for some hours by depressants of the respiratory center, such as heroin and morphin, and for short intervals by uniform, quite firm pressure around the abdomen at the level of the diaphragm. All the animals in which the spasms became marked died. Spasms of the diaphragm were produced in rabbits, monkeys, dogs and guinea-pigs.

The intracerebral injections were the most successful, although spasms of the diaphragm occurred following intravenous and intratracheal injections, and following packing of the nose with gauze soaked in the cultures, and the introduction of the organism into teeth from which the pulp was removed. Control experiments with material from similar sources were negative.

The gross lesions found at necropsy were relatively slight. The spinal fluid was usually clear or only moderately turbid, and was increased in amount. The mononuclear cells usually predominated. The vessels of the meninges were congested. The pia over the base of the brain, pons, medulla, and more rarely over the cerebellum, was edematous and slightly cloudy. Usually no gross hemorrhages were found in brain or cord. Occasionally, circumscribed areas of hemorrhage and infiltration were found in the cortex, especially in the lower rolandic area, in the medulla, and in the cervical cord at the point of exit of the anterior roots of the upper cervical nerves. There was seldom any mark at the point of injection in the right frontal lobe. Suppurative meningitis was rare. No lesions were found in the phrenic nerves, and only occasionally hemorrhages in the diaphragm. The microscopic findings in the main consisted of circumscribed areas of hemorrhage, necrosis, and leukocytic and round cell infiltrations, usually surrounding blood vessels; the type of lesion varied according to the duration of the experiment, although round cell infiltration usually predominated, even in the experiments of short duration (Figs. 2, 3 and 4). The lesions were most marked in the basal ganglions, in the walls of the ventricles (Fig. 2), and in the gray matter of the cortex and medulla. Bacteria were easily demonstrable in the more acute lesions, but in the more chronic lesions they were fewer and could be found only after prolonged search. In animals that had recovered and were chloroformed, and in those that died late, it was often impossible to demonstrate the bacteria in the areas of round cell perivascular infiltration.

The organism isolated from the brain and spinal fluid of the animals that developed hiccup following injec-

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* From the Division of Experimental Bacteriology, the Mayo Foundation.

1. Lhermitte, J.: Le hoquet épidémique; forme singultueuse de l'encéphalite épidémique, Presse méd. **28**: 916-919, 1920.

2. Netter, A.: Origine commune du hoquet épidémique et de l'encéphalite lethargique: relations chronologiques; successior de ces manifestations chez le meme sujet ou chez deux personnes en rapport entre elles, Bull. et mém. Soc. méd. d. hôp. de Paris **37**: 46-48, 1921. Rivet, L., and Lipschitz: Un cas de hoquet épidémique suivi d'encéphalite léthargique, Bull. et. mém. Soc. méd. d. hôp. de Paris **37**: 8-11, 1921.

tions of material from each of the three patients was a gram-positive, nonencapsulated diplococcus, which produced small, nonadherent greenish colonies on blood-agar plates, and short chains in liquid mediums. The freshly isolated cultures, especially those from the first patient, tended to produce, on lightly seeded plates, rather large, slightly elevated, often umbilicated, colonies. The growth in glucose-brain broth and ascites-glucose broth was rapid and diffuse. Diplococci predominated in the tissues (Fig. 5), although short chains of from two to four diplococci were found. In young aerobic cultures the organism was quite uniform in size and shape, resembling nonencapsulated pneumococci. In ascites tissue fluid it grew more slowly and varied greatly in size and shape, resembling the streptococcus from poliomyelitis. The strain from the second patient fermented inulin and was bile soluble; the strains from the other two did not ferment inulin and were not bile soluble. Cultures from the blood and other tissues were usually sterile or contained few bacteria as compared with the brain and cord. The freshly isolated strains from the first and third patients were agglutinated by an antistreptococcus serum prepared with a similar streptococcus isolated from a patient with lethargic encephalitis, but none were agglutinated by antihemolytic streptococcus serum, by the anti-

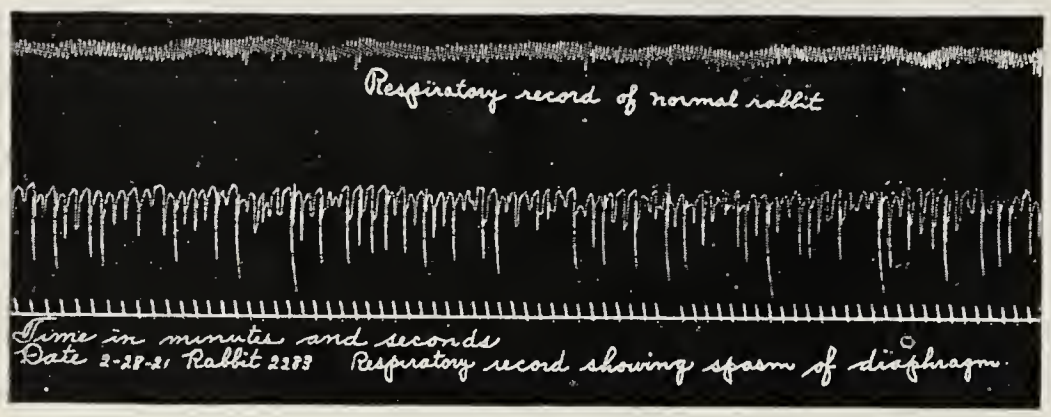


Fig. 1.—Respiratory record of Rabbit 2283, showing spasms of the diaphragm, and respiratory record of a normal rabbit.

streptococcus serum prepared from one strain of the green-producing streptococcus found so commonly in influenza, or by the type pneumococcus serum.

Filtrates of the nasopharyngeal washings, of suspensions from the pus from tonsils and teeth of the patients, of emulsions of brain and cord from animals that died with typical symptoms, and of cultures which proved sterile by cultural methods, gave negative results following intracerebral inoculation.

Aerobic cultivation on blood-agar destroyed promptly the specificity of the strains, but by making frequent transfers into tall tubes of warmed glucose-brain broth, from four to six times in each twenty-four hours, specific agglutinating and infecting power was preserved for many generations. Thus, the strain from the first patient produced typical symptoms and lesions in a series of animals in the seventh, thirty-third, thirty-seventh and fiftieth culture generations, while in the seventy-third generation, suppurative meningitis developed instead.

The close relationship between epidemic hiccup and epidemic lethargic encephalitis, noted clinically, was suggested not only by the similarity of these strains to those I have isolated in encephalitis,[3] but also by the results in the animal experiments. It was noted that after several animal passages fewer animals developed hiccup, and a larger proportion developed lethargic and other symptoms of encephalitis.

PROTOCOLS ILLUSTRATING IN GENERAL THE RESULTS OBTAINED

Experiment 1.—Rabbit 2283, weighing 1,380 gm., was injected intracerebrally, Feb. 22, 1921, with 0.1 c.c. of the salt solution suspension of the pus expressed from the tonsil of the first patient studied. The rabbit appeared well until February 27, when it was unusually quiet, disinclined to move, and was somewhat shaky when made to hop around. February 28, at 8 a. m., it was found lying on its side, and having repeated sudden spasms of the diaphragm of varying intensity. The interval between the spasms varied from one to four seconds (Fig. 1). With each of the more severe spasms, audible hiccup and clonic spasms of the muscles of the extremities and, at times, of the neck occurred. When the animal was lifted to a new position, or was turned to the opposite side and attempted to get on its feet, more generalized clonic spasms occurred. After it became quiet, the spasms of the diaphragm recurred. For long intervals these spasms were unassociated with spasms of other muscles, although occasionally clonic spasms of the muscles of the extremities were noted. The animal was etherized at 5 p. m.

The cerebrospinal fluid was slightly turbid and increased in amount. The meninges were moderately congested; several areas of edema containing small, punctate hemorrhages over the left lower rolandic area, and small hemorrhages in the cervical cord opposite the anterior roots of the third and fourth cervical nerves on both sides were found. There were no lesions in the phrenic or vagus nerves, or in the diaphragm. Sections of the brain and medulla showed circumscribed, usually perivascular, areas of necrosis, and leukocytic and round cell infiltration.

The cultures from the brain and cerebrospinal fluid contained large numbers of colonies of slightly green-producing streptococcus; those from the liver contained a few, while those from the blood, kidney and spleen were negative.

Experiment 2.—Rabbit 2341, weighing 710 gm., was injected intracerebrally, March 8, 1921, with 0.0001 c.c. of a three hour culture of the organism isolated from Rabbit 2283 in the thirty-seventh culture generation. The animal remained well until March 12, when it was unusually quiet and disinclined to hop around. March 13, at 7 a. m., it sat about quietly, disinclined to move, and appeared uncomfortable; its fur was ruffled. At noon the animal was about the same, although it had become somewhat shaky and tremulous. At 2 p. m. it was found sitting in the cage, having repeated clonic spasms of the diaphragm, which it seemed to try to control by assuming various positions, such as stretching out its extremities and lying flat on its abdomen, and getting up and sitting in a humped position. At 4:30 p. m. it was found lying on its side in a relaxed condition, having repeated rhythmic sharp spasms of the diaphragm, in which audible hiccup occurred with the more severe spasms. At 5 p. m. it was found dead.

The cerebrospinal fluid was slightly turbid and increased in amount. There was no mark at the point of injection. The meninges were clear. A few small, punctate, subpial hemorrhages over the cortex in the lower half of the right rolandic area, and hemorrhagic edema in the cord opposite the roots of the third, fourth and fifth cervical nerves were found. There were no lesions in the phrenic or vagus nerves, or in the diaphragm. Sections of the brain and medulla showed circumscribed and perivascular round cell infiltration (Figs. 2 and 4).

The cultures from the brain and spinal fluid yielded a large number of colonies of green-producing streptococcus, and the blood yielded a few colonies.

Experiment 3.—Rabbit 2346, weighing 2,000 gm., was injected, March 10, 1921, intracerebrally with 1.5 c.c. of the filtrate of the brain emulsion of two monkeys that developed

3. Rosenow, E. C.: To be published.

hiccup following intracerebral inoculations with the strain from Rabbit 2283 after thirty-seven subcultures. The cultures in glucose-brain broth from this filtrate yielded the streptococcus.

The rabbit was well until the evening of the day after the injection, when it appeared drowsy, responded slowly to stimuli, and rested its nose on the floor of the cage, in apparent sleep. At 10 p. m. the drowsiness and tardy response to stimuli had increased. Respirations were slow, and the ears were held erect. March 12, at 7:30 a. m., the animal was found sitting quietly in the cage, apparently sound asleep. It was aroused with difficulty, but when thoroughly aroused it hopped around, but went directly back into apparent deep sleep.

At noon the animal was about the same, and could be placed in different positions with little or no resistance. It was photographed, apparently asleep, in a sitting position, lying on its side, and on its back with the extremities extended in the air. While being photographed it awakened sufficiently to lick its paws, and wash its nose and mouth, which were wet from saliva. It refused to eat carrot which was held to its mouth, but if pieces of carrot were placed in its mouth it masticated slowly for a short time and then apparently forgot to swallow, and the pieces, partially masticated, were held in its mouth for a long time. The respirations were slow. There were occasional twitchings of the eyelids, but no other spasms. The tonus of the muscles of the extremities was not noticeably increased. At 3 p. m. the condition of the animal was quite unchanged. It responded slowly to stimuli, and when awakened it lifted its head, opened its eyes, and then again promptly fell asleep. After considerable effort it was aroused sufficiently to drink water and eat oats. It stopped eating and drinking repeatedly, apparently falling asleep, and when prodded it would again eat and drink. At 9 p. m. the animal was found in exactly the same position in which it was left in the afternoon, apparently sound asleep, with slow respirations, ears erect, and eyes half closed. At this time it ate with apparent relish several mouthfuls of ground carrot, but goading was necessary, as it would repeatedly stop, apparently forgetting to swallow. A curious phenomenon was noted at this time. If the carrot was brought to the animal's mouth from the left side it paid no attention, but if brought from the right side it would eat. This was associated with a slow turning of the head to the right, even to the point of losing its balance. March 13, at 7:30 a. m., it was found sitting quietly in the cage, apparently sound asleep. With some effort it could be aroused sufficiently to eat ground carrot, but it repeatedly fell asleep and more quickly than the previous day. Repeatedly during the day it was found in apparent deep sleep; with considerable effort and prodding it could be awakened sufficiently to eat ground carrot, but it was apparently unable to open its mouth sufficiently to bite the carrot because of rigidity of the muscles of the jaw.

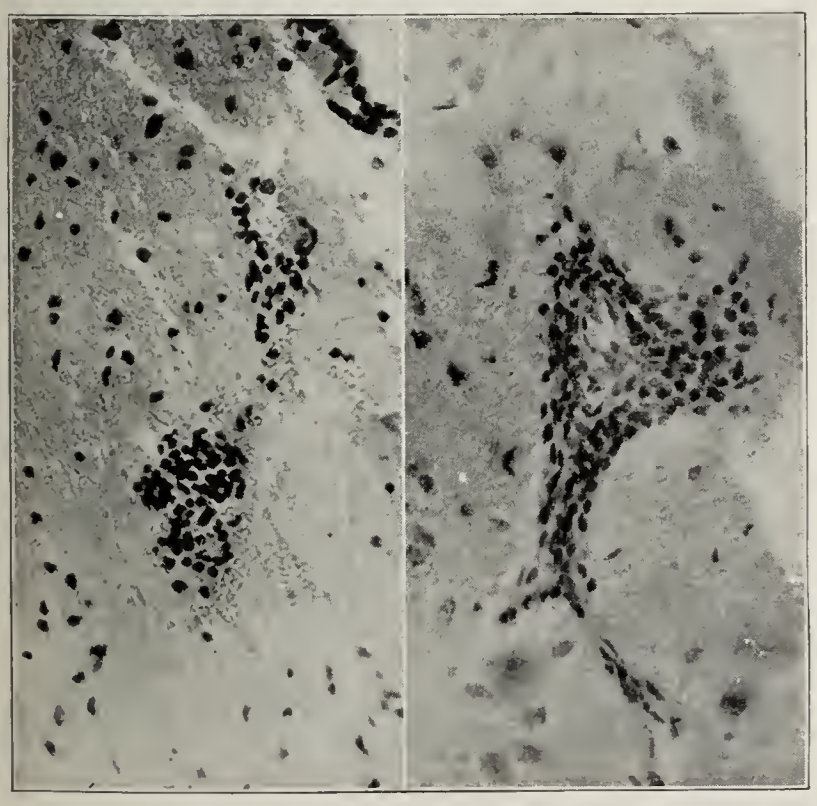


Fig. 2.—Circumscribed and perivascular round cell infiltration in brain of rabbit 2341 near the right lateral ventricle; hematoxylin and eosin (× 200).

Fig. 3.—Perivascular round cell infiltration in brain of Rabbit 2346; hematoxylin and eosin (× 200).

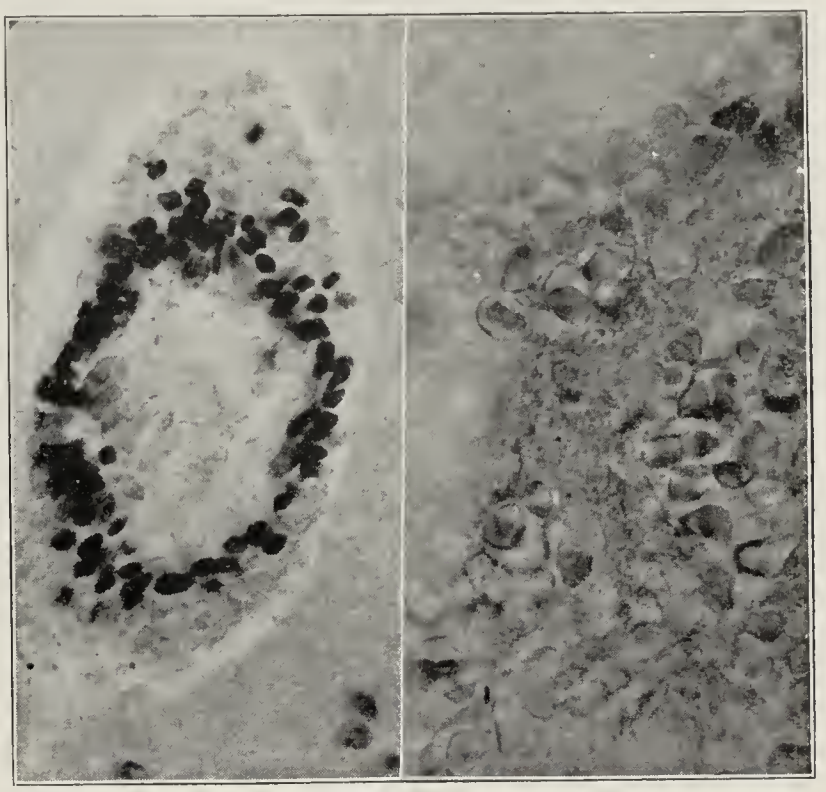


Fig. 4.—Adventitial round cell infiltration and perivascular hemorrhage in the base of the brain of Rabbit 2341; hematoxylin and eosin (× 500).

Fig. 5.—Diplococci in the area of perivascular hemorrhage shown in Figure 4; Gram-Weigert (× 1,000).

March 14, the animal was undoubtedly brighter. It took more notice of its surroundings, responded more quickly to stimuli, appeared hungry, and ate oats and ground carrot with a relish. Tremor of the muscles of the neck, and moderate ataxia became apparent as the animal hopped around. While eating, it still frequently forgot to masticate and swallow, and apparently fell asleep; but, when aroused, it would again eat. March 15, it was still quite sleepy, and distinct tremor of the head, repeated twitchings of the muscles of the upper part of the abdomen on the left side, and distinct ataxia were noted. It tended to lose its balance in reaching for the carrot on the side. During the following four days the animal apparently recovered completely and was chloroformed.

No gross lesions were found. The cerebrospinal fluid was increased in amount, but it was clear. Cultures from the brain, blood and spinal fluid were negative. Sections showed perivascular round cell infiltration in the base of the brain (Fig. 3), but no lesions in the cord.

Diagnosis But Not Treatment the Fad.—With the disappearance of the general practitioner, there seems to be growing up a passion for diagnosis to the exclusion of medical care and treatment, save in those conditions for which specific remedies have been discovered. General medical care, the use of simple remedies, applications and devices which may mean so much to a suffering patient, are seemingly beneath the notice of the newer physicians. In other words, the doctor in the old meaning of the term is leaving the field which is being increasingly occupied by an army of quacks and charlatans under various meaningless titles; for the people will seek health and relief from pain and suffering, and if it is not forthcoming from sources which should produce it, they will inevitably fall into the hands of these ignorant and lying promisers who year by year bombard the legislature for recognition, and not securing it, continue to ply their trade with little let or hindrance.—M. Nicoll, Jr., *Health News* **15**:306 (Dec.) 1920.

Clinical Notes, Suggestions, and New Instruments

REPORT OF A CASE OF AMNIOTIC HERNIA

MAX THOREK, M.D., CHICAGO

Amniotic hernia is so rare in its occurrence that it behooves us to report every case that falls under our observation, with complete description of the findings, either clinical, operative or postmortem.



Infant with amniotic hernia.

The prognosis is obviously grave. With a fair development of the abdominal walls, with which we may reasonably hope to close the defect, immediate operation is indicated. After the distention of the bowels by food, and drying of the delicate membrane covering the hernia, operation may be indicated, but is necessarily less likely to be successful.

REPORT OF CASE

Mrs. F. W., aged 26, American, housewife, admitted, Jan. 3, 1921, a primipara, with no history of miscarriages, began to menstruate at 14. The flow lasted four days; it was regular, with a moderate amount of pain. The mother was in good health; the father was dead, the cause of death not known; one brother and two sisters were healthy. The husband was in good health. The patient was referred by Dr. P. Matthei.

Delivery of a boy occurred, Jan. 5, 1921. Position was left occipito-anterior, and labor was normal. The child, which weighed 8 pounds at birth, was of apparently normal development with the exception of a large hernial protrusion from the umbilical region. The covering of the hernia was sufficiently transparent to permit inspection of the contents, and consisted of amnion, Wharton's jelly and peritoneum. The accompanying illustration shows the hernial mass retracted upward and laterally. The infant died on the day following birth.

Necropsy was performed twelve hours after death, by Dr. Meta Franke.

The body weighed 8 pounds and was 50 cm. long. The skin was cyanotic. The sexual organs were normal. From the anterior abdominal wall arose a hernial sac 19 cm. in the longitudinal axis, 11 cm. in the transverse and 12 cm. in the anteroposterior diameter. The normal skin extended up on the wall of the sac from 1 to 2 cm. The remainder of the surface of the sac was covered by a yellowish, glistening membrane. Intestinal coils and dense structures suggesting liver could be seen through the walls of the sac. The opening into the hernia from the abdomen extended from the apex of the ensiform cartilage to a short distance below the umbilicus. The stump of the cord was given off 6 cm. from the margin of the umbilical ring on the lower surface of the hernia. The wall of the sac was separated by an abundance of fluid (Wharton's jelly). The thorax and abdomen were long and narrow. With the removal of the anterior abdominal wall and the hernial sac, the latter was seen to contain the pyloric half of the stomach, the greater portion of the small intestine, the ascending, transverse and descending colon, the spleen and the entire liver. Meckel's diverticulum and the vermiform appendix were easily found. The intestine and other structures were adherent by plastic exudate, which was easily broken. The diaphragm was pulled downward and forward. The umbilical vein ran along the wall of the hernial sac anteriorly from the umbilicus to the liver. The kidneys and suprarenals were normal in size and location. The gastrointestinal tract, spleen, liver and pancreas were normally developed and bore their normal relationship to one another, but were displaced anteriorly by the influence of the hernia. It was not possible to replace the organs in the abdominal cavity, which was very narrow and seemed short by reason of the downward displacement of the diaphragm. The abdominal muscles were well developed, but were separated in the median line for a distance of 15 cm.

CONCLUSION

Amniotic hernia is due to adhesion between the amnion and the embryonic gut which prevents the recession of the intestine into the body cavity at the proper time.

30 North Michigan Avenue.

CASE OF DERODIDYMUS (DICEPHALUS)

W. M. BEACH, M.D., SHELTON, WASH.

Derodidymus is the term applied to a monster having two heads, two necks, a single body, and usually two lower and two upper extremities, although there may be additional members, more or less rudimentary in development.

One of the first cases of derodidymus reported was by Peu in 1674. Two midwives having failed to effect delivery, he performed version and delivered the child.



Fig. 1.—Appearance of derodidymus.

Boerstler's case occurred in 1882. The woman was a nonipara.[1] Delivery was accomplished without great difficulty, because the smaller head was resting on the neck and cheek, up to the malar bone, of the larger one. A third limb arose from the dorsum of the ilium. This monster survived five weeks. One head would nurse while the other was crying or

1. This specimen is in the Mutter Museum of Jefferson Medical College, Philadelphia.

sleeping. The third lower limb in this case really consisted of two united limbs.

Moore reported a case of a dicephalous monster causing distocia, a head descending. He applied forceps, but failed to deliver. Then recognizing that the difficulty was due to a



Fig. 2.—The two vertebral columns joining in the sacrum. What felt like a normal spinal column was the enlargement caused by the joining of the ribs.

second head, he performed version and effected delivery. The monster was 19½ inches long and weighed 8¾ pounds. King[2] reported a case of dicephalus in a primipara who had been in labor two days. One of the heads presented, but attempts to deliver with Simpson's axis-traction forceps having failed, the presenting head was removed and delivery effected by podalic version and extraction. This monster was 19 inches long and weighed 12 pounds. The mother died three hours after delivery.

Playfair and Veit each report two cases, in which decapitation was done, and then version.

REPORT OF AUTHOR'S CASE

My patient, a quintipara, was 29 years of age. Her children are all living. Labors were normal. When I was called to attend her the membranes had ruptured. Examination revealed a breech presentation—right buttocks, with the right leg flexed, the plantar surface of the right foot resting on the buttock. When sufficient dilation of the os had occurred, both feet were brought down and delivery was attempted, without avail. Bimanual examination disclosed the presence of two heads, which I regarded as locked twins. I endeavored to free the heads by manipulation, and felt that I had succeeded. Under complete chloroform anesthesia, I made traction, and after about three quarters of an hour of manipulating the child was delivered. It weighed 9 pounds, and was 20 inches long and 8½ inches across the shoulders. It was a well nourished and perfectly formed male child, with two heads, both of the same size—14½ inches in circumference. The main difficulty in the delivery of this monster was bringing down the first shoulder, which was followed by the heads. The left shoulder was delivered last by Playfair's method. The mother made an uneventful recovery. There were no lacerations.

Examination of this infant showed what apparently was a normal spinal column enlarged at about the seventh cervical vertebra and then becoming bifid. The roentgenogram shows two vertebral columns joining the one sacrum, and what seemed to be the central vertebral column is the enlargement caused by the joining of the ribs arising from the inner side of each true vertebral column. The supposed seventh cervical vertebra was the junction of the two inner clavicles, the one from the left being the only one to show in the roentgenogram.

This, I believe, is the only case of dicephalus on record that has been roentgenographed. Necropsy was refused.

2. King: Tr. Edinburgh Obst. Soc.

SPLINTERS OF GLASS IN THE FACE AND SKULL REVEALED BY THE ROENTGEN RAY

REPORT OF TWO CASES *

CHARLES G. SUTHERLAND, M.B. (TOR.), ROCHESTER, MINN.
Assistant in Roentgenology

CASE 1 (352100).—Mr. P. A., aged 45, a vaudeville artist, came to the clinic complaining of a chronic inflammatory condition of the right side of the face, difficulty in opening the mouth, and pain on movement of the jaw. About four weeks before, after a long period of intermittent hot applications, a discharge of bloody pus appeared at a point 2 cm. above and just anterior to the external ear. The patient could feel a sharp point in the opening. He had been in an automobile accident thirteen months before and was thrown against the windshield, his head passing through the glass. When he was freed from his position, wounds on the right and left sides of the face were bleeding profusely. He was taken to an emergency hospital where sixteen stitches were required to close a wound in the right external ear just posterior to the tragus. The

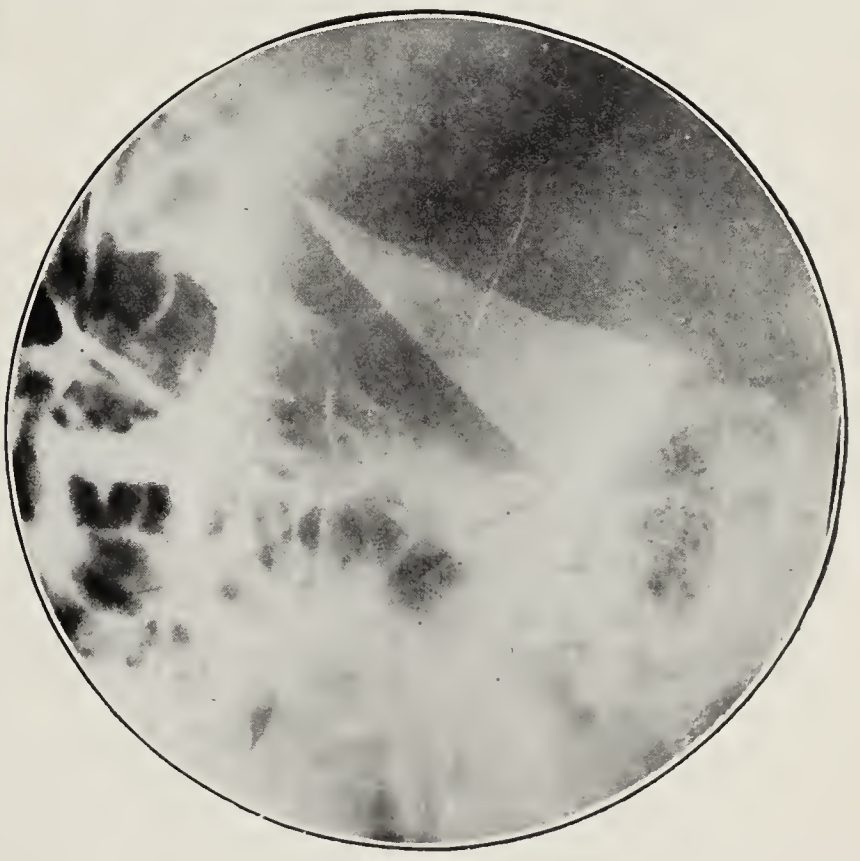


Fig. 1 (Case 1).—Glass splinter lying in the soft tissues under the skin.

wound healed by first intention and the stitches were removed by a physician in another city who examined the patient and made a diagnosis of fracture of the bones of the face. Five weeks later he commenced to have severe pain, some swelling of the tissues of the face, and difficulty in opening the mouth. He suffered almost continuously thereafter and consulted physicians in various cities, all of whom diagnosed fracture

* From the Section of Roentgenology, Mayo Clinic.

of the bones of the face or skull; but none had roentgen examinations made. He was forced to cancel several vaudeville engagements because of disability from pain and swelling of the face.

Examination at the clinic revealed a discharging sinus above and just anterior to the right external ear; a sharp corner of

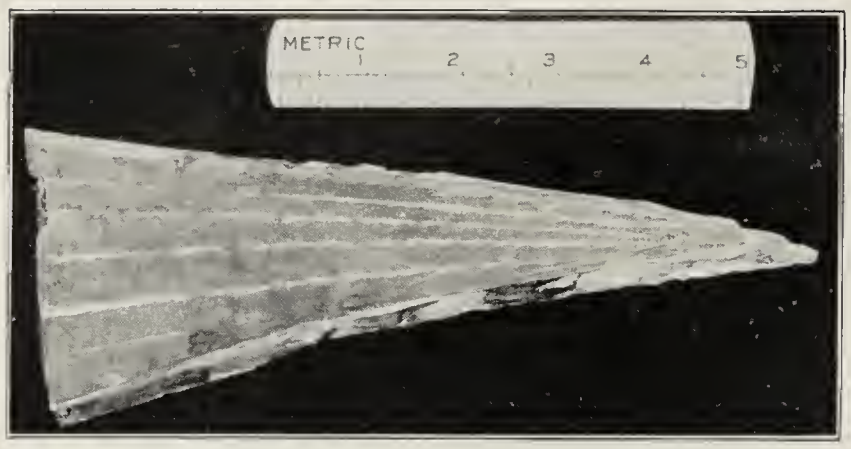


Fig. 2 (Case 1).—Specimen of glass after removal.

what was taken to be glass protruded from the mouth of the sinus.

The roentgenogram (Fig. 1) revealed a triangular, opaque shadow 8 cm. along the sides and 3.5 cm. across the base, the base running from the glenoid fossa upward and backward parallel with the outline of the pinna, and the apex reaching to a point 1 cm. above and 0.5 cm. behind the external angular process of the eye.

The patient was admitted to hospital and the glass removed under local anesthesia. The glass was 4 mm. thick (Fig. 2). Complete relief followed.

CASE 2 (248010).—Mr. G. G., had been in an automobile collision one month before coming to the clinic. A splinter of glass had been driven through the skull. The fragment entered at the inner margin of the right orbit, and apparently passed through the middle line and lodged against the occipital bone. Splinters of glass were removed from the right eye on the



Fig. 3 (Case 2).—Anteroposterior view of glass splinter within the skull.

eleventh day after the accident, and from the right cheek on the thirteenth day. At about this time an unsuccessful attempt was made to locate and remove the fragment of glass in the brain. The patient was brought to the clinic in a semicomatose state, with a moderate degree of paralysis of the right arm and leg, ptosis of the right eye, impairment of vision and disturbance of motion. Roentgenograms (Figs. 3 and 4) revealed a splinter of glass in the posterior portion of the skull, which in the anteroposterior view appeared to be in the middle line.

The patient's condition was such that further surgical interference offered no prospect of improvement, and he was taken to his home. Word was received of his death within a fortnight.

COMMENT

I have been unable to find any reference in the literature to the detection by the roentgen ray of glass in the tissues. Failure to demonstrate small bits of glass supposedly or actually embedded in the tissues is a common experience of roentgenologists, and success in these two cases was probably



Fig. 4 (Case 2).—Lateral view of glass splinter within the skull.

due to the thickness of the fragments. In any event, it is evident that the roentgenologic search for embedded glass is not always hopeless.

REPORT OF A CASE OF RUPTURE OF AN AORTIC ANEURYSM INTO THE SUPERIOR VENA CAVA

M. S. WIEN, M.D., AND W. C. EARLE, M.D., CHICAGO

History.—J. P., a white man, aged 52, single, laborer, of Irish descent, entered Cook County Hospital in the service of Dr. Joseph A. Capps, Dec. 8, 1920. His complaints were shortness of breath, marked swelling and cyanosis of his face and upper part of his body, and cough. The history, obtained from the patient, revealed that he had been well and strong and a hard laborer until about five and one-half weeks before entrance. At that time he gradually noticed over a period of ten days that he was a little short of breath and that his face and hands became a little blue on exertion; but there was no swelling. He went to bed one night, after a hard day's work, apparently in good health; but on arising the next morning he noticed marked shortness of breath, swelling and blueness of his face and upper portion of his body, and some discomfort in his chest. He was able to be up and about, but was unable to work. Exercise and lying down made the swelling worse, and sleep was difficult to obtain. The condition had been practically stationary since the onset. Attacks of dizziness and headaches, and cough, although present, had not been troublesome. The patient had been quite deaf for the last twenty years. He had never noticed any pain in the chest, palpitation of the heart, or swelling of the feet. There had been no difficulty in swallowing. The appetite was good. The patient had been a heavy drinker, and stated that he had a chancre fifteen years before. The history was otherwise negative.

Examination.—The patient was only fairly well developed; the great size of his head and the fulness of his face, neck and chest were out of all proportion to that of the lower part of his body (Fig. 1). The patient was very drowsy, but was easily aroused. Speech was difficult and thick; respirations

were noisy and of the Cheyne-Stokes type. The temperature on admission was 97, pulse 80, and respiration, 20. The blood pressure was: right arm: systolic, 126; diastolic, 40; left arm: systolic, 116; diastolic, 40, giving a difference of 10 mm. of mercury in the two pulse pressures. The skin of the upper portion of the body, including the face and arms, was bluish red, and there was marked edema of the subcutaneous tissues, almost closing the eyes. There was marked bulging of the neck, especially in the submaxillary region. The lips and mucous membrane of the mouth were cyanotic, and there was considerable edema of the pharyngeal wall. The edema and discoloration extended down over the chest, arms and hands, and there was pitting on pressure. It decreased as one passed downward, and was sharply marked off at the lower margin of the chest from the abdominal wall, which was very thin and devoid of fat. At this border there was a purple band about 4 inches wide, extending from one axilla to the other, made up of a network of small dilated veins. Extending downward from this region over the abdomen to the inguinal regions there were numerous markedly dilated veins, the blood flow in which was apparently downward to the groins. Numerous dilated veins were visible in the edematous skin extending upward. The right external jugular vein was prominent, and showed a pulsation synchronous with the cardiac systole. In no other veins could pulsation be seen. There was no edema of the lower extremities and no free fluid in the abdominal cavity. The liver and spleen were not palpable. The pupils were equal, regular and reacted to light and accommodation. The chest was symmetrical, and expansion was fair and equal. Resonance was normal throughout, and only a few coarse, moist râles could be heard over the left lower lung posteriorly.

Examination of the heart revealed the apex impulse in the sixth interspace 2 cm. to the left of the nipple line. The right heart border was 2 cm. to the right of the sternum, and the left heart border at the anterior axillary line. There was visible pulsation over the left border of the sternum at the costosternal junctions, and the mediastinal dulness was increased 3 cm. to the right in the first interspace and 4 cm. to the left in the first and second interspaces. The first sound of the heart was quite strong and distinct, and the second aortic sound was faint and muffled. A systolic murmur was heard over the sternum as far out as the right nipple line, loudest at the junction of the third and fourth ribs with the left border of the sternum, where it was of a loud, whirring character similar to that on the stroke of a water pump. It was loudest at the beginning of systole, fading gradually out and extending through diastole to the next systole. Over a small area over the left border of the sternum at the fourth interspace, a short diastolic murmur was heard.

There was a four plus Wassermann reaction. The red blood count was 3,680,000; the white blood count, 6,600; hemoglobin, 75 per cent.; color index, 1. The urine showed a trace of albumin, but no casts. Fluoroscopic and roentgenographic examination of the chest revealed an aorta that was dilated from three to five times its normal diameter, but no definite aneurysmal dilatation, and a very large heart mostly right auricle.

A clinical diagnosis of aortic regurgitation, aneurysm of the aorta and obstruction to the superior vena cava was made, the obstruction probably being due to rupture of the aneurysm into the superior vena cava.

Clinical Course.—The patient was permitted to be up and about, as he was most comfortable when sitting up, and after a night sitting up in a chair, the swelling of his face would decrease considerably. He was unable to lie down for any length of time, and his nights were generally very stormy. The course of the case was rather uneventful except for an occasional mild delirium, during which time the patient had to be watched. There was little that could be done for him, and he had no serious complaints. He frequently expressed the desire to go out and work. Signs of fluid in the right chest developed two weeks after entrance, and a thoracentesis revealed a straw colored clear fluid with a specific gravity of 1.010. Finally the patient became despondent at no signs of improvement and he became more irrational, and restraint was often necessary at night. He was up and about on the day before his death, which took place suddenly at 2:15 a. m., Jan. 17, 1921, six weeks after admittance to the hospital and eleven weeks after the onset of the symptoms.

Necropsy (performed by Dr. Fred Stangl).—The subcutaneous tissues of the upper portion of the body and face were markedly edematous. The vessels in the skin were enlarged and engorged with blood above the lower costal margin. When the chest was opened, the cardiac and aortic areas in front were found to be markedly widened, so that the greatest width at the apex was 18 cm. for the heart, and 12 cm. for the aorta. The pericardial sac contained a slight excess of clear fluid, and its surfaces were smooth. The right auricle rested closely against the diaphragm below and had for its upper margin a greatly dilated aneurysmal sac, which was 14 cm. in its vertical diameter, 10 cm. transversely

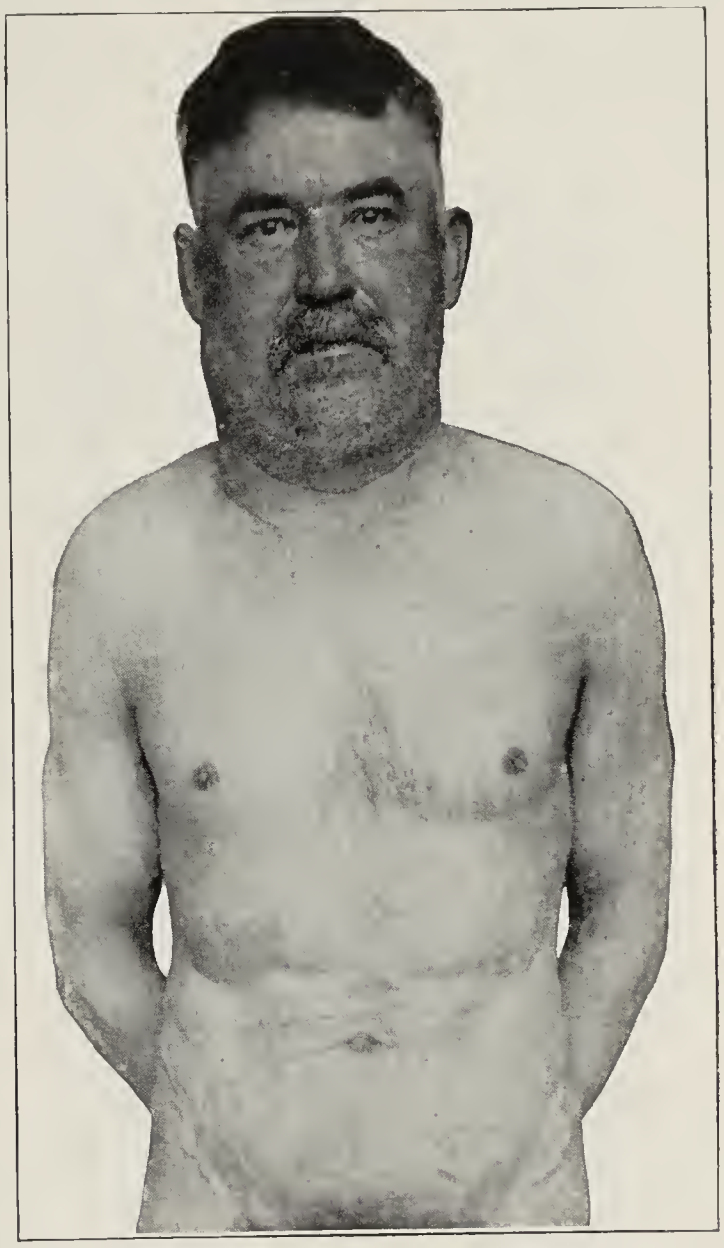


Fig. 1.—Appearance of patient, in whom were noted edema, disproportion between face, neck, chest and the rest of the body, and the presence of varices on the abdominal wall.

and 10 cm. anteroposteriorly. The coronary veins and sinus and the azygos vein were engorged and distended with blood. The superior vena cava was markedly compressed, beginning at the right auricle and extending up for 10 cm.; and in this area its walls were thin and adherent to that of the aneurysmal sac. Its greatest circumference was 6 cm., whereas that of the inferior vena cava was 9 cm. In this narrow portion and about 4 cm. from the opening into the right auricle there was an oval opening about 5 mm. in diameter between the superior vena cava and the aneurysmal sac (Fig. 2). Its margins were covered with grayish pink fibrin masses. The lining of the aorta was rough, and the thoracic portion was covered with yellow to gray plaques, surrounding which were numerous linear and puckered scars. The elasticity was greatly decreased, and the greatest circumference was 8 cm. The beginning of the aorta from the aortic valve to the transverse arch was involved in an aneurysmal sac whose wall was thinned to from 1 to 2 mm. The cavity of the sac

readily admitted a gloved fist and communicated with the left ventricle below, with the transverse arch in its right upper portion and with the superior vena cava through its posterior wall. Its diameter was from 10 to 12 cm. in all directions. The wall of the left ventricle was 19 mm. thick, and that of the right, 4 mm. The empty heart and aorta weighed 725 gm. Fluid flowed freely from the pleural cavities. The right lung was collapsed and airless, with marked compression atelectasis. The left lung crepitated throughout, but was boggy in its lower portions. The examination was otherwise negative.

COMMENT

The diagnosis was suggested soon after the history and a few essential points in the examination of the patient were determined. As previously reported by Pepper and Griffith,[1] and epitomized by them, the diagnosis is based on the evidence obtained from the patient's history, in conjunction with the physical signs revealing aneurysm and indicating obstruction to the circulation of blood in the superior vena cava. The laboratory tests for syphilis and the roentgen-ray evidence of aortic aneurysm are valuable aids in making the correct diagnosis. Significant in the history is the sudden onset of distressing symptoms associated with the rupture of the aneurysm, followed by the signs of obstruction to the flow of blood in the vena cava. In this case, although there was practically complete obstruction to the vena cava there were no pressure symptoms due to obstruction of the trachea, bronchi or esophagus. The murmur heard extended through the entire cardiac cycle, being continuous, as is the case in those murmurs resulting from communication of an artery with a vein. The pulsation of the external jugular was also an important diagnostic point in this case. The onset in many of the cases reported has been during exercise or some physical exertion; but in this case the condition apparently developed during the patient's sleep and without much respiratory and cardiac disturbance. The case is reported to place on record another case of this type, since the condition is comparatively rare.

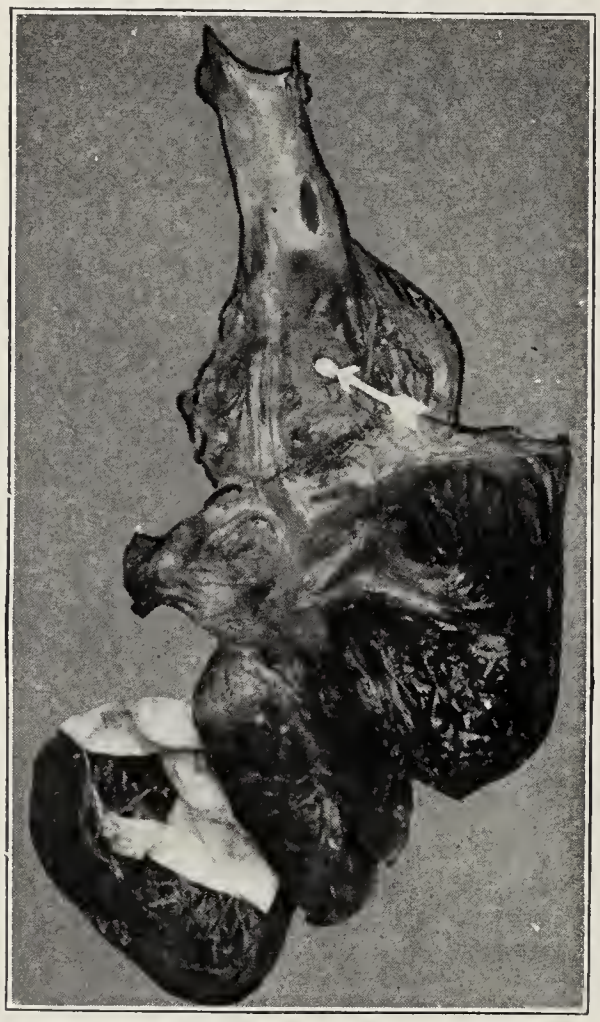


Fig. 2.—Perforation, as viewed from the vena cava.

3708 Lexington Street.

1. Pepper and Griffith: Tr. Assn. Am. Phys. **5**, 1890.

RHINOPLASTY TO REPLACE A NOSE BITTEN OFF BY A RAT

MOSES BEHREND, M.D., PHILADELPHIA

Recently there have appeared at intervals reports of cases in which rats have inflicted serious injuries on persons, some of whom have died from infection following the injury, while others who survived have been disfigured for life. The case here reported is interesting on account of the destruction of nearly half of the patient's nose and its restoration by means of several plastic operations.



A *B* *C*

Fig. 1.—*A*, appearance of child before operation; *B*, *C*, flap taken from forehead, turned and sutured to freshened surface of nose.



A *B* *C*

Fig. 2.—*A*, redundant flap separated and replaced on forehead; *B*, *C*, result; hump at tip of nose.

REPORT OF CASE

J. L., a boy, aged 7 months, was admitted to the Mount Sinai Hospital, Dec. 18, 1917. On account of the death of his mother, three months before admission, the baby had been neglected. On the day of the accident, neighbors, attracted by his cries, found a rat gnawing at his face. When first seen he presented a pitiable sight. There was a complete absence of a part of his nose, as well as numerous lacerations and scratch marks on both cheeks due to the clawing of the rat (Fig. 1 *A*).



A *B* *C*

Fig. 3.—*A*, *B*, result of third operation; *C*, present appearance of patient.

The first operation was performed, December 21. The Indian method was used, a flap being taken from the forehead,

turned and then sewed to the freshened surface of the nose. Figures 1 *B* and 1 *C* illustrate the full face views of the flap.

The second operation was performed, Jan. 24, 1918, when the redundant flap was separated and replaced on the forehead (Fig. 2 *A*).

Figures 2 *B* and 2 *C* show the result in different positions, with a rather marked "hump" at the tip of the nose.

We decided to perform another operation to remove this "hump," but the general condition of the child was so poor that we decided that a transfusion of blood was necessary. Accordingly this was performed by Dr. Harry Lowenberg through the anterior fontanel, after which there was marked improvement.

The third operation was not performed until June 19, because the general condition of the child did not warrant it. A wedge-shaped piece was then removed. The result is shown in Figures 3 *A* and 3 *B*.

The child is now 4 years old. Figure 3 *C* illustrates the condition of the nose at present. The scar on the forehead is becoming less prominent.

1427 North Broad Street.

A METHOD FOR OBTAINING STABLE SUSPENSIONS OF STREPTOCOCCI FOR AGGLUTINATION *

JOHN F. NORTON, PH.D., CHICAGO

The agglutination reaction has not been successfully utilized for the classification of organisms belonging to the *Streptococcus viridans* group. One of the factors which has prevented the application of this reaction—so important in connection with the differentiation of many bacterial species—is the tendency for suspensions to agglutinate spontaneously. The method described overcomes this difficulty, while at the same time giving no interference with serum agglutination.

The organisms are grown in veal infusion broth (1 per cent. bacteriologic peptone, 0.5 per cent. salt) of reaction p_H 7.6, to which is added, before sterilization, 2 per cent of dextrin. Just before inoculating the tubes, 3 drops of ascitic fluid water (1 part of ascitic fluid to 3 parts of distilled water, sterilized for three successive days in the Arnold sterilizer) are added aseptically to each tube. The broth tubes are inoculated from a twenty-four hour blood agar slant. After from eighteen to twenty-four hours' incubation the broth culture is filtered through cotton to remove any large clumps. The filters are easily made by drawing out a culture tube, inserting cotton in the funnel shaped constriction, plugging and sterilizing.

In making the various dilutions of immune serum for the agglutination test, as well as for diluting the suspension in case it is too heavy, 1 per cent. dextrin broth is used in place of the usual physiologic sodium chlorid solution. The mixture of diluted serum and suspension is incubated at 37 C. for one and a half hours before a reading is made. The tubes may be allowed to stand over night in the icebox after incubation, but no difference in final reading has been obtained by this procedure. The bacterial suspension controls are stable for at least twenty-four hours, as are also normal serum controls.

The problem of obtaining a stable suspension was one, first, of preventing the precipitation of a bacterial colloid and, secondly, of so adjusting the quantity of protective colloid used that there would be no interference with the action of the bacterial agglutinins. Dextrin has proved to be a satisfactory substance for this purpose. The presence of too much dextrin causes the formation of a precipitate when the broth is added to blood serum, whether normal or immune. The use of 1 per cent. dextrin broth for dilution avoids this. The junction of the ascitic fluid is to promote bacterial growth.

APPLICATION OF METHOD

The method is applicable to the agglutination reactions of the pneumococci and the hemolytic streptococci as well as of the green producing streptococci.

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* From the Department of Hygiene and Bacteriology of the University of Chicago.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

POLLEN ANTIGENS-LEDERLE.—Liquids obtained by extracting the dried pollen of plants with a liquid consisting of 67 per cent. glycerin and 33 per cent. saturated solution of sodium chloride.

Actions and Uses.—See general article, Pollen Extract Preparations (New and Nonofficial Remedies, 1921, p. 239).

Dosage.—See general article, Pollen Extract Preparations (New and Nonofficial Remedies, 1921, p. 240). Pollen antigens-Lederle are supplied in fifteen pollen unit strengths (one pollen unit represents 0.001 mg. of pollen). They are marketed in vials each containing 0.1 Cc., accompanied by vial containing 0.9 Cc. sterile distilled water with which the pollen antigen is diluted immediately before administraton. These doses are marketed as follows:

Series A: five vials containing for each consecutive dose (Nos. 1 to 5, inclusive) 1.5, 3, 6, 12 and 15 pollen units respectively, and five vials of sterile diluent with which to make the proper dilution of each dose.

Series B: five vials containing for each consecutive dose (Nos. 6 to 10, inclusive) 18, 30, 45, 60 and 90 pollen units respectively, and five vials of sterile diluent with which to make the proper dilution of each dose.

Series C: five vials containing for each consecutive dose (Nos. 11 to 15 inclusive) 150, 225, 300, 450 and 600 pollen units respectively, and five vials of sterile diluent with which to make the proper dilution of each dose.

Complete Series: packages containing the 15 doses, described in Series A, B, and C.

Diagnostic Test: consisting of 0.01 Cc. of a dilution representing 60 pollen units. It may be used cutaneously or intradermally.

Manufactured by the Lederle Antitoxin Laboratories, New York. No U. S. patent or trademark.

Pollen Antigen-Lederle (Ragweed).—A liquid prepared by extracting the proteins from the pollen of the ragweed (*Ambrosia artemisiacfolia*).

Pollen Antigen-Lederle (Timothy).—A liquid prepared by extracting the proteins from the pollen of the timothy (*Phleum pratense*).

Pollen antigens-Lederle are prepared by grinding the dried pollen with glass dust in a mortar for 2.5 hours, using a diluent composed of 67 per cent. glycerin and 33 per cent. saturated sodium chloride solution to moisten the pollen. Then sufficient of the glycerin-sodium chloride solution is added so that the total volume is such that 1 Cc. is equivalent to approximately 14,000 pollen units, the pollen unit having been arbitrarily chosen as the equivalent of 0.001 mg. of pollen. This mixture is shaken for 30 minutes and then kept at 37 C. for 16 hours. It is then shaken for 1 hour, centrifugalized and passed through Bucknes and Berkefeld filters.

Pollen antigens-Lederle are standardized by the complement fixation method to determine the active antigenic power of its protein content. Immune serum is obtained from rabbits which have been immunized with a gradually increasing number of units of pollen. Using the same technic for complement fixation as that adopted by the Research Laboratories for the Department of Health, New York, one pollen unit is found to be equivalent approximately to 1-20 of a unit of antigen, taking a unit of antigen as the smallest amount that gives complete fixation in the hemolytic series.

PITUGLANDOL-ROCHE.—An aqueous solution containing the active constituents of the posterior lobe of the pituitary gland of cattle, free from preservatives. It is physiologically standardized on the isolated uterus of the virgin guinea-pig so that 1 Cc. corresponds in activity to 0.003 Gm. betaiminazolylethylamine hydrochloride.

Actions and Uses.—See general article, Pituitary Gland (New and Nonofficial Remedies, 1921, p. 219).

Dosage.—0.5 to 1 Cc. by deep intramuscular, subcutaneous or intravenous injection.

Manufactured by F. Hoffmann-LaRoche & Co., Ltd., Basle, Switzerland (The Hoffmann-LaRoche Chemical Works, New York, distributor). No U. S. patent or trademark.

Ampuls Pituglandol-Roche: each contains 1.1 Cc.

PROCEEDINGS OF THE BOSTON SESSION

MINUTES OF THE SEVENTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT BOSTON, JUNE 6-10, 1921

(*Continued from page 1684*)

HOUSE OF DELEGATES

Second Meeting—Tuesday Morning, June 7

The House of Delegates met at 9:30 a. m. and was called to order by the Speaker.

The Secretary announced a quorum present.

The minutes of the previous meeting were read and approved.

Supplementary Report of the Committee on Credentials

Dr. H. B. Gibby, Pennsylvania, Chairman, presented a supplementary report for this committee, stating that four additional delegates had registered, making a total of 101.

It was moved and seconded that the report be accepted. Carried.

Report of the Reference Committee on Medical Education and Hospitals

Dr. Joseph Rilus Eastman, Indiana, Chairman, presented the report of the Reference Committee on Medical Education, as follows:

The Reference Committee on Medical Education and Hospitals commends the report of the Council on Medical Education and Hospitals.

Your committee is in full agreement with the declaration that medical educational and hospital problems should be largely under control of the medical profession, and further agrees that the American Medical Association, with its county and state medical society units, is fully qualified and able in all respects to carry on those projects which are in the interest of the medical profession in its relation to public welfare.

We also subscribe to the expressed opinion that these organizations represent the medium from which should emanate an intelligent and energetic propaganda for the education of the people and the profession in medical matters.

We note that the Council reports that five states are registering unusually large numbers of graduates of low grade medical colleges or are granting physician's licenses to osteopaths. Your committtee has no remedial measure to suggest, but would earnestly recommend that the Council give this matter special study during the ensuing year and, if possible, make some constructive suggestions on this point in the next annual report.

Your committee endorses the stand taken by the Council with reference to the reorganization of the undergraduate medical curriculum to the end that the student can be trained primarily as a general practitioner and that all attempts to produce specialists during the undergraduate periods should be avoided.

We deplore with the Council that hospital facilities are so meager in some quarters, and would recommend as a trial method the proposed general establishment of medical laboratories or hospital plants where well qualified physicians would be eager and satisfied to work. This would result in the giving of better medical treatment to all classes, rich and poor, and would make rural practice more attractive to right thinking medical men.

Your committee believes that the whole subject of medical education has undergone and is undergoing such rapid changes that some of the innovations now before us should be considered in the light of experiments in education. This refers, among other things, to the mooted question of the full-time clinical professorship. Whether he is to be permanent in our medical schools depends on factors which cannot properly be estimated at the present time. We think that, in all fairness, funds in the same abundance as are at the disposal of full-time clinicians should be appropriated for the conduct of medical teaching by part-time professors, if the comparison between the new and the old methods of clinical teaching is to be just.

J. Rilus Eastman, Chairman,
J. F. Siler, Isaac A. Abt,
Grover W. Wende, John S. Helms.

At the conclusion of the report, Dr. Eastman moved its adoption, which was seconded by Dr. Emil Mayer, New York, and carried.

Report of the Reference Committee on Constitution and By-Laws

Dr. Rock Sleyster, Wisconsin, Chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

Your committee is not prepared to offer any definite recommendation on that portion of the report of the Judicial Council (The Journal, June 11, 1921, p. 1662) dealing with the change in number of the Board of Trustees and the formation of seven trustee districts. Your committee believes, however, that there is much to be said in favor of the plan and that it should receive careful consideration at this time, throughout the year and at next year's session of the House.

To bring the question before the House, we offer and introduce the following amendments to the Constitution:

1. That the word "seven" be substituted for the word "nine" in the last line of Section 1, Article 6 (page 3).

2. That Section 2 be amended to read as follows: "Section 2. These officers shall be elected annually and shall serve for one year except the Trustees, who shall be elected annually, each to serve seven years, or until their successors are elected and installed, except that at the annual session in 1922 there shall be elected one Trustee for a term of seven years; at the annual session in 1923 there shall be elected one Trustee for a term of seven years, one for five years and one for four years; and at the annual session in 1924 there shall be elected one Trustee for a term of seven years, one for two years and one for one year."

Your committee recommends that the subject of formation of seven trustee districts be referred back to the Judicial Council to give an opportunity for any further consideration deemed necessary or advisable, and that the Council be directed to report back on the subject to the next House for action at the time the Constitutional Amendments are considered.

Your committee further recommends that the Board of Trustees be directed to attend to any necessary changes in the Articles of Incorporation.

Referring to that portion of the Secretary's report appearing under the heading "Memorials and Opinions" (The Journal, June 11, p. 1656), your committee recommends that provision be made for the reference of such matters to the Council on Scientific Assembly.

To accomplish this, we recommend the amendment of Section 4, Chapter IX, of the By-Laws (see page 19) as follows: . . . the continuation of the first sentence on page 20 so it shall read: "(2) To pass upon questions of policy in relation to section work and to investigate and report on scientific questions either on its own initiative or when such questions are referred to it by the House of Delegates."

Your committee offers and introduces this amendment to the By-Laws for action at the next session of the House.

Rock Sleyster, Chairman,
William F. Bacon, B. L. Bryant,
E. A. Hines, N. J. Blackwood.

At the conclusion of the report, Dr. Sleyster moved its adoption, which was seconded by Dr. J. W. Bell, Minnesota, and carried.

Report of Reference Committee on Rules and Order of Business

Dr. S. W. Welch, Alabama, Chairman, presented the report of the Reference Committee on Rules and Order of Business, which was discussed, amended and adopted in the following form:

RULES FOR THE GUIDANCE OF THE COMMITTEE ON CREDENTIALS

1. Credentials shall be of two parts. The first part shall be sent to the office of the Secretary of the American Medical Association by the secretary of the constituent association, not later than seven days prior to the first day of the first meeting of the House of Delegates, and shall be a list of delegates and alternates for that association. The constituent associations shall designate an alternate for each delegate, who may take the pledge of the delegate when authorized to do so by said delegate in writing. In the absence of such authority, any alternate who has been duly chosen by the constituent association may be seated in place of any delegate who is unable to attend, provided he presents proper official authority from said association. A certificate signed by the President or Secretary of the constituent association shall be deemed legal authority.

4. No alternate may be seated unless his credentials meet the same requirements as designated for the delegate and he can show written evidence that he is empowered by his delegate to act for him, except as provided for in Section 1 as amended.

Suggestion for Creation of New Committee

The Secretary presented the following communication from Dr. J. O. DeCourcy, Illinois, which was referred to the Board of Trustees:

I would suggest that a committee be created whose duty it shall be to make special and careful inquiry as to the real value and practical utility to members of the Association and to their clientele, and to the Public Health Service, of all electrical instruments, lung motors, body braces, prepared foods, and any and all other articles and appliances that are now, or may hereafter be advertised in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from time to time. Let this, too, include all medical and therapeutic books that may be advertised in THE JOURNAL. I feel that there is a growing and present need in the Association for the work and sanction of such a committee.

This committee should, I think, be made permanent, and authorized to report to the Association at the annual meetings, and at stated times through THE JOURNAL, as conditions of growth along this line and necessity may require.

The work of such a scientific committee, say, of three members, would be a protection not only to the membership but to the public at large.

Resolution of National Dental Association

The Secretary presented the following resolutions, which were adopted unanimously by the House of Delegates of the National Dental Association at its meeting held in Boston in 1920, which were referred to the Council on Medical Education and Hospitals:

Resolved, That in the standardization of hospitals the personnel of the staff should include a competent dentist whose duties should include consultation with the attending physician and aid in diagnosis by locating the source of focal infection in the mouth; and be it

Resolved, That such dental member of the hospital staff should insist on thorough use of the roentgen ray for locating diseased teeth and pyorrhea pockets, and that he should be trained in the correct interpretation of dental roentgenograms and that the interpretation of such roentgenograms be made preferably by the dental member of the staff; and that such dental member should supervise the instruction to nurses in the preparation of patients' mouths for operations and in the general oral hygiene for patients; and that he take care of any dental operations; and that a dental engine and other necessary instruments and apparatus for emergecy operations of all kinds be provided. Be it further

Resolved, That it is the sense of this Association that the suggestions made and the policy outlined in these preambles and resolutions be adopted as the future policy of the Association; and that it be earnestly requested that hospital staffs be so constituted that the fullest cooperation may be had between the physicians and dentists in the diagnosis and treatment of cases.

ARTHUR E. SMITH, D.D.S., M.D., Chicago, Chairman
WILLIAM H. G. LOGAN, D.D.S., M.D., Chicago
C. EDMUND KELLS, D.D.S., New Orleans
C. R. LAWRENCE, D.D.S., Enid, Okla.

Report of Reference Committee on Reports of Officers

Dr. Frederic E. Sondern, New York, Chairman, presented the report of the Reference Committee on Reports of Officers, as follows:

Your committee has considered in detail the suggestions and recommendations contained in the communications from the various officers of the Association, and desires to report as follows:

ADDRESS OF DR. DWIGHT H. MURRAY, SPEAKER OF THE HOUSE OF DELEGATES

1. In brief, Dr. Murray recommends the establishment of means of communication between the medical profession and the general public concerning matters of medical interest, to promote a better understanding of the aims of the profession in the prevention and cure of disease, in the danger of irregular practitioners, and of ill-conceived medical laws. He proposes that this work shall be done, if possible, in conjunction with the U. S. Public Health Service, and with the public press; this, however, not to replace the formally suggested journal, the plans for which are still in the hands of the Board of Trustees. The President-Elect makes essentially the same plea in his address.

Your committee desires to express its approval of the proposed plan, with the belief that the expected results can be accomplished. It is also in favor of the cooperation with the U. S. Public Health Service in the publicity of matters which that body can advocate. As the U. S. Public Health Service is unable, and many of the newspapers are unwilling, to exploit subjects of controversy, such as certain proposed legislation, sectarianism in medicine and similar matters, we need for this purpose a public health journal of such attractiveness and merit that it will be salable to the public and able to hold its own on bookstands in competition with other educational periodicals.

[After reading the first section of the report, it was moved, seconded and carried that this section be referred to the Board of Trustees with the commendation of the House of Delegates.]

2. The suggestion that the delegates render a written report to the associations they represent, and their component bodies, is also endorsed in the belief that all possible means should be employed to harmonize the activities and create a better understanding between the constituent and component bodies of the national organization.

3. The recommendation that the standard section of the penal law relative to untrue and misleading advertisements now operative in twenty-three states should be urged for enactment in all other states is also approved, with the suggestion that the state associations concerned should be informed of this action by the proper official of this Association.

ADDRESS OF SURGEON-GENERAL BRAISTED, PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION

4. Your committee begs leave to commend the retiring President on his dignified and successful administration, characterized throughout by uniform harmony and good will. We congratulate him on the achievement of the Gorgas Memorial, a fitting honor to our illustrious ex-president. We believe we are able to assure him of his anticipated support by the members of the American Medical Association in his endeavor.

5. While his advocacy of the contemplated Department of Public Welfare had due consideration and the full sympathy of your committee, the specific report on this measure is the concern of the Reference Committee on Legislation and Political Action.

6. Relative to the closer association of the practice of medicine and pharmacy, and the proposed efforts to enhance the dignity of the latter calling, your committee is of the belief that this is a most important endeavor; that every effort should be made to develop pharmacy as a profession in contradistinction to the druggist, and recommends that this problem should be referred through the Board of Trustees to the Council on Pharmacy and Chemistry for study and suggested action.

7. President Braisted's report on his thorough inspection of the activities in the home office of the Association is noteworthy, and his sincere praise of all concerned in that efficient management must be a satisfaction to all members of the Association.

ADDRESS OF DR. HUBERT WORK, PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

8. The suggestion that this House set aside one-half day as an executive session for the consideration of new ideas is commended as being in keeping with modern democratic spirit, and its value is fully realized; but the recommendation is not considered necessary, as the House of Delegates now has the power not only to go into executive session but also into committee of the whole for the unrestricted discussion of any problems. In this way also the time and

limit of such session can be arranged by the majority to meet the particuar circumstances which arise.

9. The recommendation relative to reducing the number of Trustees and lengthening their terms was referred to the Judicial Council at the 1920 session of the House, and is now held for report by the Reference Committee on Amendments to Constitution and By-Laws.

10. The consideration of the privilege of the various sections each to nominate a member to the House for president of the Scientific Assembly would not seem to require a special enactment on the part of this House, as all the sections now have the right, and should use it in their direction as in the past through their respective representatives seated in the House of Delegates.

11. The subject of community graduate work, as detailed by the President-Elect, is one which has had the particular attention of two of the councils, and we can rely on their wisdom in meeting this need.

12. The reference to the need of full-time paid secretaries for state associations, as well as similar field secretaries for the national body, is fully approved and recommended; but your committee directs attention to the complex character of their work, and the great difficulty of securing a medical man of sufficient caliber and versatility to accomplish successfully the objects for which he is appointed.

13. Officially to seat all ex-presidents in the House of Delegates will require an amendment to the By-Laws.

14. The congressional bills relative to prenatal and maternity care, and the establishment of a Department of Welfare are doubtless in the hands of the Reference Committee on Legislation and Political Relations for consideration and report.

Respectfully submitted,

FREDERIC E. SONDERN, Chairman,
J. N. HALL, FRANKLIN E. MURPHY,
HOLMAN TAYLOR, J. F. BURNHAM.

On separate motions, which were duly seconded, Sections 2, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13 were adopted, while Section 3 was referred to the Council on Health and Public Instruction, and Section 14 was referred to the Reference Committee on Legislation and Public Relations.

Report of Reference Committee on Legislation and Public Relations

Dr. J. H. J. Upham, Ohio, Chairman, presented the report of the Reference Committee on Legislation and Political Relations, as follows:

The Reference Committee on Legislation and Public Relations makes a partial report as follows:

The resolution introduced by Dr. Wilmer Krusen, Pennsylvania, commending the work of the American committee for the devastated areas of France, is approved and we recommend its adoption.

The resolution of Dr. F. E. Sondern, New York, concerning universal military training, was carefully considered; and while the committee endorses the ideas expressed, it cannot find any concrete proposition to act on and therefore cannot make any definite recommendation.

The resolution of Dr. J. H. J. Upham, Ohio, concerning the recommendation for the removal of the special tax on ethyl alcohol, is recommended for approval.

The resolution of Dr. E. L. Hunt regarding Senate Bill 206 and House Bill 2193, containing a clause prohibiting the importation of opium or cocain except as prescribed by the Secretary of State, the Secretary of the Treasury and the Secretary of Commerce, was carefully considered; the committee feels that in view of the fact that a resolution recommending a survey looking toward determining the needs of the country in regard to narcotic drugs was adopted last year and that inasmuch as this survey has not been completed, therefore it would be inadvisable to attempt to limit the importation of such drugs for the present, and recommends the adoption of the resolution.

Concerning the following resolution of Dr. E. L. Hunt, New York:

Resolved, That the American Medical Association be urged to perfect a plan to facilitate the extension of interstate practice without the lowering of medical standards now existing in New York State,

the regulation of the practice of medicine, like the regulation of any other occupation, profession or trade for the public good, comes under the state police power. Interstate regulation can come about only through the voluntary cooperation of the various state boards. This, as is shown by the Reports of the Council on Medical Education, is becoming more general. Each year the American Medical Association has repeatedly expressed itself as in favor of reciprocity. Your committee, therefore, recommends that this resolution be tabled.

J. H. UPHAM, Chairman,
J. W. BELL, W. H. SEEMANN,
H. G. STETSON, S. E. LAMBERT.

On separate motions, which were duly seconded, the various sections of the report were adopted.

Dr. Upham moved the adoption of the report as a whole, which was seconded by Dr. W. H. Seemann, Louisiana, and carried.

Memorial to the President of the United States

Dr. Hubert Work, Colorado, President-Elect, presented the following memorial to the President of the United States, which on motion, duly seconded and carried, was referred to the Reference Committee on Legislation and Public Relations:

To the President of the United States—Greeting:

The American Medical Association through its executive body, the House of Delegates, desires to express its appreciation of your attitude toward public welfare, through educational advancement, public health, administration, social security, soldier rehabilitation, child protection and Americanization.

This body of 85,000 educated, trained and licensed practitioners of medicine desires respectfully to assure you of its loyal support of the general policy you have caused to be outlined for correlation of the activities of the aforementioned foundations of American safety and progress.

Various Resolutions

Dr. Hubert Work, Colorado, also presented the following resolution, which on motion, duly seconded and carried, was referred to the Board of Trustees:

Resolved, That the House of Delegates authorize the Trustees of the American Medical Association to set apart $100,000 for graduate teaching.

That foundations interested in medical progress be requested to supplement this fund with $100,000 for the same purpose.

That state medical societies be asked to contribute a sum of $50,000, prorated by per capita membership in the respective state societies, to be covered into a common fund for graduate teaching in states.

That this fund shall be employed, directed and administered by the Trustees of the American Medical Association, together with representatives of the foundations joining in it, through full-time paid executive secretaries of state medical societies.

Dr. D. E. Sullivan, New Hampshire, offered the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That the Medical Society of the State of New Hampshire is emphatically opposed to "State Medicine," and to any scheme for "Health Centers," "Group Medicine" and to "Diagnostic Clinics," either wholly or partly controlled, operated or subsidized by the state or national government; and that the delegate from this society to the American Medical Association be and is hereby instructed to present this resolution to the House of Delegates of the Americas Medical Association at its coming session in June and to use every possible means to secure its adoption.

Dr. W. S. Rankin, North Carolina, a member of the Council on Health and Public Instruction, was accorded the privileges of the floor to present the following resolution, which on motion, duly seconded and carried, was referred to the Reference Committee on Legislation and Public Relations:

RESOLUTION DEFINING THE MEANING OF THE TERM "STATE MEDICINE"

WHEREAS, The term "State Medicine" has a liberal meaning so general as to include public practice and policies, some of which are desirable and some of which are objectionable, and,

WHEREAS, The term "State Medicine" has been and is being used, frequently and extensively, with confused and without established meaning, and

WHEREAS, Such use of the term has resulted in and continues to produce much misunderstandings, controversy and antagonism both within the profession and between the profession and the public, now, therefore, be it

Resolved, By the House of Delegates of the Medical Association that to prevent further use of the term with resulting misunderstandings and controversy and to facilitate intelligent discussion and action, "State Medicine" be and is hereby defined as follows:

State Medicine is any practice or policy provided for in the legislative acts of a state which has to do with the prevention or treatment of disease, and among other requirements and provision includes:

1. Legislation that determines who shall be permitted and who shall not be permitted to treat disease and prescribe the conditions under which a person may practice medicine;

2. Legislation which provides institutional treatment and care for the delinquent, the defective and the diseased, including institutions for the feebleminded, the deaf and blind, the psychopathic and insane, and the tuberculous;

3. Legislation which provides for the education of the general public in matters of personal and public hygiene, giving them a higher appreciation of the value and use of medical science through printed matter, addresses, moving pictures, visiting nurses and other means of proved educational value;

4. Legislation which provides public laboratories for assisting the profession in the diagnosis of specimens, of pathologic material, and further assist the profession by providing and furnishing various biologic products of preventive and curative value;

5. Legislation which provides for sickness insurance, especially as practiced is England, and which provides for panels of physicians who are paid out of public funds, and at rates fixed by the state;

6. Legislation which provides for the reporting by physicians of births, deaths and communicable diseases, and prescribes measures for their control;

7. Legislation which provides for the physical examination of schoolchildren, for the purpose of finding those that suffer from common defect with the view of securing treatment of such defect, both in the interest of the individual child and in the interest of the classes in which he recites and retards;

8. Legislation which provides dispensaries for the examination and treatment of diseases of such prevalent and far-reaching effect on the public health as to constitute large and unnecessary handicaps to social progress, as, for example, dispensaries for venereal diseases, and trachoma and hookworm diseases in certain sections of the country.

Dr. Eden V. Delphey, New York, offered the following resolution, which was referred to the Reference Committee on Legislation and Political Relations:

Resolved, That the term "State Medicine" be defined by this Association as the practice of medicine by the state by physicians on a salary to the exclusion of all other and individual practice of medicine.

Dr. William Gerry Morgan, District of Columbia, presented a resolution from the District of Columbia, urging the establishment of a section on anesthesia, which was referred to the Reference Committee on Sections and Section Work.

Dr. Arthur T. McCormack, Kentucky, moved that, when the Reference Committee on Legislation and Public Relations made its report, the report be referred to the Committee of the Whole House, which shall consider it in executive session.

Seconded by Dr. E. Eliot Harris, New York.

Dr. James F. Rooney, New York, moved as an amendment that when the House adjourns, it adjourn to reconvene at 9:30 a. m., Thursday.

Seconded by Dr. Eden V. Delphey, New York.

The amendment was accepted, and the original motion as amended was put to a vote and carried.

Report of Reference Committee on Sections and Section Work

Dr. H. P. Linsz, West Virginia, Chairman, presented the report of the Reference Committee on Sections and Section Work, as follows:

Application has been made for the establishment of a section on anesthesia. The committee has reviewed carefully this question, and while it is in sympathy with the ambition and plans of those Fellows who wish to establish such a section, it has concluded that the recent recommendation of the Council on Scientific Assembly should be adopted. The committee feels that new sections should be established only after mature and long deliberation, and it regards as eminently wise the suggestion made by the Council that all Fellows who wish to establish a new section present their papers first through the Section on Miscellaneous Topics. From the character and number of papers thus presented, the need for such a section can be determined. The committee, therefore, recommends that no new section be created this year.

H. P. LINSZ, Chairman,
HOWARD FOX,
JAMES S. MCLESTER.

Dr. Linsz moved the adoption of the report, which was seconded by Dr. James S. McLester, Alabama, and carried.

The Secretary stated that the Judicial Council and other councils might have supplementary reports to make for the information of the House of Delegates, and suggested that authority be given him to transmit to the proper reference committees resolutions which might come to him from the sections without first presenting them to the House of Delegates. He suggested, further, that the councils of the Association be given an opportunity along with the Board of Trustees to make supplementary reports to the House of Delegates on Thursday afternoon.

Accordingly, Dr. W H. Seemann, Louisiana, moved that the suggestions and recommendations of the Secretary be carried into effect.

Seconded by Dr. C. Van Zwalenberg, California, and carried.

Dr. James F. Rooney, New York, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That the American Medical Association defines "State Medicine" to be any method providing for the practice of medicine under the direction, subsidy or control of the state or national government, excepting those functions having to do with preventive medicine and public health which do not involve the treatment of disease except that which is communicable.

On motion of Dr. J. W. Van Derslice, Illinois, which was duly seconded and carried, the House of Delegates then adjourned to meet at 9:30 a. m., Thursday, June 9.

Third Meeting—Thursday Morning, June 9

The House of Delegates met at 9:30 a. m. and was called to order by the Speaker.

The Secretary announced a quorum present.

Dr. H. B. Gibby, Pennsylvania, Chairman, presented a supplementary report for the Committee on Credentials, stating that 130 delegates had registered and were entitled to be seated.

As there was no objection, the report was accepted.

The minutes of the previous meeting were read, corrected and approved.

Dr. John E. Lane, Connecticut, rose to a question of personal privilege. He called attention to a circular criticizing Dr. Frank Billings which seems to have been generally distributed. As a member of the House of Delegates, he felt that the House should be made aware of the contents of this circular, and should seek the motive of its distribution and the identity of those who caused it to be printed and circulated. He asked that the Secretary read the circular.

The Secretary read the following:

DR. FRANK BILLINGS UNEQUIVOCALLY IN FAVOR OF COMPULSORY HEALTH INSURANCE AND HEALTH CENTERS AS EVIDENCED BY THE FOLLOWING:

In Vol. VII, No. 1, Page 54, March, 1917, of the *American Labor Legislation Review,* I find the following:

I am unequivocally in favor of compulsory insurance and the protection of maternity. That, I think, must be the attitude of any one who studies the question of illness in its relation to economic conditions. I am in favor of them, too, because our present method of managing the sick poor is about as bad as it can be. While we endeavor in every way to alleviate their sufferings and to put them back at work, our methods are loose. There is no unit of efficiency. The great number of hospitals and dispensaries which exist are said not to be enough, because they cannot take care of all the sick poor; and yet, from the standpoint of what would be necessary if we controlled the sources of disease, they are too many.

To my mind health insurance is going to be one of the best measures of preventive medicine. Under its stimulus the time will come when every community, to economize its taxes under this law, will see that there are practically no patients suffering from typhoid fever within its limits. We will have no smallpox; diphtheria will be diminished; everything known to be communicable will be diminished and many of the diseases incident to some confined, chronic affection will be removed. Such results will not be achieved except by some measure of state supervision, and I know of no state supervision which will equal state compulsory insurance.

I would like to have Dr. Lambert describe a little better the provisions for an inquisitorial body over all the health insurance work. You know, and I know, that we do not do our work well unless there is some incentive, something to make us do it properly, and so I think that in this bill there must be something of that kind.

Dr. Billings in THE JOURNAL A. M. A., Volume 76, No. 6, February 5, 1921, takes five pages to describe his latest panacea for all medical ills, namely, Health Centers. Health Centers are unquestionably the shortest route possible to "State Medicine." "State Medicine" is more detrimental to the interests of the profession than is Compulsory Health Insurance. Compulsory Health Insurance, State Medicine, Health

Centers have all been condemned by the New York State, Illinois State and several other state societies and are condemned universally by the medical profession.

After the Secretary had finished reading, Dr. Billings made the following statement:

Mr. Speaker and Members of the House of Delegates:

I shall not take much of your time, and shall endeavor to frame my words so that there will be no misunderstanding. I was apprised day before yesterday of the distribution of the circular which has just been read by the Secretary. The context of that circular is not given. The date is not given.

In 1916, Royal Meeker, Commissioner of Labor Statistics, called a conference in Washington to consider prenatal and maternity care and insurance matters. There were present at that conference many insurance men representative of the regular insurance companies of this country. There were others interested in child welfare. There were present those who were interested in industrial medicine, and the subject under discussion was not so much health insurance as it was the main subject that I have mentioned. My remarks are, I suppose, as published, from a stenographic report. I did not see them until they appeared in the *Journal* of the Illinois State Medical Society, quoted in an article written by Dr. E. H. Ochsner, of Chicago, in a personal attack made on me as a proponent of compulsory health insurance and of state medicine, in spite of the fact that it does not make any difference in the sentiments which were ascribed to me in 1916. Since that time, I have declared in published articles that compulsory health insurance was not applicable to the United States, and that I am opposed to it, and that state medicine as related to the treatment of disease I look on in the same way. Gentlemen, this is important to you. It has no effect on me as an individual excepting this: As a member of the House of Delegates, as a Trustee of the Association, I am charged with duplicity before the profession of this country. I am charged before you and before the profession with writing articles and working for the legal enactment of compulsory health insurance and of state medicine in this country while saying to you and to the profession that I am opposed to it.

You honored me in the past with the highest office in the gift of the Association. I was a member of this House for the succeeding eight years. Since then I have not been a member of the House except as a member of the Board of Trustees, to which body I was elected in 1918. To these offices I was elected without any request on my part. I have never come before the profession of the country or of organized medicine with the request that you support me in anything. You have honored me in the past without any particular influence being exerted on my part, and I have tried to render efficient service to the Association in the offices to which you elected me.

I leave it with you as to whether this is just treatment. Finally, I would ask that this circular and the authors of its circulation be brought to the bar of the House through the Judicial Council.

Dr. Arthur T. McCormack, Kentucky, moved that the House express its confidence in Dr. Frank Billings, Chicago, and that the matter be referred to the Judicial Council with power to act.

Seconded by Dr. J. Q. Myers, North Carolina, and unanimously carried.

Supplementary Report of Board of Trustees

Dr. A. R. Mitchell, Nebraska, Chairman, presented a supplementary report for the Board of Trustees, as follows:

In this supplementary report of the Board of Trustees, and relative to the recommendation of the Speaker of the House of Delegates, which is in keeping with like recommendations from the delegation of Ohio, and from other sources in regard to the publication of a health journal, which will be the vehicle of a better understanding of the aims of the profession in the prevention and cure of disease, in the better understanding of the solution of the problems relating to danger of irregular practitioners, of ill conceived medical laws, and finally as a means of education of the public working in conjunction with the United States Public Health Service and the public press, we desire to say that the matter of the publication of such a journal has been under consideration by the board for two or more years.

The present facilities for press-work at the headquarters of the Association are so fully occupied in the publications already undertaken that in the opinion of the board it is practically impossible at the present time to publish any additional special journal. With the erection of a new building, which this House has approved, and which we hope may be accomplished within a year, the press facilities will then be so increased that the Association may undertake the publication of an up-to-date public health journal as well as other special journals which many of the profession desire.

Relative to the resolution presented from Dr. J. O. De Courcy, Illinois, in which it is suggested that a committee be created whose duty it shall be to make special and careful inquiry as to the real value and practical utility of all electrical instruments, lung motors, body braces, prepared foods, and any and all other articles and appliances that are now and may be hereafter advertised in THE JOURNAL, and the resolution requesting that this committee also include in its work all medical and therapeutic books that may be advertised in THE JOURNAL: The board desires the House to know that the work of the proposed committee is already undertaken by the Council on Pharmacy and Chemistry, and by other committees of the Association, and it is the opinion of the board that the appoinmtent of the committee suggested would be superfluous and unnecessary.

Dr. H. P. Linsz, West Virginia, moved the adoption of the report, which was seconded by Dr. S. L. Baysinger, Missouri, and carried.

Supplementary Report of Judicial Council

Dr. M. L. Harris, Illinois, Chairman, presented a supplementary report for the Judicial Council. He stated that the Judicial Council had had referred to it an application from the Alaskan Territorial Medical Association praying that it be constituted a constituent association of the American Medical Association. This application had been filed in proper form, was accompanied by a copy of the by-laws which had been adopted by the Alaskan Territorial Medical Association, which by-laws conformed to the standard form of by-laws for constituent associations and adopted by the American Medical Association. It was also accompanied by a certified oath of allegiance to the American Medical Association and the principles of the American Medical Association as determined by the Constitution and By-Laws.

The Judicial Council therefore recommends that the Alaskan Territorial Medical Association be received and made a constituent association of the American Medical Association.

Dr. Cornelius Van Zwalenburg, California, moved the adoption of the report, and that the Alaskan Territorial Medical Association be made a constituent association, which was seconded by Dr. W. H. Seemann, Louisiana, and carried.

Supplementary Report of Reference Committee on Constitution and By-Laws

Dr. Rock Sleyster, Wisconsin, Chairman, presented a supplementary report for the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

Your committee has given careful consideration to the subject of making Ex-Presidents of the Association ex-officio members of the House of Delegates, but without the right to vote. We favor this recognition of our Ex-Presidents and believe the House should have the benefit of their experienced judgment and advice in its deliberations. To accomplish this will require the introduction of an amendment to the Constitution which goes over for final action by next year's House.

The last sentence of Section 2, Article 5, of the Constitution reads:

> The Trustees shall be ex-officio members of the House of Delegates, but without the right to vote.

We offer and introduce the following amendment—that this sentence be changed to read:

> The Trustees and Ex-Presidents of the Association shall be ex-officio members of the House of Delegates, but without the right to vote.

At the second session of the House on Tuesday, referring to the report of the Secretary, your committee recommended

that provision be made for the reference of scientific questions to the Council on Scientific Assembly, and to accomplish this your committee recommended at that time an amendment to Section 4, Chapter 9 of the By-Laws, and it now moves the adoption of that amendment.

ROCK SLEYSTER, Chairman,
WILLIAM F. BACON, B. L. BRYANT,
E. A. HINES, N. J. BLACKWOOD.

After reading the report, Dr. Sleyster moved its adoption, which was seconded by Dr. Horace M. Brown, Wisconsin, and carried.

Supplementary Report of Reference Committee on Reports of Officers

Dr. Frederic E. Sondern, New York, Chairman, presented the following supplementary report of the Reference Committee on Reports of Officers.

Your committee desires to submit an additional report as follows:

Report of Alexander R. Craig, Secretary of the American Medical Association.

The Secretary reports the favorable showing of a net increase of 3,925 in the Fellowship of the Association, as compared with 1,633 in the previous year, which can be construed as an endorsement of the principles of the Association efficiently carried out by the officers you have elected for the purpose.

He records the death during the year of Dr. Isadore Dyer, vice president of the Association, and member of the Council on Medical Education and Hospitals.

The report directs attention to a postwar development of tendencies toward commercial ideals on the part of some physicians rather than strict adherence to the standards which this Association long ago nailed to the mast. If this is true, some doubt may exist whether it is correctly ascribed to a reaction from altruistic and patriotic motives existing during the war. The high cost of living, and a certain evolution affecting the practice of medicine, to say nothing of the attempted paternalistic activities supposedly aimed to improve the condition of the workman, have made the economic outlook, particularly of the rank and file physician, indistinct and beset with doubts and fears concerning his ability to continue to meet these future uncertain conditions. It is easily possible that his anxiety in this regard has been misconstrued as a change from altruistic to commercial ideals. It is difficult to believe that our profession with enviable tradition since the beginning should now be displaying evidences of degeneration when the rest of the world after considerable sacrifice is establishing loftier and more harmonious ideals. The basic principles on which this matter may rest to a large extent are having the attention of this House, and your committee relies on your wisdom for a satisfactory solution which will, we believe, also dispose of the subject-matter of this review in a like manner.

The Secretary's plea for closer coordination of the constituent bodies of this Association is one which deserves your earnest consideration in the interest of united effort for the best interests of public health and the profession. While automatic membership in the state society and in the American Medical Association of every physician admitted to the county society would be a long step in the direction of accomplishing this end, a greater development of the office of the Secretary of the American Medical Association as a clearing house for the interchange of plans to promote better understanding and the elaboration of effective measures is urged, so far as this work is not already embraced in the activities of the various councils.

The recommendation of efforts to create a better understanding between the medical profession and the general public is covered by a previous recommendation to you from this committee.

Your committee desires to commend the activities of the Secretary of the Association this year as in the past, and to advise the closest cooperation between his office and that of the secretary of every constituent state society.

REPORT OF THE BOARD OF TRUSTEES

To appreciate that the annual gross income of the Association was over $800,000 is to realize that your Board of Trustees conducts an enterprise of considerable magnitude. The fact that they have been able to render you the identical service of former years, at an advance of but 20 per cent. over your former dues, despite the enormous increase in the cost of labor and materials, demonstrates an unusually efficient organization of which they and their General Manager may justly be proud, and for which the Association should be correspondingly grateful.

The details concerning the various special journals and other publications issued by the Association are well worthy of your consideration; and while some of them are produced with financial loss, their beneficial influence is such that their continuation is strongly urged. It is suggested that the usefulness and high standard of these publications should be more frequently mentioned by the journals of state societies from which an increase in the subscription lists would result.

The usefulness of the Cooperative Medical Advertising Bureau evidently becomes greater from year to year, and it is commended as the best means of keeping the advertisements in the state journals on a common high plane. This bureau now represents all the state journals except one, and it seems unfortunate that a single exception should exist.

Relative to the plans of the board in the matter of the new building, it is the opinion of your committee that this matter is well placed in their hands and that their action will meet with full approval.

Your committee notes with satisfaction and pride the appointment by the Secretary of the Treasury of a member of our Board of Trustees to a position on the Board of Consultants on hospitalization of ex-service men.

The Propaganda Department has continued its efficient, useful work and again deserves your praise and support.

The noteworthy accomplishments of the Council on Pharmacy and Chemistry again earn for it your appreciation and commendation. Your committee notes with some alarm the existing dangers in the fields of biologic, endocrine and intravenous therapy, and would urge on the Trustees an investigation and report on these subjects by the Committee on Therapeutic Research. Attention is also directed to a resolution adopted at the New Orleans Session, that efforts should be made to limit the dispensing of endocrine substances to physician's prescriptions.

Your committee inadvertently overlooked the suggestion of the Speaker, that a committee consisting of the Surgeon-General of the U. S. Public Health Service, members of the Board of Trustees and of the House of Delegates should be appointed to perfect the plan of medical publicity as detailed in his report. Your committee approves this recommendation and urges its adoption.

Respectfully submitted,

FREDERIC E. SONDERN, Chairman,
J. N. HALL, FRANKLIN E. MURPHY,
HOLMAN TAYLOR, J. F. BURNHAM.

Dr. Sondern moved the adoption of the report, which was seconded by Dr. James F. Rooney, New York.

The Speaker called attention to the fact that the committee had not recommended in its report how the committee referred to in the last section of its report was to be appointed, and stated that if there was no objection he would refer this to the Board of Trustees.

The motion to adopt the report was then put and carried.

Report of Reference Committee on Miscellaneous Business

Dr. Southgate Leigh, Virginia, Chairman, presented the report of the Reference Committee on Miscellaneous Business, as follows:

The committee had before it a communication from Dr. F. E. Sondern, New York, relative to defense and indemnity insurance, in which it was suggested that other state associations follow the example of New York in providing indemnity as well as defense in malpractice suits.

Before recommending that the House of Delegates of the American Medical Association approve the principle and its favorable consideration to the constituent societies of the

Association, it is suggested that at least a year's time be allowed to observe the working of the plan in New York State.

A further recommendation of Dr. F. E. Sondern, New York, to the effect that it is desirable to secure increased efficiency in the consideration of legal liability of physicians, by coordination of effort and interchange of information on the part of the legal counsel of the various constituent societies, to the end that better understanding of the problems arising in the defense of physicians can be secured, your committee heartily commends this suggestion, and recommends that the matter be referred to the Judicial Council for further consideration and action.

SOUTHGATE LEIGH, Chairman,
WILLIAM GERRY MORGAN, R. L. GREEN,
BEN R. MCCLELLAN, A. W. HORNBOGEN.

The report was considered section by section.

Dr. Arthur T. McCormack, Kentucky, moved as an amendment to Section 1 of the report, that the Judicial Council investigate the feasibility of the American Medical Association organizing a national medical defense system so that the money that is now being paid by the profession can be properly divided among the members of the profession to whom it rightfully belongs.

The amendment was seconded, accepted, and the original motion as amended was put to a vote and carried.

Section 2 was read. Dr. Frederic E. Sondern, New York, stated that the same resolution had been referred to the Board of Trustees.

Accordingly, Dr. Leigh moved that this section be referred to the Board of Trustees, which was seconded and carried.

Dr. Leigh moved that the report, as amended, be adopted as a whole, which motion was seconded by Dr. J. W. Bell, Minnesota, and carried.

The Speaker called for the report of the Reference Committee on Hygiene and Public Health.

Dr. J. W. Schereschewsky, District of Columbia, Chairman, stated that the committee was not yet ready to report, and asked for further time, which was granted.

Dr. Arthur T. McCormack, Kentucky, asked unanimous consent, which was granted, and moved to change the order of business so that new business could be presented before the House goes into a Committee of the Whole to consider the report of the Reference Committee on Legislation and Public Relations.

Seconded and carried.

Dr. James A. Hayne, South Carolina, delegate from the Section on Preventive Medicine and Public Health, presented the following recommendation, which was adopted by this section and referred to the House of Delegates:

It is recommended that an executive secretary of the American Medical Association be directed to follow closely all legislation, both state and national, through an organization to be formed throughout each state.

The Speaker stated that this matter was already covered in the report of the Board of Trustees.

The section recommends to the House of Delegates that the name of the Section on Preventive Medicine and Public Health be changed to Preventive and Industrial Medicine and Public Health.

This recommendation was referred to the Council on Scientific Assembly.

The following resolution was presented:

Resolved, That the Section on Preventive Medicine and Public Health of the American Medical Association recommends to the House of Delegates that it ask the constituent associations to consider the advisability of such amendments to their By-Laws and to those of their component societies as will eliminate from membership any physician who wilfully fails or refuses to comply with local or state health laws, for the prevention of disease, including especially the provisions in such laws requiring the reporting of cases of communicable disease.

This resolution was referred to the Judicial Council.

The following resolution was presented:

WHEREAS, National health is the foundation of national prosperity and happiness, and

WHEREAS, The most important function of government is the protection and promotion of public health; therefore, be it

Resolved, By the House of Delegates of the American Medical Association, that the protection of the public health should not be submerged in a proposed Department of Public Welfare, but that a Department of Health with a secretary in the President's Cabinet be created.

This resolution was referred to the Board of Trustees.

Dr. Victor C. Vaughan, Michigan, Chairman, presented a delayed report from the Council on Health and Public Instruction, as follows:

WHEREAS, Reproach has been brought upon the medical profession by some of its members who have misused the law which permits the prescribing of alcohol, and

WHEREAS, A ruling of the Attorney General has led to the inference that beer is regarded by the medical profession as a therapeutic agent and that its use is demanded by the profession, therefore be it

Resolved, That the American Medical Association reiterates and reaffirms its judgment, expressed by vote of the House of Delegates in 1917, that alcohol as a beverage is detrimental to the human economy, and that its use as a food or in therapeutics as a tonic and stimulant has no scientific basis; and be it further

Resolved, That the American Medical Association now expresses its disapproval of the acceptance of a small minority of the profession of the position of being purveyors of alcoholic beverages.

Dr. Frederick C. Warnshuis, Michigan, moved the adoption of the resolution, which was seconded by Dr. S. L. Baysinger, Missouri.

After discussion by Dr. W. H. Seemann, Louisiana, Dr. James F. Rooney, New York, and Dr. A. T. McCormack, Kentucky, it was suggested that these resolutions be referred to the Council on Scientific Assembly for consideration and report at the next annual session. A motion so to refer was made, seconded and put to vote. The vote was a tie and the Speaker declared the motion carried.

Dr. Arthur T. McCormack, Kentucky, moved that the Council on Health and Public Instruction be instructed to report to the House of Delegates at this session a resolution stating the position of the profession on the prostitution of its privileges by certain of its members in the promiscuous and illegitimate prescribing of alcohol.

Seconded by Dr. James F. Rooney, New York, and carried.

The Speaker stated that according to a motion made at a previous meeting of the House, the report of the Reference Committee on Legislation and Public Relations was to be referred to a Committee of the Whole House which shall consider it in executive session.

Dr. Horace M. Brown, Wisconsin, moved that when the House goes into the Committee of the Whole, all debate be limited to five minute addresses by the individual delegates; no member to speak a second time until all who wish to speak have been heard, except by the permission of the committee.

Dr. W. H. Seemann, Louisiana, moved that the House now go into the Committee of the Whole to consider the report of the Reference Committee on Legislation and Public Relations.

Seconded and carried.

Whereon the Speaker appointed E. Eliot Harris, New York, Chairman, and the Secretary of the Association clerk of the committee.

The House then resolved itself into the Committee of the Whole.

The House of Delegates reconvened at 1:30 p. m., and the chairman of the Committee of the Whole said he was ready to report for the committee.

On motion, which was duly seconded and carried, the House of Delegates adjourned to meet at 2 p. m.

Fourth Meeting—Thursday Afternoon, June 9

The House of Delegates reconvened at 2 p. m., and was called to order by the Speaker.

The Secretary called the roll, and 130 delegates responded.

Dr. H. B. Gibby, Pennsylvania, chairman of the Committee on Credentials, moved that the roll as read constitute the roster of the House of Delegates for this annual session.

Seconded by Dr. Arthur T. McCormack, Kentucky, and carried.

The reading of the minutes of the previous meeting was dispensed with.

Election of Officers

The next order of business being the election of officers, Dr. John D. McLean, Pennsylvania, nominated Dr. George E. de Schweinitz, Pennsylvania, for President-Elect.

The nomination was seconded by Dr. James F. Rooney, New York; Dr. A. E. Bulson, Indiana; John G. South, Kentucky; Dr. Thomas C. Chalmers, New York; Dr. Henry P. Linsz, West Virginia; Dr. James W. May, Kansas; Dr. Charles J. Whalen, Illinois, and Dr. Lee M. Francis, delegate from the section of Ophthalmology, after which Dr. Arthur T. McCormack, Kentucky, moved that nominations be closed, that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. George E. de Schweinitz, and the Speaker declared him duly elected.

Dr. Arthur T. McCormack, Kentucky, moved that a committee of two be appointed to notify Dr. de Schweinitz of his election and to present him to the House of Delegates.

Seconded by Dr. Frederic E. Sondern, New York, and carried.

The Speaker appointed as this committee Dr. Lee M. Francis, New York, and Dr. John D. McLean, Pennsylvania.

Dr. Joseph Rilus Eastman, Indiana, nominated Dr. Frank B. Wynn, Indiana, for Vice President.

The nomination was seconded by Dr. W. D. Haines, Ohio; Dr. Joseph A. Pettit, Oregon.

Dr. Cornelius Van Zwalenburg, California, moved that nominations be closed, and that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. Wynn, who was declared duly elected.

Dr. James F. Rooney, New York, nominated Dr. Alexander R. Craig for Secretary.

The nomination was seconded by Dr. H. P. Linsz, West Virginia, and by Dr. William F. Bacon, Pennsylvania.

Dr. Bacon moved that nominations be closed.

Seconded and carried.

Dr. Arthur T. McCormack moved that the Speaker cast the ballot of the House.

Seconded and carried.

Accordingly, the Speaker cast the ballot and declared Dr. Craig elected.

Dr. Frank Billings, secretary for the Board of Trustees, for the Board nominated as Treasurer Dr. William Allen Pusey, Illinois.

Dr. Arthur T. McCormack, Kentucky, seconded the nomination, and moved that nominations be closed, and that the Secretary be instructed to cast the ballot of the House for Dr. Pusey.

Seconded and carried.

The Secretary cast the ballot, and Dr. Pusey was declared duly elected.

Dr. E. Eliot Harris, New York, nominated Dr. Dwight H. Murray, New York, as Speaker of the House of Delegates.

The Vice Speaker, Dr. F. C. Warnshuis, Michigan, took the chair.

The nomination was seconded by Dr. James A. Hayne, South Carolina; Dr. S. W. Welch, Alabama; Dr. J. Q. Myers, North Carolina; Dr. J. W. Bell, Minnesota, and Dr. Cornelius Van Zwalenburg, California.

Dr. Charles E. Humiston, Illinois, nominated Dr. M. L. Harris, Illinois, for Speaker.

This nomination was seconded by Dr. H. P. Beirne, Illinois, and Dr. E. R. LeCount, Section on Pathology and Physiology, Illinois.

Dr. R. L. Green, Illinois, moved that nominations be closed, and that the House proceed to ballot.

Seconded and carried.

There were 108 votes cast, of which Dr. Harris received 41, and Dr. Murray 67.

The Vice Speaker thereon declared Dr. Murray elected Speaker for the ensuing year.

The Speaker resumed the chair.

He thanked the members of the House of Delegates for their vote of confidence, and said he would try to do his best next year as he had tried to do this year.

The President-Elect was escorted to the platform and presented to the Speaker.

The Speaker then introduced Dr. de Schweinitz as the President-Elect of the American Medical Association.

Remarks by President-Elect de Schweinitz

Dr. de Schweinitz said:

Mr. Speaker and Members of the House of Delegates:

There is a story of the man in the far north of our country who, when a young man, was elected a member of the Council. Subsequently he was made mayor of the city. Then they ran him for governor of the state, and two old countrymen were discussing the situation. "George was all right as a member of the council," said one of the men. "Perhaps he was," replied the other, "but he spreads out pretty darn thin when it comes to running him for governor." (Laughter.)

Gentlemen, I have had some small jobs in my own city, but I think I spread out very thin when it comes to accepting the distinguished and honorable position to which you have by your grace elected me today. I fully realize that this body has not so much recognized what is the great joy of my life as it has recognized the fact that the Section on Ophthalmology from the early days, when separated into a section of its own, has endeavored to play the game well as it should do, to progress as it should progress, to keep up with the lines of progress as it should do; and in all honesty, I believe that on account of the splendid record made by the section to which I have the honor to belong, you have recognized it and have selected a member from this section to this very distinguished position. It is in that sense I accept the duties which shall fall on my shoulders, and I accept them in the hope that I shall do whatever I am called on to do in the light of one who not only works along special lines, but in the light of one who shall endeavor to improve his knowledge in regard to the great problems of medicine in all their relations—problems that have grown year by year so well and so sturdily. I think we must all believe that we who work should strive for the common good.

I have watched this great House of Delegates of the American Medical Association grow day by day and year by year, growing stronger and stronger as the representative body of the great temple of medicine, and those who have honesty in their hearts and honesty in purpose are striving, as I have tried to strive, to see this great American Medical Association rise to warm their souls at the fire of a common goal.

That I shall do the best that is in me to do, I need not prophesy. If you did not hope I would do that, you would not have put me where I am today, and so with the help of the great people who have been in similar positions, and with the help of you gentlemen and all of those who are so earnestly interested in everything that makes for the uplift of medicine, on that pledge I accept your distinguished gift. (Applause.)

Election of Officers, Continued

Dr. J. W. Wilson, Michigan, nominated Dr. Frederick C. Warnshuis, Michigan, as Vice Speaker of the House of Delegates.

The nomination was seconded by Dr. H. P. Beirne, Illinois; Dr. Arthur T. McCormack, Kentucky; Dr. H. P. Linsz, West Virginia; Dr. Joseph Rilus Eastman, Indiana, and Dr. Arthur J. Bedell, New York.

Dr. Bedell moved that nominations be closed.

Seconded and carried.

Dr. J. W. Van Derslice, Illinois, moved that the Secretary be instructed to cast the ballot of the House, which was seconded by Dr. Horace M. Brown, Wisconsin, and carried.

The Secretary cast the ballot for Dr. Warnshuis, who was declared duly elected Vice Speaker for the ensuing year.

Dr. Isaac A. Abt, delegate from the Section on Diseases of Children, nominated Dr. Frank Billings, Illinois, for Trustee to serve the term of three years.

The nomination was seconded by Dr. John Ridlon, delegate from the Section on Orthopedic Surgery; Dr. J. H. J. Upham, Ohio; Dr. Joseph S. Siler, U. S. Army; Dr. J. N. Hall, Colorado; Dr. James S. McLester, delegate from the Section on Practice of Medicine; Dr. C. R. Woodson, Missouri; Dr. Walter R. Steiner, Connecticut; Dr. Arthur T. McCormack, Kentucky; Dr. Joseph Rilus Eastman, Indiana; Dr. John E. Lane, Connecticut; Dr. James A. Hayne, delegate from the

Section on Preventive Medicine and Public Health; Dr. E. Eliot Harris, New York; Dr. Juan C. Nanagas, Philippine Islands; Dr. John P. Lord, Nebraska; Dr. J. Q. Myers, North Carolina; Dr. H. G. Stetson, Massachusetts; Dr. S. E. Lambert, Washington, and Dr. Southgate Leigh, Virginia.

Dr. Charles E. Humiston, Illinois, nominated Dr. J. W. Van Derslice, Illinois, for Trustee.

Dr. Van Derslice rose to a question of personal privilege and asked that Dr. Billings alone be considered in nomination and moved that nominations be closed, that the rules be suspended, and that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. Billings, who was declared duly elected.

Dr. C. E. Mongan, Massachusetts, nominated Dr. Frederic E. Sondern, New York, to succeed Dr. Wendell C. Phillips, New York, as Trustees for three years.

Dr. William F. Campbell, New York, nominated Dr. Wendell C. Phillips, New York, as Trustee to succeed himself.

The nomination of Dr. Sondern was seconded by Dr. Thomas C. Chalmers, New York; Dr. A. W. Hornbogen, Michigan; Dr. Charles J. Whalen, Illinois; Dr. Joseph A. Pettit, Oregon; Dr. James F. Rooney, New York; Dr. Arthur J. Bedell, New York; Dr. H. P. Beirne, Illinois; Dr. J. D. Brook, Michigan, and Dr. Edward Livingston Hunt, New York.

The nomination of Dr. Phillips was seconded by Dr. John E. Lane, Connecticut; Dr. Thomas H. Halsted, New York; Dr. Arthur T. McCormack, Kentucky; Dr. Grover Wende, New York; Dr. S. L. Baysinger, Missouri; Dr. Walter R. Steiner, Connecticut; Dr. R. E. Schlueter, Missouri; Dr. H. G. Stetson, Massachusetts, and Dr. E. Eliot Harris, New York.

Dr. Wilmer Krusen, Pennsylvania, moved that the House proceed to ballot, which was seconded by Dr. R. E. Schlueter, Missouri, and carried.

There were 111 votes cast, of which Dr. Phillips received 62, and Dr. Sondern 49.

Dr. Sondern moved that the election of Dr. Phillips be made unanimous.

Seconded and carried.

Dr. J. W. Bell, Minnesota, nominated Dr. Thomas McDavitt, Minnesota, as a Trustee for the term of three years to succeed himself.

The nomination was seconded by Dr. R. L. Green, Illinois; Dr. A. W. Hornbogen, Michigan; Dr. E. Eliot Harris, New York; Dr. D. E. Sullivan, New Hampshire, and Dr. U. D. Jones, Texas.

It was moved and seconded that the rules be suspended, and that the Secretary be instructed to cast the ballot of the House.

Seconded and carried.

The Secretary cast the ballot for Dr. McDavitt, who was declared duly elected.

The Speaker stated that the next in order was nominations for standing committees by the President and their confirmation by the House of Delegates.

President Work placed in nomination as a member of the Council on Health and Public Instruction Dr. Victor C. Vaughan, Michigan, to succeed himself, his term to end in 1926.

On the Council of Medical Education and Hospitals to succeed Dr. William D. Haggard, he nominated Dr. S. W. Welch, Alabama, whose term is to end in 1926; also to succeed Dr. M. W. Ireland, who was appointed ad interim, he nominated Surgeon-General Ireland to succeed himself for the term ending 1924.

As a member of the Council on Scientific Assembly to succeed Dr. John E. Lane, Connecticut, he nominated Dr. Lane to succeed himself, his term to end in 1926.

As a member of the Judicial Council to succeed Dr. H. A. Black, Colorado, who declined reappointment, he nominated Dr. J. N. Hall, Colorado.

On motion, duly seconded and carried, these nominations were confirmed by the House of Delegates.

President Work stated that it might develop a little later that he would be asked to name a committee to confer with the President of the United States on matters pertaining to public health. He was not prepared to do this at this time, but he asked the permission of the House to name a committee of five for a conference at the proper time, if requested to cooperate in this direction.

Dr. Arthur T. McCormack, Kentucky, moved that authority be granted President Work to appoint such a committee on conference with the President of the United States when it becomes necessary.

Seconded and carried.

The Secretary stated that he had received a communication from the Section on Obstetrics, Gynecology and Abdominal Surgery, requesting the election to honorary fellowship of Dr. W. Blair Bell, Liverpool, England.

On motion, which was duly seconded and carried, the Secretary was directed to cast the ballot of the House when the application is approved by the Council on Scientific Assembly.

The Secretary reported those recommended by the Section on Pharmacology and Therapeutics and by the Section on Pathology and Physiology for Associate Fellowship.

On motion, which was duly seconded and carried, the Secretary was directed to cast the ballot of the House in each instance in which the applicant is not objected to by the officers of the constituent association having jurisdiction where the applicant resides.

Place of 1922 Annual Session

The next order of business being the selection of place of next meeting, Dr. Frank Billings, secretary, presented the following supplementary report from the Board of Trustees:

The Board of Trustees has received invitations from a number of cities that the next Annual Session of this Association shall be held in these respective cities. The invitation from the Missouri State Medical Association and from the St. Louis City Medical Society, supplemented by invitations from civic bodies and civil officers, gives the most definite promises of support and cooperation in arranging for the 1922 Annual Session. Your Board of Trustees has in its possession written assurance that the Association will be in position to arrange for an Annual Session to be held in St. Louis in a manner which should be satisfactory to the officers of the Association and the Fellows of the Scientific Assembly.

In view of the foregoing, the Board of Trustees recommends that the House of Delegates select St. Louis as a place for the next Annual Session, and that the time for holding the Annual Session be left for the Board of Trustees to determine.

Dr. R. E. Schlueter, Missouri, moved that the recommendation of the Board of Trustees be adopted.

Seconded by Dr. C. R. Woodson, Missouri, and carried.

Supplementary Report of Judicial Council

The Secretary presented the following supplementary report from the Judicial Council:

The Judicial Council approves the application for Associate Fellowship in the Scientific Assembly submitted by Dr. Ross Bert Taylor, Timmins, Ont., Canada.

It was moved and seconded that the report be adopted and that Dr. Taylor be elected an Associate Fellow. Carried.

Dr. W. S. Rankin, North Carolina, at the request of Dr. Victor C. Vaughan, presented the following resolution:

WHEREAS, Reproach has been brought upon the medical profession by some of its members who have misused the law which permits the prescribing of alcohol, therefore, be it

Resolved, That the American Medical Association now expresses its disapproval of the acceptance by a small minority of the profession of the position of being purveyors of alcoholic beverages.

Dr. Arthur T. McCormack, Kentucky, moved the adoption of the resolution, which was seconded by Dr. S. W. Welch, Alabama, and carried.

Report of the Committee of the Whole

The Speaker called for the report of the Committee of the Whole.

The Chairman of the Committee of the Whole stated that the committee had deliberated on the questions submitted to

it, and the report would be presented by the Secretary of the Association, who acted as clerk of the committee.

The Committee of the Whole recommends that the House of Delegates adopt the supplementary report of the Committee on Legislation and Public Relations in the following amended form:

SUPPLEMENTARY REPORT OF THE COMMITTEE ON LEGISLATION AND PUBLIC RELATIONS AS AMENDED IN THE COMMITTEE OF THE WHOLE

The Committee on Legislation and Public Relations desires to heartily commend the Council on Health and Public Instruction for the breadth of scope and painstaking character of its work during the past year as shown by its report, and recommends the careful reading and study of the latter by the members of the House of Delegates.

The committee especially indorses certain specific recommendations of the Council as follows:

1. That the American Medical Association recommends that general hospitals in all parts of the United States should provide separate wards or separate rooms for the care of pulmonary tuberculosis patients, and that such patients be never denied admission, at least in emergency and for temporary periods, because of the character of the disease from which they are suffering. The committee believes that the passage of this recommendation will tend to assuage the public fears, as it is well established that properly conducted wards or hospitals for the tuberculous constitute no source of contagion even in thickly settled communities.

2. That the venereal disease control movement cannot reach full effectiveness without the intelligent and sympathetic cooperation of the medical profession, and that this cooperation should include the rapid extension of teaching facilities for the use of medical students whereby the knowledge of the medical, social and public health aspects of these diseases may be taught by actual clinical contact with patients in the clinic, under the direction of qualified teachers.

3. The committee commends the expression of opinion of the Council in regard to the desirability of the elementary teaching of the nature and transmission of communicable diseases in the public schools; that the teachers in our public schools should have the opportunity of knowing about the same by the requiring of a course in the transmission of disease in normal schools and in schools of education in our universities; it approves of the suggestion of the Council to foster the formation of special societies consisting of physicians and laymen interested in public health matters to study subjects of public health and sanitation; and, further, its efforts to improve the practice of medicine in rural communities, and recommends the continuance of the Council's work along these lines.

4. The committee approves of the request of the Council that, in view of the multiplication and activities of the various cults and sects of the present times, it be empowered to appoint a committee to study the entire question of sects in medicine and the proper attiutde which the American Medical Association should adopt regarding them.

5. In view of the frequently recurring antivaccination agitation, the Council has requested that it be authorized to appoint a committee to survey the entire subject of vaccination and to prepare suitable material for educating the public on this question.

This request is recommended for approval.

6. The Council has found that there are so many questions involving the organization of the public for health work that it desires to call a representative gathering in Chicago, to which shall be invited the general officers of the American Medical Association; the presidents and secretaries of the constituent state associations; the presidents and secretaries of county and local medical organizations; the presidents and secretaries of the various voluntary state and national public health organizations, and the health officers of the various states, members of the House of Delegates and others interested, for the discussion of the present situation with a view to formulating a plan for the organization of the public for health work.

The committee approves this report.

7. The committee commends the report of the Subcommittee on Health Problems in the Public Schools, and recommends the continuance of this committee.

8. Lastly, the committee commends the report of the Subcommittee on Narcotic Drugs and recommends its continuance.

MEMORIAL INTRODUCED BY PRESIDENT HUBERT WORK

To the President of the United States—Greeting.

The American Medical Association through its executive body, the House of Delegates, desires to express its appreciation of your general attitude toward Public Welfare and your evident desire to coordinate interrelated departmental activities and functions.

The House of Delegates pledges the support of the American Medical Association in working out the details looking toward the culmination of such worthy purposes as would increase the efficiency of public health measures and insure the wisest supervision under *medical* direction in those departments requiring medical knowledge.

The committee has very carefully considered the various resolutions offered in regard to the state's relation to medicine, including the resolution in response to the memorial offered by the State and Provincial Health authorities of North America, and the resolutions offered by the State Medical Societies of New York, Illinois, Michigan and New Hampshire, and by Dr. Rankin, as a supplementary report from the Council on Health and Public Instruction, by Dr. Delphey of New York, and by Dr. Rooney, defining state medicine, has given free hearing and careful attention to those interested, and has carefully considered same and begs to report as a substitute for all resolutions the following:

Resolved, By the House of Delegates of the American Medical Association that it approves and endorses all proper activities and policies of state and federal governments directed to the prevention of disease and the preservation of the public health.

J. H. J. UPHAM, Chairman,
JOHN W. BELL, S. E. LAMBERT,
H. G. STETSON, W. H. SEEMANN, Secretary.

At the conclusion of the report, Dr. E. Eliot Harris, New York, moved that the report as amended be adopted.

Seconded by Dr. Arthur T. McCormack, Kentucky, and carried.

Resolutions of Sympathy

The Secretary asked unanimous consent, which was granted, to present the following resolution:

Resolved, That the House of Delegates of the American Medical Association express their extreme sorrow and deep sympathy to the family and relatives at the untimely death of Col. Frederick W. Galbraith, Jr., and that we sympathize with the American Legion in the loss of so great a leader at a time when he is so much needed, and we desire that a copy of these resolutions be sent to his family and to the American Legion.

Dr. Arthur T. McCormack moved that the resolution be adopted by a rising vote.

Seconded and unanimously carried.

Thanks for Hospitality at Boston

Dr. Arthur T. McCormack, Kentucky, asked unanimous consent, which was granted, to present the following resolution of thanks:

Resolved, That the thanks of the American Medical Association be extended to the Massachusetts State Medical Society, the organized profession of Boston, to the Governor of the State, to the Mayor of Boston, and to the citizens of Boston, especially its ladies, for the cordial hospitality extended during this annual session; and also that our thanks be extended to the daily press of the city for the full and fair reports of its deliberations.

Seconded by Dr. Thomas C. Chalmers, New York, and carried.

Report of Committee on Reapportionment

Article 5, Section 3, of the Constitution provides: "The total voting membership of the House of Delegates shall not exceed 150. The medical departments of the Army and of the Navy, and the United States Public Health Service and the scientific sections shall each be entitled to one delegate, and the remainder shall be apportioned among the Con-

stituent Associations in proportion to their actual active membership. . . ."

There are fifteen sections in the Scientific Assembly, so that after providing for these and three medical departments of the Federal Government, there remain 132 delegates who may be apportioned to the Constituent Associations in proportion to their membership as recorded in the office of the Secretary of the Association on April 1, 1921. By making provision so that each Constituent Association shall be entitled to at least one delegate and by providing further that there shall be assigned to each Constituent Association a delegate for each 850 members or fraction thereof, there will be apportioned to the several Constituent Associations 130 delegates, making a total in accordance with the proposed apportionment of 148 voting delegates to be seated in the House during the sessions of 1922, 1923 and 1924.

The number of delegates to which each state is entitled in accordance with this ratio is shown in the accompanying table.

APPORTIONMENT OF DELEGATES

STATE	Membership of State Association, April 1, 1921	Present Apportionment	Apportionment Based on One Delegate to Every 850 and Fraction	Increase	Decrease
Alabama	1,664	3	2	..	1
Arizona	245	1	1	..	..
Arkansas	1,196	2	2	..	..
California	3,332	3	4	1	..
Colorado	858	2	2	..	..
Connecticut	1,018	2	2	..	..
Delaware	130	1	1	..	..
District of Columbia	567	1	1	..	..
Florida	578	1	1	..	..
Georgia	1,225	2	2	..	..
Idaho	225	1	1	..	..
Illinois	7,059	8	9	1	..
Indiana	2,277	3	3	..	..
Iowa	2,280	3	3	..	..
Kansas	1,586	3	2	..	1
Kentucky	2,130	3	3	..	..
Louisiana	1,082	2	2	..	..
Maine	669	1	1	..	..
Maryland	1,276	2	2	..	..
Massachusetts	4,028	5	5	..	..
Michigan	2,819	4	4	..	..
Minnesota	1,510	2	2	..	..
Mississippi	483	1	1	..	..
Missouri	3,386	5	4	..	1
Montana	382	1	1	..	..
Nebraska	1,186	2	2	..	..
Nevada	93	1	1	..	..
New Hampshire	522	1	1	..	..
New Jersey	1,821	3	3	..	..
New Mexico	273	1	1	..	..
New York	8,819	11	11	..	..
North Carolina	1,604	2	2	..	..
North Dakota	455	1	1	..	..
Ohio	4,558	6	6	..	..
Oklahoma	1,301	2	2	..	..
Oregon	616	1	1	..	..
Pennsylvania	7,392	9	9	..	..
Rhode Island	390	1	1	..	..
South Carolina	632	1	1	..	..
South Dakota	398	1	1	..	..
Tennessee	1,709	2	3	1	..
Texas	3,551	5	5	..	..
Utah	239	1	1	..	..
Vermont	380	1	1	..	..
Virginia	1,899	3	3	..	..
Washington	989	2	2	..	..
West Virginia	1,106	2	2	..	..
Wisconsin	1,952	3	3	..	..
Wyoming	98	1	1	..	..
Alaska	.....	0	1	1	..
Hawaii	81	1	1	..	..
Isthmian Canal Zone	74	1	1	..	..
Philippine Islands	158	1	1	..	..
Porto Rico	115	1	1	..	..
Government Services	.....	3	3	..	..
Sections	.....	15	15	..	..
Total	.....	147	148	..	..

The Speaker thanked the members of the House of Delegates for their courtesy to him and for their close attention to the business as it came before the House.

As there was no further business to come before the meeting, on motion, which was duly seconded and carried, the House of Delegates adjourned.

ADDENDUM

Supplement to the Report of the Council on Medical Education and Hospitals

REMARKS BY DR. ARTHUR DEAN BEVAN, ILLINOIS, IN CONNECTION WITH THE PRESENTATION OF THE REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

It will be impossible in the time allotted to read the report of the Council, but I hope to supplement the report and to put before you some important matters which have engaged the attention of the Council during the last year.

The beginning of the work of the Council back in 1904 was an attempt to standardize medical colleges, and for many years we devoted almost all of our time to that subject. Gradually, however, we came to understand that the mere standardizing of medical colleges was not sufficient, and that the problem was a much larger one. After we had secured as good standards of medical education in this country as existed in any countries of the world, we found that our task was not finished but had grown larger.

For instance, we had advocated the intern year in 1906, but soon found it was already generally adopted either by the students themselves or later by the state boards or by medical schools. We also found that the training of the intern gradually led into the question of facilities and character of work done in hospitals so that last year the House of Delegates changed the name of the Council to that of the Council on Medical Education and Hospitals. As the work proceeded, we found that it was necessary to take up not only the question of undergraduate medical education, but also that of postgraduate work and of the graduate work required in the training of specialists. Our problem has grown from the rather simple matter of standardizing medical schools to a problem which involves the training of men for medicine, and the development of plants in which men can practice medicine. It is a problem that involves the training not only of general practitioners, but also of specialists.

As one of the important features of the last Annual Conference, which is now the Annual Congress on Medical Education, Licensure and Hospitals, the question of the training of specialists was presented. The report of that conference includes a very interesting discussion on the training of specialists.

The Council appointed fifteen committees of nine men each in the laboratory and clinical branches. These committees came to the conclusion that, in addition to the training of the undergraduate, the time had arrived when the organized profession of this country should take up seriously the problem of the proper training of the specialist, and there is a general agreement that this proper training should mean at least three years of training in a well organized clinic in the particular field in which the man or woman intends to enter. On the basis of this plan, which has been carefully worked out, we shall ask twenty or more universities with strong medical departments seriously to consider the problem of developing postgraduate and graduate schools for the proper training of specialists in the various fields in addition to providing courses for practitioners. Our conception is that when that has been accomplished the state boards will eventually recognize the importance of making a definite requirement for the training of the specialist and that, before a man professes to practice a specialty and poses as a specialist, he shall be required to give evidence that he has pursued a thoroughly sound scheme of development which makes him a safe practitioner in that particular field. The Council believes, also, that the time has arrived when we must reorganize our scheme of undergraduate medical education so as to give the undergraduate a broader and simpler training in medicine which will make him a better general practitioner. That means simplifying the course under three clinical heads—medicine and surgery and obstetrics. We must make the effort to train the man who is going into a community to do general practice in the broadest and best possible way. We feel, moreover, that the broad

general practitioner is by all odds the most important man in medicine. Numerically, he should be 90 per cent. of the medical profession; this broadly trained man is the man who can take better care of the bulk of the people of a community than can any group of specialists, no matter how competent.

I think the time has arrived, and it should be emphasized by the organized profession of this country, when we should look forward to developing broadly trained men as general practitioners, and in addition to develop 10 or possibly 15 per cent. of men who can later take up special practice. We cannot be satisfied with simply training men; we must also provide medical plants in which these men can practice medicine. We must develop well-equipped hospitals which will bring the benefits of the practice of modern scientific medicine to everybody in all communities. This is not an idealistic thing at all. We have gone pretty well ahead with our plan of educating men, but we have come to a point where, in addition, we must provide plants. We must provide a plan by which hospitals can be utilized to produce certain results. This is a community problem and it must be taken hold of by every county society in our organization. It means that every county society must look over the field in its community and determine the requirements of medicine in that community; that there must be the necessary plants provided in one way or another, not by any single specific plan. You cannot practice medicine as it was practiced forty years ago with the equipment that a man could carry in his saddle bags or in a buggy. Medicine today requires an elaborate plant, and that means a hospital with the necessary laboratories and equipment which necessarily becomes a center not only of the practice of medicine but also of preventive medicine.

The thought that has arisen in my own mind is that in some way the House of Delegates should bring to the attention of every county society in this country the importance not only of holding society meetings and discussing scientific problems, but also of outlining a working plan in their own community which will make it possible to bring to the rich and poor alike the benefits of modern medicine. If the medical profession does not organize and begin to develop a plan to carry on this work, it will come from some outside agency interested in the question of state medicine, as it is coming in some other countries. This matter can be handled better by the medical profession itself than by any other agency, and I would like to ask that the House of Delegates should impress upon the component societies of the American Medical Association the importance of beginning this year with the practical problem not only of developing and training the man, but also of analyzing the medical needs and securing a practical plan and of seeing that this work is carried out and that the initiative is taken by the medical profession itself.

Confirming what I have said, I would like to call the attention of the members of the House to the Hospital Number of THE JOURNAL of the American Medical Association which shows the hospital supply of the United States. In reading it you will find that 56 per cent. of the counties of the United States have no medical plant in the way of a hospital. In other words, 56 per cent. of the counties of the United States have no hospitals, and a hospital is undoubtedly an essential medical factor in the practice of modern medicine.

I want to call your attention to the classification that the Council is still employing in connection with medical schools, that is, the A B C classification, which is a simple, practical scheme. An A grade school is simply one that is doing sufficiently good work that the Council can recommend to the state boards of the country that they accept the graduates from such a school for examination for licensure. The C grade school is simply one whose graduates the Council cannot so recommend. The B grade schools are those in the doubtful class.

The Council has been criticized somewhat for this classification by some educational agencies. They have said to us, "You have Harvard and Pennsylvania at one end of the scale, and some very mediocre schools at the other end of your Class A group." That is very true, and there is a great difference between the best and the poorest of our Class A schools; but we are well satisfied with the classification. We thought at one time we might introduce an A 1 class or an A plus class which would include probably twenty-five schools, but after careful consideration we have left the classification as it is because it is absolutely sound and simple, and it stands for something very definite—for all medical schools that have reached a minimum standard of development and are, therefore, recommended to state licensing boards.

There is one important matter which in a way I hesitate to speak to you about. It is a matter that we have been considering more or less for the last ten years with a great deal of interest. I refer to the matter of outside interference with medical education, which I think must be very frankly put before you at this time with the request that definite action be taken later. I desire to refer to a disturbing influence which has been introduced into medical education in the last few years, and which has become in a way a menace to our progress along sound lines. I refer to the introduction of a scheme of organization of the faculties of our medical colleges, which has been introduced by the great educational foundations, and by some of the state universities.

I shall refer especially to the plan of all-time clinical instruction. This plan did not originate in the medical profession. It originated outside the medical profession, and unfortunately it has been forced upon the situation largely by money. It is a subsidized plan which has been presented to universities with the statement that they would be given one or two millions of dollars or more, provided they would adopt the all-time clinical plan in their scheme of organization. To be sure, the originators of the plan have presented it as an experiment, but it has not been a fair experiment. A scientific experiment necessarily requires a control. There has been no control here. If, on the contrary, the great foundations would take three schools and give each of them two millions or five millions of dollars and put them on the all-time clinical plan, and another three schools of the same caliber and give each of them the same amount of money and allow them to develop under some plan which has been the outcome of the experience of medical educators the world over, the plan that one might refer to as the Trousseau plan, the Billroth plan, the Osler plan, a plan that has developed from the practical experience of medical educators, it would then be a fair experiment. So far the plan has been introduced at Johns Hopkins and Yale, at Washington University in St. Louis, and it has been adopted by the University of Chicago, and by Columbia University. I believe also the new university of Rochester contemplates adopting it, and the plan in a somewhat modified way has been adopted by some of the state universities, notably the University of Michigan.

This plan has not been a success. I do not hesitate to say that it has been a failure. It has not the support of the medical profession. I fail to find that it has anywhere the support of the great teachers of medicine, or the great teachers of surgery, or the great teachers of the medical and surgical specialties. The plan has been backed largely by men who are not medical men, and by men, who, if they are medical men, are connected with laboratories. It is a very expensive plan. Its cost is out of all proportion to the results that are obtained in medical education.

I think the time has arrived when we should plainly analyze this situation without any partisanship and attempt to find the best plan, and that best plan when found should be adopted by the medical profession. We should make it very clear to the outside agencies who are urging and subsidizing their special plans that the organized medical profession cannot adopt any plan of medical education that is not in keeping with the honor and dignity and best interest of the medical profession.

One weakness of the all-time clinical plan is the grotesque proposition that the all-time clinician in one of these schools is to accept fees from well-to-do patients and the rich, but that these fees are not to go to the individual who renders the service, but to the institution. This becomes in the hands of the great foundations, even though an experiment, a

menace in this way; it has impressed the boards of trustees of universities who are not familiar with medical practice and with medical education as the plan to adopt merely because it is urged and endorsed by the great educational foundations.

It has been applied in a hybrid form recently in the University of Michigan with disastrous effects. The University of Michigan is planning to enter the field of medical practice. It contemplates building a hospital of 600 or 1,200 beds, and putting salaried men at the heads of the clinical departments in the institution. These salaried men are to take care not only of the poor, but also of the well-to-do and rich. In other words, they are distinctly entering into competition with the medical men of the state. It is not in the best interests of medical education. The time has come when the medical profession should take a definite position and say that this plan is not sound, and that it is not logical; that it is not in the best interests of the medical profession and that it cannot be accepted.

You want to remember, Mr. Speaker and gentlemen of the House of Delegates, that medical education has made very great advances not because of any outside influence, but because of the work done by the medical men themselves.

I have no feeling against the agencies that have introduced this innovation, but I am loyal to the best interests of medical education and to the best interests of the medical profession itself. The time has come when we should frankly analyze the whole situation and attempt to find, independently of anything else, the soundest and the best plan of organization of our medical schools.

In the development of the medical education of the future, the great medical profession will be little influenced by subsidized plans urged by endowed propaganda from outside agencies, but will be controlled by the experience and advice of the great laboratory workers, the great clinicians, the great teachers who are on the firing line of medical progress and are in touch with the needs of medical education and medical practice.

THE SCIENTIFIC ASSEMBLY

THE OPENING GENERAL MEETING

Tuesday Evening, June 7

The opening meeting of the Association was held at the Boston Opera House, and was called to order at 8:45 by the President, William C. Braisted, Washington, D. C.

Rev. George A. Gordon, D.D., Boston, delivered the invocation.

Addresses of Welcome

President Braisted introduced the Hon. Channing H. Cox, governor of Massachusetts, who delivered an address of welcome on behalf of the people of the state.

ADDRESS OF WELCOME BY GOVERNOR COX

Mr. President, and Members of the American Medical Association, Ladies and Gentlemen: Among the worthiest citizens of Massachusetts are 6,000 men and women licensed to practice medicine. To the layman it would seem impossible for a man to achieve real success as a physician, a success which brings satisfaction and contentment to him, unless such a man be of sterling character and of the highest ideals. Massachusetts has enjoyed the services of thousands and thousands of good physicians who have been successful and who have contributed in generous measure to the welfare and well being of their fellow men. They have not been selfish. If one were concerned merely with money making, one's usefulness as a physician would be seriously impaired.

Recently, I asked my physician what he supposed was the largest income received from professional work by any Boston physician. If he were correct in his judgment, there are many lawyers, many engineers, and men in other professions who receive far larger rewards from their practice than physicians, to say nothing of business men by the hundreds. The rewards of a physician cannot be measured in dollars and cents. To their credit, good physicians have come to feel that it is a part of their professional duty to stand ready to render service without hope of reward, and to give in generous measure their skill for the benefit of suffering humanity.

Massachusetts holds her physicians in high esteem. The people of Massachusetts rejoice in a long line of eminent physicians who have lived and worked hard, who have been alert to acquire knowledge, who have made tremendous and interesting contributions to the science of medicine, and who have counted it a great joy to teach young men desirous of entering the profession.

The people of Massachusetts glory in their medical schools and splendid hospitals. They gladly acknowledge their debt to the men of the medical profession who have been leaders in establishing a system of admirable state institutions for the care and treatment of the unfortunate sufferers in body and mind. Because of the history which the physicians of Massachusetts have written and because the physicians of today are doing their part worthily, the commonwealth is glad to welcome their brother physicians as they come to Boston for the annual session of the American Medical Association. We realize that whatever progress is made in medicine or surgery results in the alleviation of human suffering; it inures to the benefit of mankind, and we therefore hope that the meeting of this Association may bring great pleasure to you, as we are confident that your deliberations will be of lasting benefit to us.

The tendency of men and women to leave the rural districts and to congregate in great numbers in our cities has brought many serious economic problems. It is coming to be recognized that this herding of people in congested areas, leaving country communities sparsely settled, presents a problem which concerns the physician.

The medical schools of today are increasing their standards, and are in danger perhaps of creating too many specialists in medicine, so that the highly trained men are not willing to locate in a community where lack of hospitals, laboratories, nurses and other facilities prevents them from keeping up the character of work which they have been trained to do. There is going to be an unequal distribution of physicians, and the rural sections suffer therefrom.

Within a year a beautiful Massachusetts town, which had no resident physician, advertised its willingness to pay a subsidy to a competent doctor who would locate there. Whether the solution of this difficulty lies in medical schools which will send out inferior men, whether it be in some form of state aid, insurance or lodge practice, or whether it be in community schools thoroughly up to date, with all modern equipment, or whether the solution is to be in other ways, those of us who are thinking in terms of the whole state look to the members of this great convention for leadership.

Massachusetts welcomes you not only as physicians but as representative citizens from other states, as men capable of molding a healthy public opinion.

You have come to us as we are celebrating the three hundredth anniversary of the landing of the Pilgrims. We are all grateful for the sacrifices of those sturdy men and women who laid the foundations of a new civilization. We hope we have something of their faith in ourselves and in our families. We believe, as they did, that it is better for an individual to do the things which he is fitted to do rather than for the state to do them for him.

After your visit with us, which we trust may bring real pleasure to you, may you return to your homes convinced that here in Massachusetts we have kept the faith of the Fathers; that we believe today there is great opportunity for those who deserve it as in any generation of the past, and that with you we stand ready at any cost to defend the free institutions of America. (Applause.)

ADDRESS OF WELCOME BY MAYOR PETERS

Hon Andrew J. Peters, mayor of Boston, was introduced, and delivered an address of welcome on behalf of the people of the city, saying:

Mr. President, Members of the American Medical Association, Ladies and Gentlemen: It is indeed a pleasure to stand here this evening and welcome you to Boston in the name of our citizens. I am here to speak for 800,000 people, the whole population of Boston, and to bid you welcome and Godspeed in your work and appreciation of your patients for all that you have done for them. You helped to bring us into the world, and now you are helping to keep us here and are helping to make life as bright and pleasant as possible while we are here. We appreciate that and wish to express to you our deepest gratitude. One reason is that our physicians have always been with us in every public movement in Boston, from the days of that gallant patriot, Dr. Joseph Warren, who refused the command of the troops at Bunker Hill, and then served and met his death there in a private capacity for his country; and that high ideal of service has distinguished the physicians of our city and state ever since that memorable day. It is that type of ideal service rendered to the community that has made the physician in Boston an outstanding factor unequaled in any other city in our country.

We have many institutions here that are administered for the benefit and health of the people. I will not describe them to you. We hope you will visit them while you are here. There are better guides than myself who can point out to you with pride and professional knowledge the points of our great institutions which would most appeal to you. We have many members of your profession connected with the city government who are rendering a high type of service to the citizens of Boston, and among them Dr. Woodward, Dr. Minot, and many others who would be delighted to throw open to you the doors of our municipal hospitals and of our city health department. They would tell you how the city of Boston is expending this year $4,000,000 appropriated for helping public health in the city. (Applause.)

There is one subject which even a layman may touch on. Our health department is busy just now taking up measures to keep out the bubonic plague. May I call your attention to a far greater scourge from which Europe has just had a visitation. It carried off directly ten millions of the flower of the race and indirectly may have destroyed the lives of twice as many more. It selected the most fit, the strong, as Nature in her wisdom seldom does, and it has ruined the best of the stock of the future races.

We are told that we must prepare today for a new scourge at some day in the future of a like nature. Weapon makers are now preparing for it. Teachers of destiny are urging it every day in the press. The old code of chivalry is brushed aside, and henceforth no one will be safe. The object will be extermination of the race and the earth will be torn into a shamble. I shall not attempt to paint the horrors of this prospect. You gentlemen know better than any one else what you can do to forestall this impending catastrophe. I would suggest that you begin by reporting your protest against it. It is your particular enemy. It works in a spirit directly opposite to yours. It seeks to undo all that you accomplish for the human race. I am sure, if you will use your best efforts in opposition to this movement, ninety-nine out of every hundred of the people in America, both men and women alike, will support you.

The city of Boston would be very proud if she could add to the epoch-making event, the discovery of the use of ether for surgical operations, the first step in any form you think best which can be taken by the physicians of America to bring mankind back to a spirit of mutual good will and plain common sense rather than the present temper of the people at large. We have a monument erected here in honor of Dr. Morton, as many of you know, and I wish we could have a Peace monument erected to the American Medical Association. (Applause.)

We welcome you here most heartily in the spirit of our people, and it is unnecessary for me to tell you that the members of your profession in Boston will show you everything we have here and tell you of the opportunities which we are having for increasing the medical service of the people. We welcome you in that high spirit of idealism, of sacrifice, of progress, which your profession has ever stood for. We welcome you to Boston and hope that your visit here will give you as much pleasure as it gives us. (Applause.)

ADDRESS OF THE PRESIDENT

President Braisted introduced as the President of the Association Dr. Hubert Work, Pueblo, Colo., who delivered his address, which was published in THE JOURNAL, June 11, p. 1623.

REGISTRATION AT BOSTON

The total registration at the Boston Session was 5,506. Below are given two summmaries, one by sections and one by states:

REGISTRATION BY SECTIONS

Practice of Medicine	1,521
Surgery, General and Abdominal	1,114
Obstetrics, Gynecology and Abdominal Surgery	367
Ophthalmology	378
Laryngology, Otology and Rhinology	287
Diseases of Children	311
Pharmacology and Therapeutics	41
Pathology and Physiology	86
Stomatology	40
Nervous and Mental Diseases	198
Dermatology and Syphilology	127
Preventive Medicine and Public Health	225
Urology	184
Orthopedic Surgery	194
Gastro-Enterology and Proctology	124
More than one Section, or no Section indicated	300
Total	5,506

REGISTRATION BY STATES

	Number		Number
Alabama	16	Nevada	1
Arizona	7	New Hampshire	143
Arkansas	12	New Jersey	106
California	99	New Mexico	1
Colorado	41	New York	654
Connecticut	142	North Carolina	28
Delaware	9	North Dakota	7
District of Columbia	95	Ohio	211
Florida	18	Oklahoma	20
Georgia	20	Oregon	18
Idaho	1	Pennsylvana	430
Illinois	224	Rhode Island	173
Indiana	107	South Carolina	22
Iowa	37	South Dakota	2
Kansas	17	Tennessee	48
Kentucky	33	Texas	41
Louisiana	29	Utah	2
Maine	131	Vermont	54
Maryland	71	Virginia	49
Massachusetts	1,888	Washington	20
Michigan	112	West Virginia	21
Minnesota	69	Wisconsin	42
Mississippi	11	Wyoming	1
Missouri	83	Guests	104
Montana	6		
Nebraska	30	Total	5,506

REPORT OF THE COMMITTEE ON AWARDS

The committee appointed to judge the Scientific Exhibit reports the following awards:

A gold medal to Dr. Kenneth M. Lynch of the Department of Pathology of the Medical College of the State of South Carolina, for his exhibit of photographs and microscopic preparations illustrating investigation of ulcerative granulomata.

A certificate of merit to Dr. V. H. Kazanjian of the Harvard Dental School for his exhibit of plaster masks, casts and photographs of war injuries to the face and jaws.

A certificate of merit to Drs. Mendel, Osborne and Bailey of the Connecticut Agricultural Experiment Station for their exhibit illustrating the effect of different qualities of protein upon growth.

The committee also desires to call attention to the excellence of the exhibits of the work of the American Society for the Control of Cancer and of the American Social Hygiene Association as examples of model methods of education.

W. B. CANNON,
G. W. McCOY.

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SATURDAY, JUNE 18, 1921

THE INFLUENCE OF HEREDITY IN TUBERCULOSIS

The exact significance of heredity in determining the occurrence of tuberculosis still remains a completely unsolved problem, despite an enormous amount of speculation, some careful study, and a few elaborate statistical investigations. As yet, we have had little evidence from well controlled experimental studies in animals, for experimental studies on heredity, especially with mammalian material, require such prolonged and difficult work, to say nothing of large financial resources, that few have had the courage and the opportunity to undertake them. In cancer we have had not a little experimental investigation to add to and improve on the unsatisfactory evidence available from human statistics, but hitherto virtually nothing of the sort has been available in tuberculosis. Only recently has a start been made in the systematic study of the effect of heredity on the resistance of guinea-pigs to tuberculosis, through cooperation of Dr. Sewell Wright of the Bureau of Animal Industry, where experiments on the effects of inbreeding of guinea-pigs have been carried on for fifteen years, and Dr. Paul Lewis [1] of the Phipps Institute of Philadelphia.

As to the human evidence concerning the inheritance of power to resist tuberculosis, Wright and Lewis recall that in the prebacteriologic era physicians were generally of the opinion that heredity played a large part in resistance or susceptibility to tuberculosis. Following Koch's demonstration of the part played by *Bacillus tuberculosis* in the etiology of the disease, it was recognized that the hereditary influences might be only apparent; for if the disease became established in any family there was evidently an immeasurably increased chance of intrafamilial infection, and as a consequence of this uncertainty of interpretation it has become customary to regard hereditary influences as a negligible factor.

Recently Cummins [2] has called attention to the lack of evidence of the existence of an hereditary predisposition to human tuberculosis, since in communities in which tuberculosis is rare, the members should not be susceptible to tuberculosis when coming in contact with tuberculous communities, if susceptibility depends on inheritance; yet the opposite is true. Likewise, if an inherited tuberculous diathesis plays a part in determining infection, the disease should be least severe among people whose ancestors have not had tuberculosis, which is quite the reverse from the facts. On the other hand, we may argue from the same facts, as does Pearson,[3] that in such nontuberculous communities there will have been no weeding out of the strains susceptible to tuberculosis, which may be assumed to take place in tuberculous communities and thus lead to the production of a population of selected resistance.

Pearson and Goring have compared the correlation between parent and offspring, in incidence of the disease, with that between husband and wife. The effects of unfavorable conditions and the chances of infection were assumed to be about as great in one case as in the other, while heredity would be a common factor only in the first case. Pearson dealt with upper class families of which one member was being treated in a certain sanatorium. The correlation between parent and offspring came out about 0.50, in the usual scale, in which 1.00 is perfect correlation. This correlation is about the same as that between parent and offspring in characters such as height, weight and eye color, which are largely or wholly determined by heredity. The correlation between husband and wife was only 0.24, and even much of this the author found reason for attributing to assortative marriage. Goring's study was made with the families of British convicts. He also found a correlation of about 0.50 between parent and offspring, but no correlation (— 0.01) between husband and wife. Therefore, both of these observers consider that they have demonstrated a distinct hereditary influence in determining human tuberculosis. However, in these statistical studies lies a defect because of the fact that there is probably much greater chance of infection of a child by a tuberculous parent than there is for infection of an adult (husband and wife) exposed to the same sources of bacteria, in view of what we now know concerning the relative resistance of the uninfected child and of the adult with healed or latent tuberculosis.

In their studies with infected guinea-pigs of known ancestry, long closely inbred, Wright and Lewis noted in one family a notably greater resistance to tuberculosis, as indicated by length of life after inoculation, than any of the other families under observation. This resistance was an inheritable quality, transmitted by either sex in crosses with other inbred families of less resistance. The factors which determine resistance to tuberculosis did not seem to be closely related to other evidences of vigor, such as rate of growth and adult weight, and size of litters. In crosses involving the resistant family with less resistant families, the offspring seemed to be more resistant than even the mem-

1. Lewis, Paul: Am. Naturalist **55**: 20, 1921.

2. Cummins: Internat. J. Pub. Health **1**: 137 (Sept.) 1920. Tuberculosis in Primitive Tribes, and Its Bearing on the Tuberculosis of Primitive Communities, editorial, J. A. M. A. **76**: 246 (Jan. 22) 1921.

3. Pearson, K.: Lancet **2**: 891 (Oct. 30) 1920.

bers of the resistant family itself, indicating the dominance of resistance over susceptibility. The results in respect to resistance to tuberculosis are like those for other inheritable characteristics, as regards the differentiation among families brought out by inbreeding, the improvement resulting from crosses between inbred families, and the independence genetically from other elements of vigor. Hence the inference may be drawn that, so far as these experiments go, heredity may determine to some extent the resistance of a given family to tuberculosis.

Until such time as we have complete vital statistics, including carefully recorded necropsies on all persons who die from whatever cause, there can be no statistical evidence of value concerning the relation of heredity to either cancer or tuberculosis; and, as that near-millenial program seems to be far in the future, we must for the present depend on animal studies. Such cooperative work as that under discussion is a long step in the right direction, and one that should be followed, so far as possible, for the light which it is sure to furnish on one of the most important problems, not only of medicine, but also of sociology.

BACTERIA AND THE TELEPHONE

Early in the history of modern bacteriology, when the ubiquity of bacteria and the harm which certain micro-organisms can do was beginning to be demonstrated, the widespread search for these microscopic enemies became a popular exercise among trained observers. Everywhere about us the newly exploited hidden dangers loomed up; in food and drink, in our clothing and shelter, on the earth and in the air bacteria continued to be discovered. For a time it seemed as though few places were healthful habitations, few environments fit to be called sanitary. Gradually, however, it began to be realized that not all bacteria are baneful. Not a few are veritably beneficent. Furthermore, man is well equipped with a variety of remarkable protective devices to withstand invasion. Natural immunity is something which rarely forsakes us; for in the midst of innumerable unseen foes man usually survives.

Despite the sense of security which has gradually developed among persons living in a bacteria-ridden world, preventive medicine has not allowed mankind to become entirely indifferent toward germs. Sterilization and disinfection brought about by cleanliness and by chemical and mechanical agencies have been introduced into many aspects of everyday life. The public drinking cup has given way to drinking fountains and the individual sanitary cup. The common towel is a rarity in public places. The sealed package has replaced the exposed assortment of food products. Dirty money has been demonstrated to be unsightly rather than infectious. The sputum box has replaced the cuspidor. Air and sunlight are being given a chance to do good.

The human carrier represents a new sort of menace in the struggle against disease. So long as we have reason to fear him, the sources of direct or indirect contact with him must be kept under scrutiny. With this thought in mind we refer to a recent investigation by Saelhof [1] in Chicago on the bacterial content of telephones. It has been frequently asked whether or not they can transmit disease.[2] The late epidemics of respiratory diseases have made the inquiry more pertinent in the case of instruments used daily by thousands of persons in public places. Cultures prepared from the receivers and transmitters of ninety-four representative telephones located in public booths enabled Saelhof to isolate various pathogenic bacteria. One sixth of the instruments habored hemolytic streptococci; diphtheria bacilli were present in 2 per cent. Nearly all of the former were viable. In comparison with the transmitters, the receivers showed very few pathogenic micro-organisms.

This discovery does not represent a serious situation, and one can scarcely believe that the telephone plays an important part in the transmission of disease, as it does of human words. Saelhof conservatively concludes that however slight the danger, the point is worthy of recognition that the telephone is an instrument on which dangerous bacteria are commonly deposited and there continue to live for some time. The source of infected material should be known, and as a possible danger under certain conditions should be given proper consideration. Whether sterilization of the instruments should be practiced to prevent the spread of virulent organisms may be debatable; but the question cannot be overlooked.

THE FATE OF THE LYMPHOCYTES

The life history of the various types of cells that occur in the blood has received comparatively little attention. With respect to the erythrocytes, or red blood cells, there is considerable accord in the belief that they are continually being destroyed and replaced by new representatives; but the duration of life of the red cell has been the subject of considerable debate in recent years. The question is one of interest in connection with the behavior of the erythrocytes in transfusion, among other phenomena.

With respect to the different white cells, even less knowledge is available. Is there a rapid destruction and regeneration of lymphocytes and phagocytes, or are the leukocytes in general long lived in the body? In the case of the lymphocytes, new cells are continually being derived from the adenoid tissue forming the lymphatic gland and the lymph nodules surrounding many of the

1. Saelhof, C. C.: The Bacterial Content of Telephones, with Special Reference to Respiratory Pathogens, Am. J. Hyg. **1**: 234 (March) 1921.

2. Bissell, W. G.: Does the Public Telephone Transmit Disease? Buffalo M. J. **42**: 408, 1902-1903. Allan, F. J.: The Public Telephone Call Office as a Factor in the Spread of Disease, Lancet **1**: 1862, 1908. Tomarkin, E.: Ueber die Gefahren der Uebertragung von Infektionstoffen durch das Telephon und ihre Verhütung, München. med. Wchnschr. **53**: 2435, 1906.

mucous cavities. It is possible that some of the cells pass directly through the capillary walls into the blood stream. By far the greater portion, however, find their way more directly into the lymph sinuses, whence they are carried in the lymph stream through the thoracic duct and lesser channels into the circulation.

Davis and Carlson [1] estimated that many more lymphocytes enter the blood with the lymph in the course of the day than can be found in the blood at any given time. This at once raises the problem as to how the number of these white cells is kept as constant in the blood as it is known normally to be. Bunting and Huston [2] of the University of Wisconsin have logically concluded that as many cells must disappear from the circulation each day as are introduced into it; otherwise one should find not a constant count but an ever increasing accumulation of these cells in the blood stream.

It is conceivable that lymphocytes may be changed soon into some other form of blood cell; but, as the Wisconsin pathologists well note, this possibility is a highly remote one at best. The lymphocytes may disintegrate in large numbers in the blood itself, or they may leave the circulatory channels. The latter seems to be the most plausible hypothesis in view of the failure to demonstrate any decrease in numbers in sections of isolated blood vessels. Bunting and Huston insist that the small accumulations of leukocytes found in the organs generally will not account for the vast numbers that must be assumed to leave the blood vessels, unless the cells are destroyed in the tissues as rapidly as they arrive there. As they remind us, without destruction there would in this case of necessity be an increasing accumulation in the organs, such as may be found in lymphocytic leukemias.

A histologic study of the various organs and tissues has led Bunting and Huston to the conclusion that the great majority of the lymphocytes finally enter the mucosa of the gastro-intestinal tract and, in addition, pass through it into the intestinal lumen. These facts, if they are confirmed, must inevitably lead to speculation as to the function of the lymphocytes within the intestinal lumen. One naturally thinks of the bacteria and toxic products formed there. The lymphocytes are not phagocytic, so that they can scarcely be conceived to protect the body by engulfing microorganisms. Whether they are responsible for some degree of immunity to harmful chemical products, or act in some quite different local physiologic function, remains to be ascertained. In any event, if the cells migrate from the blood vessels into the mucous membranes and through them to their surfaces, as has just been reported, the reason for this remarkable behavior demands earnest consideration.

1. Davis, B. F., and Carlson, A. J.: Contribution to the Physiology of Lymph, IX, Notes on the Leukocytes in the Neck Lymph, Thoracic Lymph and Blood of Normal Dogs, Am. J. Physiol. **25**: 173, 1909.

2 Bunting, C. H., and Huston, J.: Fate of the Lymphocyte, J. Exper. Med. **33**: 593 (May 1) 1921.

Current Comment

THE BOSTON SESSION

The Boston session of the American Medical Association of 1906 was most notable and successful from every point of view. It set the pace for attendance up to that time—over 4,700. This year's meeting also will be regarded as successful and splendid from every point of view. The registration—5,506—was the third largest in the history of the Association. In spite of this large attendance, there was little difficulty in providing accommodations. For this the Local Committee on Arrangements deserves special commendation as well as for the efficient way in which it arranged for the session: it was quite evident that plans had been carefully laid to meet every emergency—and they were well carried out. The entertainments were ideal and particularly appropriate to the historical interest attaching to Boston and its vicinity. The scientific sections, without exception, were well attended. This is the second year of the new arrangement regarding section meetings, and there was evidence of the fact that the Fellows have realized that the scientific work covers Wednesday, Thursday and Friday, rather than Tuesday, Wednesday and Thursday, as obtained prior to last year. The Commercial Exhibit was unusually attractive, stimulating and instructive, including displays of all the newer mechanical aids to diagnosis and medical practice. The Scientific Exhibit, both in volume and quality, was excellent and its location made it easily accessible—consequently well attended. The weather was perfect. To add to the pleasure of those who attended was the cordial welcome everywhere extended by the local profession and the public. Too much praise cannot be given to the Local Committee on Arrangements. The courteous attention given to visitors, the cooperation available to both officials of the Association and of the sections, the character and liberality of the entertainments—all resulting from the efforts of the local committee—were the vital factors in making the Boston session of 1921 a conspicuous success.

THE JAPAN MEDICAL WORLD

The Japanese are progressive in medicine as in other of life's activities. This is emphasized by the appearance of a new journal, the *Japan Medical World*. The editors and publishers show excellent judgment by adopting the general style and format of THE JOURNAL. In the editorial announcement, attention is called to medical progress in Japan during the last fifty years, and it is justly pointed out that many notable Japanese scientists, "whose names will forever adorn the annals of medicine," have made contributions to this advancement. Attention is also called to the fact that there are twenty-two medical colleges in Japan well equipped for research and investigation. Besides these educational institutions there are specially endowed institutions for research, such as the Kitasato Institute for Infectious Diseases. The periodical—monthly, $6 per

annum—is to be published entirely in English and will be a medium by which Japanese medical activities can be introduced to the English speaking world.

THE PHAGOCYTIC ACTION OF BONE MARROW

In addition to blood formation and the production of certain immune bodies, the bone marrow manifests considerable phagocytic action toward inert particles. It has long been known that pigments under natural and experimental conditions are deposited in the marrow, but it is only in recent years that the finer details of this phagocytic action have been determined with any degree of certainty. Recently, Wislocki [1] studied the distribution of India ink particles injected intravenously in rabbits, guinea-pigs, dogs and cats. He found that the marrow of the rabbit becomes distinctly blackened from the injection of India ink, and that certain cells take up ink particles in the blood. In the guinea-pig the marrow was blackened also by the carbon, but not so markedly as in the rabbit. In the dog and cat the ink was not grossly visible in the marrow, and on microscopic examination only an occasional ink granule could be found in the endothelial cells. Wislocki concludes that there is a difference in the ability of the marrow cells of different animals to take up and store inert particles. In the rabbit the distribution of the particles coincides closely with that of the hematopoietic tissue of the marrow, and the particles were found only in the endothelial cells that line the vascular channels of the marrow and in the reticulum cells that form the supporting tissue for the blood-forming elements. In young rabbits, however, a few granules were found in osteoblasts in the regions of the epiphyseal lines. Nagao,[2] working in the McCormick Institute for Infectious Diseases, studied the distribution of ink particles at different lengths of time after injection, and found that granules were deposited first in the endothelial cells of the capillaries and veins. In the early stages no granules were found in the marrow cells proper, but later granules accumulated in masses just as in the liver and spleen, and the reticular cells accumulated ink particles, while the endothelial cells gradually became free. He found also that osteoblasts and osteoclasts took up particles, especially after large doses, but that the myelocytes and megakaryocytes remained free. The bone itself was usually free from ink in the earlier stages; but later, granules appeared not only in the haversian and Volkmann canals but also in bone cells and endothelial cells of lymph vessels of the periosteum, giving the periosteum a blackish color. Apparently, then, the phagocytic activity of the marrow varies with different animals. In the rabbit the endothelial and reticulum cells are highly phagocytic for certain inert particles. It is of interest to note that, according to Nagao,[3] the endothelial cells of the marrow of guinea-pigs are not phagocytic for killed nonhemolytic streptococci circulating in the blood. Evidently, further experiments are necessary in order to reveal the different laws that govern the phagocytic action of marrow cells in different species.



GEORGE E. DE SCHWEINITZ, M.D.
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

PRESIDENT-ELECT GEORGE E. DE SCHWEINITZ

The election of Dr. George E. de Schweinitz, professor of ophthalmology of the University of Pennsylvania, places at the head of the Scientific Assembly of the American Medical Association a leader in medical science whose achievements are a stimulus to the medical profession of the country. While following a specialty in medicine, he has kept in close contact with general medical interests as well as with science in general. Dr. de Schweinitz was born in Philadelphia, Oct. 26, 1858, son of the Rt. Rev. Edmund de Schweinitz. He received his A.B. and A.M. degrees at the Moravian College at Bethlehem, Pa., in 1876, and was graduated in medicine by the University of Pennsylvania in 1881. The latter institution conferred on him the LL.D. degree in 1914. Dr. de Schweinitz has made many significant contributions to the literature of ophthalmology, including a textbook on the "Diseases of the Eye, Ear, Nose and Throat" in 1889; a textbook on "Diseases of the Eye" in 1892; a monograph on "Toxic Amblyopias" in 1896, and numerous articles and monographs on ophthalmologic and neurologic subjects to periodicals and encylopedias. He is a member and ex-president of the American Ophthalmological Society, and a member of the American Philosophical Society and of the Academy of Natural Sciences. In the American Medical Association he served as secretary of the Section on Ophthalmology in 1891-1892, and was chairman of the section in 1896-1897. During the war, Dr. de Schweinitz was ordered to active service in September, 1917, as Major in the Medical Reserve Corps. He was shortly promoted to Lieutenant Colonel and served in France from October, 1917, to March, 1918. Later he was promoted to Colonel and assigned

1. Wislocki, G. B.: Experimental Observations on Bone Marrow, Bull. Johns Hopkins Hosp. **33**: 132 (April) 1921.
2. Nagao, K.: The Fate of India Ink Injected into the Blood, J. Infect. Dis. **27**: 527 (Dec.) 1920.
3. Nagao, K.: The Fate of Killed Nonhemolytic Streptococci Injected into the Blood and Resulting Cellular Changes, J. Infect. Dis. **27**: 327 (Oct.) 1920.

to active duty as Officer in Charge of and Consultant in Ophthalmology in the Surgeon-General's Office. By electing him President of the American Medical Association, the House of Delegates recognized not only one of the leading ophthalmologists of the world, but also one of the special branches of medical science to which American physicians have made as great contributions as have those of any other country.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Personal.—A sterling silver dinner set was presented to Dr. John Daniel Morgan, Jr., Fresno, at a farewell dinner given in his honor, May 30. Dr. Morgan has retired as superintendent of the county hospital to resume his private practice. He will be succeeded by Dr. Herbert O. Collins, former superintendent of hospitals and city physician of Minneapolis.——Dr. George T. Pomeroy, Oakland, is on his way home from Turkey, where he had charge of relief work in an American hospital. While in Turkey, Dr. Pomeroy was for weeks a captive of the Turkish Nationalists.——Dr. Harris Klein, San Francisco, suffered internal injuries and several fractured ribs when his automobile skidded and overturned on a wet pavement.

DISTRICT OF COLUMBIA

Hospital News.—The $2,000,000 Gallinger Psychopathic Hospital on the grounds adjoining the district jail will be completed by the end of July. The hospital consists of four buildings, and the capacity of the group will be 200 patients.

Bill to Control Venereal Disease.—Representatives of the District of Columbia Medical Society, the District health office and other medical as well as social welfare organizations appeared before the house committee of the District of Columbia in support of the Raker bill seeking to prevent the spread of social disease in the district. The witnesses were in charge of Col. William Owen, retired surgeon, representing the Social Hygiene Association. The measure provides penalties for failure of venereal patients to observe orders of their physicians. It also compels physicians to report all venereal cases to the District health office. One feature of the bill, which received opposition because it interferes with personal liberties, makes it an offense for any person suffering with a social disease, to fail to report it to the District health office.

FLORIDA

Legislative News.—The house has amended the bill proposing the abolishment of the state board of health. The board will continue as it has in years passed, being composed of citizens of the state instead of members of the governor's cabinet. However, the present status has been so changed that the governor, instead of the board, will name the state health officer, who shall continue in office at the pleasure of the governor.

Single Licensing Board in Florida.—A bill providing for a single board of medical examiners was passed by the recent state legislature and has been signed by the governor. It replaces the three separate boards heretofore existing and provides for the registration only of graduates of Class A medical schools and for the revocation of licenses for unprofessional conduct. Examinations are to be held twice each year. The securing of this practice act in Florida leaves only five states having multiple boards. These are Arkansas, Connecticut, District of Columbia, Louisiana and Maryland.

GEORGIA

New Hospital at Athens.—The Athens General Hospital was opened, June 9, and is to be owned by a corporation consisting of physicians and lay citizens of the community. Five hundred stockholders hold from one to fifty shares each. The control of the institution is vested in the board of trustees composed of lay citizens. A modern brick and reinforced concrete building will contain two surgical operating rooms, with an obstetric delivery room and nursery separate. The laboratory facilities will be quite complete. The roentgen-ray laboratory is to be completely equipped for roentgen-ray diagnosis and therapy. The clinical laboratory is to have facilities for handling tissue diagnosis, clinical pathology, bacteriology, pathology and the like. At present the hospital provides for twenty bed patients. An outpatient department is also to be in operation.

INDIANA

Margaret Christian Park.—The city of Indianapolis has been given 40 acres of land to be used for a public park, by Dr. Wilmer Christian and his wife in honor of Dr. Christian's mother. The park will be called the Margaret Christian Park. The land has been in possession of the Christian family for more than eighty years.

Hospital News.—It is announced that construction work will begin, July 1, on a new hotel and sanatorium to be erected on Cunningham Hill, Martinsville, at a cost of $1,250,000. The buildings which are expected to be ready for occupancy, Jan. 1, 1922, will occupy a 15-acre site, and 63 acres in the rear will be devoted to golf and other forms of recreation.——With the approval of the plans and specifications for the Wayne County Tuberculosis Hospital by Thomas B. Kidner, consultant of the U. S. Public Health Service and an authority on tuberculosis hospital construction for the National Tuberculosis Association, the work of constructing the sanatorium will soon begin. More than $100,000 will be available for the institution, one half of this amount being the gift of two persons whose identity has not been disclosed. The county council had previously appropriated $50,000. The hospital, 6 miles south of Richmond, has a large acreage, which will enable the county to construct separate buildings for the nurses and the administrative officers. Fayette and Union counties will be asked to send their patients to this hospital.

MARYLAND

Medical Examiners Meet.—At a recent meeting of the State Board of Medical Examiners, held at the Faculty Building, Baltimore, the question of revoking licenses of physicians convicted of violating the Harrison Narcotic Law or prescribing whisky illegally was discussed from all angles, without any action being taken. Dr. Herbert Harlan, Baltimore, president of the board, presided.

For Health Show Site.—Dr. John S. Fulton, Baltimore, secretary of the state board of health, has suggested Washington County as the section for the demonstration in efficient health administration which will be conducted jointly by the state department of health, the U. S. Public Health Service, the School of Hygiene and Public Health, and the International Health Board. Dr. Richard B. Norment, Hagerstown, will be in charge of the field work of the demonstration. Before Washington County can be definitely selected the four agencies cooperating must agree on the locality.

MASSACHUSETTS

Health Conference.—State and Provincial Health Authorities of North America held an annual conference at Boston, June 1, under the presidency of Dr. Charles F. Dalton, Burlington, health commissioner of Vermont. Dr. Clarence St. Clair Drake, Springfield, Ill., received the distinction of being the first to be elected to life membership in the organization. The conference recently amended its by-laws to permit of life memberships.

Massachusetts State Medical Meeting.—At the one hundred and fortieth annual meeting of the Massachusetts Medical Society held, May 31-June 1, at Boston, Dr. Haven Emerson, New York, delivered the Shattuck lecture on "The Prevention of Heart Disease, a New Practical Problem." Dr. David L. Edsall, Boston, in a discussion of "Premedical Education," objected to further extension of the required list of studies, on the ground that it would lead to sterilization of individuality. The following officers were elected for the ensuing year: president, Dr. John W. Bartol, Boston; vice president, Dr. Brace W. Paddock, Pittsfield; secretary, Dr. Walter L. Burrage, Jamaica Plain; treasurer, Dr. Arthur K. Stone, Framingham Center, and librarian, Dr. Edwin H. Brigham, Brookline.

MISSOURI

State Board of Health.—Drs. Rudolph S. Vitt, St. Louis, and Franklin E. Murphy, Kansas City, have been appointed members of the state board of health.——At a meeting held at St. Joseph, May 25, the state board of health reorganized and elected Dr. Emmett P. North, St. Louis, president, and Dr. Cortez F. Enloe, Jefferson City, secretary.

Personal.—Dr. Varney Hazelwood has resigned as superintendent of the Jasper County Tuberculosis Hospital, Webb City, to become superintendent of the government hospital of Alexandria, La.——Dr. Minard J. Armstrong, formerly superintendent of the state tuberculosis hospital, Mount Vernon, has succeeded Dr. Hazelwood as superintendent of the Jasper County Tuberculosis Hospital.

Objection of Medical Students to State Examinations.—Because of the new law passed by the state legislature which physicians feel will lower the standards of medical requirements of the state, forty members of this year's graduating class of the medical departments, St. Louis University, have submitted a proposal to Dr. Hanau W. Loeb, dean, that they take examinations for license to practice in East St. Louis under the Illinois law, instead of in Missouri. These students constitute about two thirds of the 1921 graduating class.

Favor Nonpartisan Boards of Health.—The state medical association, at its recent meeting at St. Joseph, went on record in favor of starting an educational campaign throughout the state to remove the boards of health from political influence. In order to provide funds for this campaign the association raised the yearly dues from $3 to $5, the additional $2 to go into the fund for the work. The membership of 3,400 means that $7,000 is already available. A motion was also passed to have an amendment to the by-laws prepared which would require that every new member should be a citizen of the United States. This rule was recently passed by the Buchanan County society and will be acted on by the state association at its meeting next year.

MONTANA

Personal.—Governor Dixon has appointed Dr. William F. Cogswell, Helena, to represent the state board of health, and Dr. Creswell T. Pigot, Roundup, to represent the Montana Medical Association on the state orthopedic commission, which was authorized recently by the state legislature.

NEBRASKA

Personal.—Dr. Harold Gifford, Omaha, was given the honorary degree of Doctor of Laws by the University of Nebraska, Lincoln, at the commencement, June 6. This is the first time this degree has been conferred on one of the medical profession in the history of the university.

NEW YORK

New York City

Externship in the Roentgen-Ray Department.—There has been established at the Mount Sinai Hospital a system of externship in the roentgen-ray department. There are to be externs, each serving one year, one beginning February 1 and the other August 1. The next appointment begins Aug. 1, 1921.

Personal.—Dr. J. Mitchell Prudden has been elected a member of the International Health Board of the Rockefeller Foundation.——Dr. Brandreth Symonds had conferred on him the honorary degree of Doctor of Laws at the ninety-sixth commencement of Hobart College, in recognition of his service to the cause of public health.——Dr. Simon Flexner delivered an address at the Bryn Mawr College commencement in which he made a plea urging young women to take up the pursuit of science.——Dr. George David Stewart received the honorary degree of Doctor of Laws at the commencement of New York University, June 8.

Gifts to New York University Medical School.—In his commencement address, Chancellor Elmer Ellsworth Brown announced important gifts to the medical department of the university. He stated that an arrangement had been made for erecting a seven story addition to their medical group, the primary purpose of which is to provide satisfactory housing for the New York State Bacteriological Laboratory. Two floors of this same building will be used for the teaching of preventive medicine, hygiene and sanitation, a fund of $35,000 having been contributed by the Rockefeller Foundation for this purpose. A gift of $150,000 has been donated by Mrs. Helen Hartley Jenkins to complete the endowment of the department of Medicine, for which Mrs. Jenkins had previously given the sum of $100,000. This gift is in memory of Dr. A. Alexander Smith. Mrs. Charles H. Sherill had added to her earlier benefactions a sum of $1,000 for additions to the Edward Gibbs memorial roentgen-ray laboratory. Attention was also called to the establishment of an alumni federation covering all the schools of the university and the successful launching of a monthly magazine, the *New York University Alumnus*.

OHIO

Personal.—Dr. Paul J. Hanzlik, Cleveland, has accepted an appointment as professor of pharmacology at the Leland Stanford Junior University School of Medicine.——Dr. Anthony J. Lanza, Cleveland, secretary of the Ohio Industrial Physicians' Association, has been engaged by the International Health Board of the Rockefeller Foundation to inaugurate a department of industrial hygiene in the new ministry of health in Australia.

OREGON

Board of Health Meeting.—The quarterly meeting of the Oregon State Board of Health was held at Grants Pass, May 11, in connection with the meeting of the Southern Oregon Medical Association. The board adopted resolutions favoring a consolidation of the health welfare bodies of the state. A resolution was also adopted urging uniform legislation and model laws for municipalities.

Hospital News.—The campaign for raising money for the construction of the new Salem hospital has reached the $45,000 mark, and it is expected that construction work will be started by July 1. It is planned to erect a building valued at $125,000.——The site for a half-million dollar fireproof hopital to be erected by the Sisters of Mercy at Coos Bay was secured on May 12, national hospital day, and the ground has already been broken for the beginning of construction work. The structure is to be the largest and most modern hospital in the state outside of Portland and will serve the entire Oregon district west of the Coast range.——A new municipal isolation hospital, with a capacity of sixty beds, has been built at Kelly-Butte, at a cost of $56,000. The hospital will care for any type of contagious disease, except smallpox.——A site has been selected and plans for a new hospital at West Linn are being drawn. It will be known as the Clackamas County Hospital, and the buildings and equipment will cost $35,000.

PENNSYLVANIA

Berks in Health Move.—The day after the act authorizing counties to establish hospitals for the treatment of persons afflicted with tuberculosis was signed by the governor, a petition was immediately circulated by the Reading Sanatorium for Treatment of Tuberculosis, the Berks County branch of the Pennsylvania Tuberculosis Society. Under the new law the Berks commissioners will take steps to have a referendum taken on the hospital question at next fall's election after the petition is presented. If the vote is favorable plans and site will be selected, both of which must be approved by the state commissioners of health. Movements are being started in other large counties to take advantage of the new provisions.

Philadelphia

The Medical Club Reception.—Dr. William Blair Bell, Liverpool, England, and other distinguished foreign guests of the American Medical Association were the guests of honor of the Medical Club of Philadelphia on Monday evening, June 13, at the Bellevue Stratford Hotel.

Personal.—Dr. Harold W. Jones, for two years chief resident physician at Jefferson Hospital, was given a testimonial dinner by members of the resident's staff, June 10. At the close of the dinner, which was served in the hospital, Dr. Jones was presented with a case of instruments. Dr. Jones is a graduate of Jefferson Medical College, a member of the class of 1917.——Dr. Edward A. Schumann addressed the graduating class of the Frankford Hospital Training School for Nurses at the commencement exercises, June 9, in the North Frankford Baptist Church.

TENNESSEE

State Board of Health.—At the recent semiannual meeting of the state board of health, Dr. Walter J. Miller, Johnson City, was elected president for the year, and Dr. Evander M. Sanders, Nashville, vice president; Dr. F. M. McRee, for two years a member of the board, was succeeded, June 1, by Capt.

T. F. Peck. Dr. C. B. A. Turner is the fourth member of the board.

State Board of Medical Examiners.—Governor Taylor has recently reappointed Dr. Alfred B. DeLoach, Memphis, and Dr. Benjamin L. Simmons, Nashville, as members of the state board of medical examiners. Other members of the board are: Drs. Charles A. Abernathy, Pulaski; Nathaniel T. Dulaney, Jr., Bristol; William L. McCreary, Knoxville, and Harley W. Qualls, Union City.

Vanderbilt Receives Increased Endowment.—The Carnegie corporation and the General Education Board, both of New York, have each given half of $3,000,000 to the medical department of Vanderbilt University as an endowment. Funds for the erection of new buildings are available from appropriations of $4,000,000 made by the General Education Board in 1919. It is planned to erect an entirely new plant on the West Nashville campus. This new plant is to be completed about 1924. In the meantime, medical instruction will be continued in the present buildings on the south campus.

Compensation Act Covers Malpractice.—After several days' deliberation, Judge Laughlin, Memphis, ruled that an employee cannot continue to take the benefits of both the compensation act and a suit against a physician on the ground of malpractice. The point arose in the suit of Robert Graham against Dr. Asher R. McMahon, Memphis, for $35,000, charging malpractice. After filing suit against the physician, Graham went into court and settled with his employer and the insurance company under the terms of the state workman's compensation act. The judge elected that he could not enjoy the settlement under the state act and at the same time maintain the right to sue the physician.

GENERAL

Appropriation for National Board of Medical Examiners.—The board announces an appropriation, by the Carnegie Foundation, of $100,000 for its use during a five-year period to establish a national standard of examination and certification of graduates in medicine.

American Pediatric Society Elects.—The American Pediatric Society, at its thirty-third annual meeting, held in Swampscott, Mass., June 2-4, elected the following officers for the ensuing year: president, Dr. Maynard Ladd, Boston; vice president, Dr. Percival J. Eaton, Pittsburgh; secretary and treasurer, Dr. Howard C. Carpenter, Philadelphia; editor and recorder, Dr. Joseph Brennemann, Chicago.

Typhus on Mexican Border.—An outbreak of typhus among the Indians in the San Juan Agency, New Mexico, and at other points along the Mexican border has resulted in two officers of the U. S. Public Health Service being ordered to the scene. They are Surgs. C. E. Waller and Charles Armstrong. These surgeons will go to Sante Fe, New Mexico to confer with the state commissioner of health first, later cooperating with the state and Indian medical authorities in the suppression of the disease.

Intoxicating Liquor Bonds.—According to a recent Treasury decision (T. D. 3117, June 8, 1921), "hereafter no bond need be filed with application for permit under Title II of the National Prohibition Act (1) where the quantity of liquor to be procured during a calendar year does not exceed twenty wine gallons, unless in the opinion of the Federal Prohibition Commissioner a bond should be filed; or (2) in special cases where in the judgment of the Federal Prohibition Commissioner a bond is not necessary." Title II deals with the "Prohibition of Intoxicating Beverages" as distinct from Title III relating to "Industrial Alcohol."

American Psychiatric Association.—At the seventy-seventh annual meeting of the American Medico-Psychological Association held, May 31 to June 3, in Boston, a new constitution was adopted providing among other slight changes a change in the name of the organization which will hereafter be known as the American Psychiatric Association. The publication of the *American Journal of Insanity*, Johns Hopkins Press, Baltimore, will hereafter be the official organ of the association and will be published under a new name, the *American Journal of Psychiatry*, while the former transactions bound in book form will be omitted. The newly elected officers are: president, Dr. Albert M. Barrett, Ann Arbor, Mich.; vice president, Dr. Harry W. Mitchell, Warren, Pa., and Dr. Clarence Floyd Haviland, Middletown, Conn., secretary-treasurer.

Congress Acts on Appropriation for Social Hygiene Board.—In the final enactment of the Deficiency Bill into law, Congress reduced the amount allowed to the Interdepartmental Social Hygiene Board to $225,000. Congress confines the activities of the board to protecting the military and naval forces of the United States against venereal diseases; $200,000 is to be used exclusively for this purpose; and $25,000 is allowed for administration expenses. Congress struck out the proposed allowance of an additional $200,000 for allotment to the various states for the prevention and control of these diseases, outside of the military and naval forces. The result of this action by Congress is that the various state boards of health and various municipal welfare organizations will not receive any funds during the next fiscal year from the federal government to combat venereal diseases. Such funds for such bodies must come from the state government or other local sources.

Bequests and Donations.—The following bequests and donations have recently been announced:

Presbyterian Hospital, Philadelphia, $10,000 for a room in memory of his mother, Anna Clifford Hollingsworth, and $5,000 in memory of Dr. C. H. R. Wharton; Chestnut Hill Hospital, Philadelphia, $10,000 for a room in memory of Laura Albert Hollingsworth, his wife, by the will of Pemberton Hollingsworth.

Rochester (N. Y.) Homeopathic Hospital, $6,000, by the will of Bertha E. Hoxie, New York.

New Orleans Hospital and Dispensary for Women and Children, $2,500, by the will of Dr. William Kohlmann, New Orleans.

Jewish Orphan Asylum, Cleveland, $500; National Jewish Hospital for Consumptives, Denver, $200; Jewish Consumptive Relief Society, Denver, $100; Sir Moses Montefiorre Kesher Home for Aged and Infirm, Cleveland, $100; Marks Nathan Jewish Orphans' Home, Chicago, $100; Visiting Nurses' Association, Davenport, Iowa, $100; National Farm School of Buck's County, Pa., $100; St. Luke's and Mercy hospitals, Davenport, Iowa, each $100; Salvation Army and Ladies' Industrial Relief Society, and Friendly House, Davenport, Iowa, each $100, by the will of Isaac Petersberger, Davenport, Iowa.

Franklin Hospital, Philadelphia, $200, by the will of the late Horace Williams.

Sheppard-Towner Bill.—The American Gynecological Society, at its forty-sixth annual meeting held, June 2-4, 1921, took the following action regarding the Bill for the Protection of Mothers and Infants commonly known as the Sheppard-Towner Bill. This action of the society was taken, almost unanimously, after careful consideration of a report of its committee on maternal welfare acting jointly with a similar committee of the American Child Hygiene Association.

This Society wishes definitely to state its position for the information of the medical profession and others who are interested in this legislative program.

1. The committee is in thorough accord with the ends which this bill seeks to attain, namely, the protection of the health of mothers and infants.

2. We indorse the coordnation of all health activities under one head. We consider the protection of mothers and infants to be a *health measure* of paramount importance to the individual and the state.

3. We oppose in principle the control of health measures by non-medical individuals or boards.

4. We believe in the local control of health activities as distinguished from federal. We approve and indorse the idea of propaganda and investigation emanating from the federal government.

5. We do not indorse the Sheppard-Towner bill in its present form because it does not conform to the above principles and because it embodies the questionable plan of subsidizing state health activities.

6. We endorse the project of establishing a National Department of Health.

LATIN AMERICA

Personal.—Dr. L. Vargas Salcedo of Santiago, Chile, has been appointed secretary of the Superior Council of Public Charities of Chile.——Dr. G. Amunátegui, dean of the School of Medicine of Chile, has been appointed manager of the San Vicente de Paul Clinic Hospital.

New Military Hospital for Chile.—The funds already collected for the construction of a military hospital at Santiago amount to $170,000. Among the persons in charge of the collection of funds for the construction of the hospital are the following: Gen. L. F. Brieba, Lieut.-Col. A. Ewing, Dr. T. Boonen and Dr. Ostornol.

Conversion of Gambling Houses Into Hospitals.—Owners of gambling houses in Juarez, Mexico, having been ordered by the Mexican government to close their houses within thirty days, announced the formation of a company to build and operate a tuberculosis hospital at Juarez. Tents are being pitched on the race tracks, and the men now employed by the gambling concessions will be kept by the sanatorium.

Vital Statistics of Rio de Janeiro.—During the year 1920 the death rate of Rio de Janeiro was 18.92 per thousand, which shows a decrease over the previous year. Tuberculosis, malaria and typhoid fever showed, however, a very slight increase. According to the census made in 1920 under direction of Dr. Bulhoes Carvalho, Rio de Janeiro had in 1920 a population of 1,157,873 against 42,168 in 1799, 112,695 in 1821 and 811,443 in 1906.

Chilean Hospitals Lack Funds.—In spite of the million dollars deficiency appropriation granted by the last Chilean congress for hospitals, the different boards of charities in charge of these hospitals have still deficits which in some cases amount to millions of dollars. A bill has been introduced in the Chilean senate to increase to 7 per cent. the tax on the pari mutuel at horse races, the proceeds of which will be devoted to public charities purposes.

FOREIGN

American Medical Association of Vienna Reorganizes.—American physicians in Vienna have reorganized the club known as the American Club. At present the membership includes eighteen physicians.

A Monument to Wurtz.—The monument in memory of the chemist, A. Wurtz of Paris, will be unveiled at Strasbourg, July 5, by delegates from the Paris University, the Académie de Médecine and the medical faculty, of which he was the dean. He died in 1884.

Tribute to Professor Stiénon.—The pupils and other friends of Prof. Stiénon on the occasion of his approaching retirement from the chair of pathologic anatomy at the University of Brussels, are planning to found an endowment in his name. Baron L. Lambert, Ave. Marnix 20, Brussels, is in charge of the tribute. All subscribers of more than 20 francs will receive a bronze replica of the souvenir medal.

Tribute to Professor Monti.—A large gathering of pupils and friends met in tribute to Prof. A. Monti on the twenty-fifth anniversary of his connection with the University of Pavia as chief of the Institute of Pathologic Anatomy. The list of his works on general pathology, clinical medicine and bacteriology is a long one. He was presented on this occasion with the first volume of the set containing the results of his research from 1915 to 1919.

Dr. Paz Soldán in Madrid.—Dr. Carlos Enrique Paz Soldán, editor of the *Reforma Médica,* and professor of hygiene at the University of Lima, Peru, is now in Europe. At Madrid he delivered two addresses, one on "Endemo-Epidemiologic Formulas and Their Application," and a public lecture on "The Duty of the Race in the Present Age of the World and the Share that Social Medicine Should Take in the Work." Both addresses are published in the *Medicina Ibera* of May 14.

Mental Hygiene League.—There has recently been formed in France a League for Mental Prophylaxis and Hygiene. The league proposes to study problems relating to the prevention of mental disorders, both in individuals and groups. Attention is being given to the care of mentally defective children, and the league is also planning the establishment of early treatment clinics. At present these are designed as a part of the organization of the existing asylums. The league desires to be brought into contact with organizations having similar aims in other countries.

Tribute to the Memory of Jenner.—As already mentioned, the one hundred and twenty-fifth anniversary of Jenner's discovery of vaccination fell on May 14. Among the memorial tributes was a special public meeting organized by Netherlands physicians interested in the history of medicine. It was related that Jenner's report of his inoculation of James Philips was rejected by the Royal Society, to which he had sent it, with the comment that the proof presented was not convincing enough to be published in the transactions of the society. Jenner published his report then in a special pamphlet. Vaccination was introduced into Holland in 1800, and a number of engravings were reproduced dating from about that time dealing with vaccination.

Postgraduate Work in France.—The physicians of France have established in the Faculte de médecine, 12 rue de l'Ecole de Medecine, an "Association pour le development des relations médicales entre la France et les pays alliés," where any visiting medical man is made welcome and given assistance by a secretary who incidentally seems to have no limit to her linguistic accomplishments. In the bureau, there is a large file, with a classified directory of physicians, hospitals and subjects. For instance, if one is interested in orthopedics, the secretary looks up that subject and hands the visitor a list of the men who are doing orthopedic work in Paris, their office addresses, their hospitals, and their hours of visiting and operating, generally one day being particularly starred as the most interesting day for the foreigner.

Medical Assistance for Foreigners in France.—The French house of deputies recently discussed ways and means for care of the alien sick. According to the present legislation, foreigners residing in France have no right to medical aid or hospital care unless there is some treaty of reciprocal benefits with the homeland. At present there is no such treaty extant, but the indigent alien sick are cared for from simple humanity. One speaker asked that the state should notify the homeland and try to secure reimbursement for expenses. The discussion brought out that the wounded and those with acute, and especially epidemic diseases, will continue to be cared for as in the past pending the conclusion of reciprocal treaties. But foreigners with chronic diseases should not be admitted to the hospital unless there is plenty of room, and after consultation with the consul of the country to which the foreigner belongs, with a view to reimbursement of the expense to the hospital. The report is published in the *Journal Officiel* of April 30.

The "Oriental University" Fraud.—The *Deutsche medizinische Wochenschrift* devoted over half a column recently to this "mushroom university" which, it remarks in conclusion, "the American Medical Association has long been striving to put an end to." The article comments in detail on the record of the members of the teaching force, saying that the president, H. P. Holler, in 1909, was fined and given thirty day in prison for fraudulent practices, and that one of the professors advertises that he will draw horoscopes and foretell the future. "The institution offers thirty-two different kinds of diplomas for a two-year correspondence course or a thesis, the expense graduated to the willingness of the candidate to pay." The institution has a number of representatives in other countries, the Mitelsky Naturheilanstalt being their representative in Berlin. The editorial continues "To increase the trustworthy impression, the president, Holler, had his signature attested by a notary, and the signature of the notary was then attested by the secretary of state, and by the ambassador of the foreign country involved. Thus it happened that the Swiss embassy in Washington for years had been endorsing this swindle in this way, and it was flourishing mightily in Switzerland. The University of Geneva interfered in 1919, however, and the institution can no longer be exploited in Switzerland. These data suffice to show the true character of this institution which has lately been carrying on a very active propaganda in Europe, especially in Germany and France. The medical degree it sells for $165 is absolutely worthless and is not accepted anywhere even in America."

Deaths in Other Countries

Ernest Courtney Lomas, Surg., Capt., Royal Navy; M.R.C.S. (England), 1888; F.R.C.S. (Edinburgh), 1907; aged 56; was appointed surgeon in the Royal Navy in 1891, and retired in 1919; died, February 24.——**Phineas Simon Abraham,** London; F.R.C.S. (Ireland), 1880; aged 74; died, February 23.——**William John Ironside Bruce,** London; University of Aberdeen, Scotland, 1903; organizer and physician in charge of the roentgen-ray department, Charing Cross Hospital; died March 21.——Dr. **E. Chiaruttini,** instructor in pathology in the medical school at Udine.——Dr. **P. E. Winge,** a medico-legal authority and author of an extensive history of insanity in Norway, aged 64.——Dr. **A. Zubiani,** one of the early pioneers in the organized fight against tuberculosis in Italy.——Dr. **Juquelier,** chief of the Vaucluse Asylum in southern France.——Dr. **Vénot** of Bordeaux, aged 87.——Dr. **R. Fajardo Vega** of Bogota.——Dr. **Avelino Barrena** of Havana, who has been connected with the administration for some time.——Dr. **G. Fischer** of Hannover, the editor of Billroth's letters.——Dr. **Groedel,** the head of the sanatorium bearing his name at the watering place of Nauheim, Germany, aged 71.

CORRECTION

Association of American Physicians.—In the proceedings of this organization published in THE JOURNAL, June 4, the name "Sidney Strauss" printed as discussing the paper of Dr. Woodyatt should be "Solomon Strouse."

Officers of Physicians and Surgeons Industrial Association of Michigan and of Michigan State Society.—Through an error THE JOURNAL listed as officers of the Michigan State Medical Society the names of those elected as officers of the Physicians and Surgeons Industrial Association of Michigan. At the meeting of the Michigan State Medical Society the following officers were elected: president, Dr. W. J. Kay, Lapeer; vice presidents, Drs. J. W. Hauxhurst, Bay City, E. Sawbridge, Stephenson, H. MacMullen, Manistee, and H. A. Hafford, Albion; councillors, Drs. F. B. Walker, Detroit, R. C. Stone, Battle Creek, H. E. Randall, Flint, C. C. Clancy, Port Huron; speaker of the house of delegates, Dr. J. D. Brook, Grandville, and vice speaker, Dr. Carl Moll, Flint. For the 1922 meeting place, Flint was chosen.

Government Services

Public Health Service Publications Limited to One Thousand Copies

All publications of the U. S. Public Health Service must be reduced to 1,000 copies, according to the new law passed by the last session of Congress. The purpose of the act is the conservation of white paper. Innumerable publications of the health service will be affected. The Public Health Reports sent out every week have been distributed to the number of 10,000 copies. This must be reduced to 1,000. Bulletins of the Hygienic Laboratory and other bureaus will also be reduced.

Reserve Medical Officers May Care for War Veterans

After a sharp debate in the Senate the amendment to the Army Appropriation bill permitting the calling to active duty of reserve medical officers to serve in Army hospitals caring for beneficiaries of the Bureau of War Risk Insurance was passed. This measure gives the Surgeon-General of the Army authority to place reserve officers into active service with the stipulation that this step can only be taken when there are an insufficient number of regular Army medical officers available. In the course of the debate it was brought out that many of the Army hospitals having empty beds would be utilized for the care of disabled war veterans in the future.

Amalgamation Bill Passes House

The Sweet Bill creating a Veteran's Bureau in the Department of Treasury has passed the House of Representatives after a week's debate by a vote of 335 to 0. The terms of the measure provide for the amalgamation of the Bureau of War Risk Insurance, the Board of Vocational Rehabilitation and the activities of the U. S. Public Health Service with regard to the care and treatment of former service men. Fourteen regional offices are established throughout the country, all with authority to adjust compensation, render medical attention, and send patients to hospitals upon application. Offices numbering 140 are also established at which war veterans can apply for relief.

Investigation on Care of War Veterans

The U. S. Public Health Service and other agencies will be subjects of an investigation conducted by five members of the Senate, including three Republicans and two Democrats. The purpose of the inquiry will be to fix responsibility for the failure to give proper care to the disabled soldiers and sailors. The resolution for the investigation was introduced by Senator Walsh of Massachusetts and passed unanimously. The senator in discussing his resolution said he believed it would do much to restore the confidence and trust of the veterans if Congress would pick up and vigorously investigate charges that the disabled soldiers had not been cared for as they deserved. As a class, he said, the veterans had been much dissatisfied with the treatment accorded them.

Appointments in the Reserve Corps

Under date of May 27, 1921, the Adjutant-General of the Army made the following announcement:

On June 30, 1921, all appointments in the Officers' Reserve Corps tendered prior to April 30, 1919, will be cancelled unless acceptance or declination of appointment has been received. In the future appointments will be cancelled in those cases in which acceptance or declination is not received promptly and in any case within sixty days of the tender of appointment.

There are pending 4,669 appointments in the Officers' Reserve Corps of persons to whom appointments have been tendered and from whom no acceptance or declination of the tendered appointment has been received. The dates of these appointments extend back from sixty days to two years, and all reasonable efforts have been made by the War Department to secure the acceptances or declinations of the appointees.

The War Department realizes the value of the Reserve officers to the Government and desires to retain them in service, but also realizes that in an emergency it can count only upon those whose appointments are completely consummated. The necessity of readiness to meet an emergency requires that this large number of appointments in suspense be eliminated. Furthermore, economy in administration requires that the clerical labor of endeavoring to locate and secure replies from persons who largely through their neglect, failed to receive or reply to tenders of appointment, be eliminated.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 16, 1921.

Sudden Death of a Man Said to Have Been Rejuvenated by Professor Steinach's Operation

Recently the Budapest correspondent (The Journal, April 9, p. 1026) gave an account of the rejuvenation method of Professor Steinach, who, after successful experiments on rats, claimed to rejuvenate senile men by ligature of the vas deferens. "And no man putteth new wine into old bottles, else the wine doth burst the bottles" (St. Mark). Thus, a morning paper heads the account of an inquest on a man, aged 72, whose sudden death under dramatic circumstances has produced a great sensation. He died on the eve of a lecture entitled "How I Was Made Twenty Years Younger by the Method of Professor Steinach of Vienna," which he was announced to give in the largest hall in London (the Albert Hall). His landlady gave evidence to the fact that he went to Vienna at the beginning of the year and was away for eleven weeks, and returned a changed man. He was in correspondence with a hospital sister, aged 34, who nursed him after the operation and whom he said he was going to marry. He delivered one lecture on his case at a local hall, and then arranged to give one at the largest hall that could be obtained in London. Every detail, including an organist who was to play, was arranged for the lecture. The applications for tickets were numerous, not only from the general public but also from physicians and others interested scientifically in his case. He was an Englishman retired from business in Australia, with considerable means, and had no motive to make money. Business men from all parts of the country poured inquiries on him, and this induced him to give the world the benefit of his experience. On the morning of the lecture he was found dead in bed with a glass of wine beside him, which had been supplied after he had complained of pains in his chest. His physician gave evidence that the deceased consulted him a month ago for a pain in the left side, which he said was due to striking himself in the chest while showing some one how strong he was. He attributed death to angina pectoris. The necropsy revealed all the organs normal. There was no scar on the body such as would be due to an operation. A cousin of the deceased said that he returned from Vienna looking much younger, and that the operation had cost him $3,500. Just before the time of the lecture, Professor Steinach wrote, asking him to get a film taken of himself going through a number of gymnastic movements, which he wanted to send to scientific friends in America. In an interview given to the *Daily Chronicle*, he said that he asked Professor Steinach how long the effect of the operation would last, and he laughingly replied, "twenty to thirty years." "Well, I am a man of 70 now," the patient said; "when I am 100 I will come to you again for another operation, and then perhaps I shall last to 150."

Darwin's Theory of Man's Origin

Concluding his course of lectures on Darwin's theory of the origin of man, at the Royal Institution, Professor Keith referred to Dr. Henry Head's Croonian lecture just delivered on "Release of Function in the Nervous System," which showed how man's brain had reached its present eminence by the growth and domination of the cerebral centers—the seat of the higher faculties. They attained their position by mastering and bringing under control a world of ancient lower centers—centers which did almost independent duties in jungle days. Dr. Head showed that as long as the higher

centers are normal they control the lower; but if from stress of war, of business or of worry, the higher centers become damaged, then the lower and more ancient instinctive and emotional centers are let loose and overpower the higher. We have long been familiar, said Professor Keith, with the manner in which the cerebral hemispheres attain their dominant position in the growing human embryo, and their gradual increase as we ascend the animal kingdom. Dr. Head's researches have revealed the practical importance of Darwin's theory and given a clue to mental disorders, such as hysteria. The lower centers of the human brain form an underworld now being explored by the psychotherapist. Referring to the aspiration of H. G. Wells for a purely intellectual race free from instincts and prejudices, such as patriotism, Professor Keith thought the danger which would beset such a being would be that he might long for his grave just as we now count the hours to bedtime. The daily press showed that it was not the intellectual but the emotional which was wanted. The big headlines devoted to divorces, murders, scandals, sport and news of victory or disaster indicated what interested the public. Aside from half a column devoted to chess or the ponderous leader there was nothing for the intellectual person. Although the brain centers which subserve the instinctive, emotional and passionate life of man are spoken of as the lower, they are of the highest importance, for they give zest for life. With the rise and dominance of man's intellectual centers there has been an uplifting expansion of his emotional nature. It was this that made him a creature of laughter and tears: in these emotional expressions he stood alone, although their beginnings could be traced in apes. There was as great a difference between the emotional life of a man and that of an ape as between the music of a grand orchestra and that of a street fiddler. In search of the origin of man's emotional nature Darwin studied the behavior of all kinds of animals, and found among apes the nearest approach to human manifestations. In recent years we had learned much as to the physiology of the emotions, which helped to explain Darwin's theory of man's origin. When thrown into a state of terror, man and animals assumed an instinctive posture and expression. We now knew that in such states the blood was flooded with the hormone of the suprarenal glands. The love potion of the medieval romance was not such an impossibility as was supposed, for we had discovered that Nature held the secret. Those who spoke of the intoxication of love were nearer the mark than they knew.

Epidemic Encephalitis

Between April 1, 1920, and March 31, 1921, 1,572 cases of lethargic encephalitis were reported in England and Wales. The deaths during this period, so far as is known, amount to 495. Jan. 1, 1919, the disease was made compulsorily notifiable.

Vital Statistics

A sharp decline in the number of marriages, which occurred at the end of last year, shows how severely the financial position reacts on social life. The number of persons married during the last quarter of the year was 36,098 fewer than in the preceding quarter, and 19,534 fewer than in the fourth quarter of 1919. The year 1919, the last of the "boom" years following the war, showed a large number of marriages, and it seemed that 1920 would do the same until the break in trade occurred. The incidence of taxation, unemployment, and the excessive cost of everything has made marriage very difficult. The birth rate for the first quarter of 1921 was 22.6 per thousand of population, the lowest for any first quarter since the establishment of civil registration, excepting the first quarters of the war years 1916-1919. We are beginning to find that excessive taxation kills more than industry—home life and child life. The death rate is also the lowest ever recorded in the first quarter of the year, being 13.9 per thousand of population. For comparison, the rates in the first quarters of the following years were: 1914, 16; 1915, 20.1; 1917, 19.3; 1918, 16.4; 1919, 21.2; 1920, 14.7. Influenza accounted for 2.5 per cent. of the mortality. The infant mortality per thousand births was 101, being 17 per thousand below the average in the preceding ten first quarters.

MADRID

(From Our Regular Correspondent)

May 4, 1921.

Mayors Are Personally Responsible for the Payment of Town Physicians

The lawsuit, brought by Dr. Zurita, town physician of Algeciras, against the mayor of the same town to compel him personally to pay his salary, was finally appealed to the first division of the supreme court, which decided that the mayor must pay out of his own pocket the back salary so far unpaid by the municipal authorities. Hereafter, every town physician will have a sure way to collect his salary, and mayors will espouse their cause so they may not be compelled to provide their own funds.

Dr. Escudé's Death from Allergy Caused by Tuberculous Antigen

Dr. Escudé, head of the research laboratory of the medical school of Madrid and the Niño Jesús Hospital, was a conscientious and well known research worker. He was still young, about 40 years old, when he died suddenly, leaving his widow and two daughters absolutely penniless. Dr. Escudé had a few days ago some slight trouble and, as customary with physicians, he became alarmed and went for advice to some of his colleagues. One of them who specializes in tuberculosis found something abnormal in the apex of a lung and advised him to take injections of "partigens," a substance he had used in many patients. Partigens are tuberculous antigens deprived of the water-soluble substances which apparently cause the toxic fever observed when tuberculin is injected. "Partigens" are divided into four groups: one, proteinic; another, lipoid; the third containing the waxy matter of the bacillus, and the fourth apparently including the first three groups. When the injection of "partigens" was first suggested to Dr. Escudé, he was opposed to it; but his friends were so insistent that he finally agreed to their suggestions. After the first injection, the general reaction was accompanied by intense hemolysis and marked purpura. Finally, he died after a few days of uncontrollable hemorrhages, loss of blood through the eyes, nose and mouth, and more than forty melenae in twenty-four hours. Referring to this case, Professor Pittaluga read at the Royal Academy of Medicine a paper discussing some cases of allergy following injections of analogous substances, including two patients treated with tuberculin, who had serious purpuric manifestations after each injection.

Dr. Marion's Lecture on Prostatectomy

The famous surgeon of Lariboisière Hospital of Paris, Dr. Marion, on the invitation of the Royal Academy of Medicine, gave a lecture on the principles and indications of prostatectomy. After describing the anatomy and pathology of prostatic enlargement, Dr. Marion dwelt on the importance of the bacteriologic urinalysis. The surgeon should never confine himself to a chemical analysis and determination of Ambard's constant. He said that whenever there are streptococci, even if the germs are few and the urine may seem virtually normal, there is danger of the patient's losing his life through a postoperative infection. He advocates the two-step

operation as less dangerous. He laid stress on the need of dilating the bladder to the utmost. He performs enucleation by introducing the finger inside the urethra, tearing the mucous membrane on its interior aspect and passing immediately to the layer in which enucleation is to be carried out. He advises the removal of all parts of the vesical mucous membrane covering enucleated adenomas to avoid leaving any mucous bundles which may perpetuate retention and compel other operations. In taking out the adenoma, he is very careful to use the nail previously at the bottom without pulling the pseudoprostate so as not to tear away any part of the mucous membrane of the urethra, as this afterward on healing might cause complete urethral occlusion. After the operation is over, the prostatic cavity should be reexamined to remove any secondary adenomas which in time might cause the so-called recidives of the prostatic enlargement. These are not such, but adenomas remaining from the first operation. Next he plugs the prostatic cavity with gauze. While this is not easy, it seems essential in order to prevent primary hemorrhages. The postoperative period is divided by him into hemostasis, contraction of the wound, occlusion of the wound and healing of the prostatic cavity. He applies continuous irrigation with Marion's tube whenever the temperature rises. No patient prostatectomized should be considered cured until the prostatic cavity has healed. If healing is delayed, daily washings or instillations are made with silver nitrate to prevent infiltrations. Next he uses a permanent rubber tube with several openings.

As to indications, he stated that prostatectomy should be made in all retention cases whenever a catheter is required. Retention is a danger, as the subject may become infected and his renal function impaired. He recalled the fact that Albarrán had examined histologically 100 prostates he operated on for adenoma, and found fourteen cases of epithelioma. Physicians and surgeons do not hesitate in advising the removal of a breast adenoma to prevent its becoming an epithelioma. If they apply the same rule to other parts of the body, and there is no reason on the contrary, they will also advise extirpation of prostatic adenomas to prevent its malignant transformation.

PARIS

(From Our Regular Correspondent)

May 13, 1921.

Prophylaxis of Typhoid Caused by Oysters

Dr. Courtois-Suffit, physician to the hospitals of Paris, recently presented, in collaboration with his intern, M. F. Bourgeois, an important communication to the Academy of Medicine on the hygienic and prophylactic measures that should be taken to prevent the transmission of typhoid fever by oysters and other edible mollusks. The proposed measures comprise: (1) sterilization; (2) organization of scientific hygienic and bacteriologic control of oyster establishments, and (3) supervision of the handling and marketing of oysters. By the sterilization process the oysters in the shell are rid or are supposed to be rid of their bacteria and impurities and thus made fit for human consumption. Unfortunately, experience has shown that the sterilizing procedure, while perfectly efficacious when confined to the domains of laboratory research, is absolutely inadequate when applied on a large scale to the oyster industry. The results, therefore, of sterilization cannot be depended on, and, in addition, a permanent control as outlined by the second and third procedures should be instituted. Instead of seeking to render edible the oysters and other shell-fish that are supposed to be pathogenic, it would be much more logical to see to it that oysters grown in foreign countries (Holland more particularly) do not become contaminated during their growth and their distribution. Some attempts have already been made in this direction. At the present time, in France, however, there are no legal enactments requiring wholesale dealers in oysters to submit to the hygienic control of their establishments and to a bacteriologic inspection of their products. It is true that the Office scientifique des pêches (bureau of fisheries), a subordinate department administered by the minister of the merchant marine, will, on request of oyster cultivators who so desire, exercise such scientific control. This government bureau will make repeated bacteriologic analyses of oysters and of oyster grounds. Its representatives will visit oyster establishments and give advice in regard to needed hygienic modifications, but their recommendations are purely of an advisory nature, since oyster cultivators are under no legal obligation to carry out their suggestions. It would seem desirable to make such control obligatory and to demand that every shipment of oysters shall be accompanied by a certificate attesting to the perfect hygienic conditions under which the product was produced. In certain regions of the south, and especially along the Mediterranean Coast, there are two methods of preserving oysters practiced that are equally reprehensible and dangerous. The first consists of putting oysters which are brought in from the ocean in a healthy condition, and which it is desired to keep for later consumption, in reservoirs in the Mediterranean. Various investigations have shown that these reservoirs are almost invariably located in unhealthy zones—near the entrance to a port or in the vicinity of sewer outlets. A second even more pernicious practice consists in immersing in the waters of the port nets containing the oysters that have already been contaminated by passing through the reservoirs, in case any have been left over from the day's sale, in order to keep them alive another day. This practice also leads to contamination, and it should be absolutely prohibited. The establishment of reservoirs should be strictly controlled, and, in fact, rehandling of oysters should be reduced to a minimum. It would be equally desirable, in the cities, that the services established for the suppression of fraud and which are authorized to seize oysters and shell-fish when found unfit for consumption should also be empowered to test these products as regards their bacteriologic purity.

Relative Immunity of Infants to Measles

Dr. Weill, professor of clinical medicine in the medical school of the University of Lyons, reports his observations, together with Dr. Bocca, on the evolution of an outbreak of measles in a day nursery that, after the second case developed, was entirely closed to outside contamination. Although the children were disposed in cubicles and were thus separated from one another except for the fact that the cubicles were open at the top, nevertheless twenty-two out of the thirty-three children were stricken with the disease. It is worthy of note that the eleven children who did not take the disease were all under 6 months of age, whereas the twenty-two who did come down with it were all more than 6 months old. The same prophylaxis was employed in the case of all, and in an annex that was not divided off into cubicles only children under 6 months of age remained free from the disease. This immunity is possibly transmitted to the child by its mother, who may have acquired it by a previous attack. According to Weill, the same thing is true of scarlet fever. A mother with scarlet fever may even nurse her child; she seems to immunize it. As for whooping cough, it appears in an exceedingly grave form in children about a year old, but is of an equally mild type in infants from 4 to 5 months old.

A Spanish Medical Delegation at Paris

With the view of establishing closer medical relations between France and Spain, the Ecole catalane pour le développement des études médicales en France recently sent to Paris an important delegation composed of twenty-three

visitors. During each day of their stay, either they were invited to visit our hospital services, or clinical lectures were given for their especial benefit. On certain occasions, Professors Corachan, Bartina, Moralez and Ribas were called on to explain some of their methods or to perform certain surgical operations.

Election of the General Secretary of the Academy of Medicine

The Academy of Medicine has just elected its general secretary, who serves for five years. In accordance with recent modifications of the by-laws of the academy, the general secretary will take the place of the perpetual secretary of former years. On the first ballot, Dr. Achard, professor of the school of medicine of the University of Paris and already acting in the capacity of annual secretary, was chosen general secretary.

BERLIN

(From Our Regular Correspondent)

May 14, 1921.

Limits of Conservative and Surgical Treatment of Tuberculosis of the Bones and Joints

At the Berlin meeting of the Deutsche Gesellschaft für Chirurgie, Professor Bier of Berlin and Professor König of Würzburg presented surveys on the subject of the limits of conservative and surgical treatment of tuberculosis of bones and joints. According to Bier's opinion, operative treatment is justified only in exceptional cases: in threatening amyloid degeneration, in complicating sepsis, and in grave cavernous lung involvement with a concomitant severe type of joint infection. In all other cases conservative treatment is indicated. In Bier's service, extracapsular bone foci are no longer given operative treatment. Sequestrums, even though they may be infected, are resorbed and do not need to be removed through operation. Subluxated knee joints should not be resected but should be gradually reduced by proper extension and suspension. Cold abscesses are usually left untouched. At most, they are sometimes incised, but no injections are made. Hypostatic abscesses developing from the spinal column should not be opened. Bier does not recognize any indications for the Albee operation. Nor does age (over 50 years) constitute an absolute indication for operative intervention. However, he recommends amputation in the presence of a grave type of suppuration in joints in elderly persons. Heliotherapy, passive hyperemia and internal administration of iodin are the three means by which the cure of even severe types of surgical tuberculosis can be effected. The pigmentary substance that appears in the skin following the application of heliotherapy is derived from hemoglobin and is a sign that protein bodies are being decomposed. It is thus a process similar to that which occurs in connection with proteotherapy. The effect of the sun on the diseased joint cannot be regarded as a local specific action but rather as a general influence whereby the defensive forces of the organism are aroused. Along with heliotherapy, passive hyperemia is still employed and produces good results, provided the dosage is correctly adjusted. To prevent cold abscesses from arising and the formation of excessive granulation tissue, he resorts to the internal administration of iodin. Tuberculin is often successfully used for therapeutic purposes in ambulant policlinic practice. He has seen no good results from the Friedmann treatment, although at first he looked upon it with favor, as it seemed to harmonize with Koch's and Behring's ideas. He opposes vigorously the use of fixation apparatus. Patients suffering from tuberculous conditions involving the lower extremities should be put to bed and given heliotherapeutic treatment in bed or they should be treated with suspension splints; but, from the start, as soon as the pain has begun to recede, systematic exercises must be instituted. It is a false assumption that only the sunshine of mountainous regions exerts a markedly favorable effect. Even in the lower altitudes (as is proved by the successful results secured in Hohenlychen near Berlin), if the proper dosage is given and adequate protection against the wind is provided, worth-while effects can be secured. Up to the present time, between 1,300 and 1,400 cases have been treated at Hohenlychen with equally as good results as are secured in mountain climates, as was demonstrated by a number of roentgenograms, from which the mode of suspension treatment and the resorption of sequestrums can be viewed. The attempt is now about to be made to utilize more widely the experience gained at Hohenlychen by erecting on one of the drill grounds in the outskirts of Berlin a temporary shelter and accommodations for 400 patients suffering from tuberculosis of the upper extremities, lupus or tuberculosis of the glands. The patients are to remain here during the daytime, and at night are returned to their homes. The healing of a local focus of infection does not, however, afford the patient protection against a general infection or against the appearance of a focus elsewhere in the body. For example, fourteen patients died at Hohenlychen from tuberculous meningitis. Among the 1,300 to 1,400 patients at Hohenlychen, there have been fifty-four deaths, eighteen of which were due to amyloid degeneration, which cannot be diagnosed. Severe toxic nephritis may also disappear under heliotherapeutic treatment. Of late, Bier has treated also pulmonary tuberculosis in this manner. He regards as untenable the objection that congestion of the lungs is liable to follow sun treatment. That, of course, all depends on the dosage, as is true, in general, in regard to heliotherapy. In combating tuberculosis, prophylaxis constitutes an important factor. For this purpose physical training is important and must keep pace with mental development. Sun baths and gymnastic exercises, with the body nude, are helpful; and, since compulsory military service has been abolished, are more essential than ever. It was with the purpose in mind of developing a sturdy race, free from any tendencies to tuberculosis, that collegiate courses in body gymnastics have recently been established.

Professor König, on the other hand, cannot accept Bier's strictly conservative attitude. Answers to a questionnaire submitted to twenty-two of the leading surgeons of the country reveal the fact that they are divided into three groups with respect to this question. Bier proved to be the sole representative of the extremely conservative standpoint, although a large number of other surgeons favor conservative treatment during the juvenile period. A second group recommends a reasonable trial of conservative treatment; but, if this fails, operative treatment is advocated. It is noteworthy that even surgeons in mountainous regions favor a more active procedure than Bier. Then, again, there is a third group that is more inclined to resections and amputations. They demand, however, clear indications for surgical intervention. Local foci in bones, especially if near a joint, they maintain, should be removed. If the focus of infection perforates into the joint, resection is indicated. In the presence of grave mixed infection, immediate operation is required. Surgical intervention, this group further asserts, is justifiable if suppurative processes that are progressive are diagnosed. Resection is not contraindicated in elderly persons. It is worthy of note that insurance companies are opposed to conservative treatment by reason of its long duration, which, they believe, exerts a bad influence on the psyche of the patients. Resection, the end-results of which can be improved by opening the capsules (after pursuing a waiting policy as long as possible) and treating the opened joint with phenol-camphor, iodoform or Lugol's solution, must, however, be regarded as only an episode in the general treatment of tuber-

culosis, and, in addition to surgical treatment, we must give the patients the full benefit of the sun and the air.

Typhus Fever Research

Before the Mikrobiologische Gesellschaft of Berlin, Professor Friedberger (Greifswald) delivered an address recently on the exciting organism of typhus fever, following which the subject was discussed at length. Although numerous experimental investigations on the etiology of typhus fever were undertaken in many countries during the war and have been continued since its close, they have as yet resulted in no common agreement. Most investigators hold the view that very minute coccus-like organisms, which are found in large numbers in the intestine and in the intestinal cells of the louse and which were termed "rickettsia" by Rocha-Lima (Hamburg), are the causative agent of typhus fever. It is no longer denied that this disease, which during the war claimed so many victims in the armies and among the civil population of the lice-infested areas of the Southeast (Russia, the Balkans, Asia Minor), is transmitted by lice from person to person. A few bacteriologists, the principal representative of which group is Professor Friedberger, declare that the exciting organism of the disease is the bacillus known as X-19, which was first isolated by the Austrian bacteriologists Weil and Felix from the bodies of typhus fever patients; and, indeed, it is possible by the demonstration of the presence of this bacillus alone to establish a serologic diagnosis of typhus fever. A small quantity of the blood serum of typhus fever patients gives, in a very high dilution, an exceptionally well marked reaction with this bacillus, in much the same way as the blood serum of typhoid patients with *B. typhosus*. However, all endeavors to prove that the bacillus X-19 is identical with the specific cause of typhus fever have thus far been unavailing, as it has been impossible by means of a culture of the bacillus X-19 to produce a similar disease process in an appropriate experimental animal such as the guinea-pig, although the disease can easily be produced by the injection of the typhus fever virus found in the blood of a typhus fever patient. Further investigations must be made before any clarity can be reached. It remains a strange biologic fact that the bacillus X-19, almost without exception, reacts on the blood serum of typhus fever patients but not on that of normal subjects. Thus, the reaction discovered by Weil and Felix has at least acquired an important significance in combating epidemic outbreaks of the disease.

Marriages

WILLIAM BOWERS WATTS, JR., Miami, Ariz., to Miss Vera Claire of Byromville, Ga., April 27.

LOUIS FRANKLIN TALLEY to Miss Meta Lillian Watson, both of Marshalltown, Iowa, March 27.

ISIDOR S. RAVDIN to DR. ELIZABETH GLENN, both of Philadelphia, at Franklin, Pa., June 3.

CHARLES EDWARD HAMILTON, New York, to Miss Amelia B. McCallum of Brooklyn, June 9.

ROBERT CHARLES OLNEY, Lincoln, Neb., to Miss Lillian Yunger of Cincinnati, April 28.

BENJAMIN J. READ to Miss Chloe Dymple Spriegel, both of Red Jacket, W. Va., June 8.

HUGH S. MCGUINESS, Athens, Wis., to Miss Marguerite Hall of Chicago, June 8.

GEORGE PINESS, Los Angeles, to Miss Hortense Weil of San Francisco, April 19.

PHILIP LEWIN to Miss Merriel Mayme Abbott, both of Chicago, May 26.

MORRIS K. SILBERMAN to Miss Alice Levy, both of New York, June 7.

EARL L. BAUM to Miss Agnes Sundlie, both of Milwaukee, May 26.

Deaths

Oscar Davis ⊕ Austin, Texas; Medical Department of the Fort Worth University, 1898; member state legislature; formerly assistant state health officer aiding in organization of the bureau of public health education, communicable diseases, public health nursing and child hygiene, being for a time director of the latter; director of the bureau of venereal diseases, 1919-1920; found dead in bathtub wit hthroat cut, at hospital where he had come for treatment, May 25, aged 62.

Johnson McKee Sites, Martinsburg, W. Va.; New York University College, 1885; New York University College, 1904; member West Virginia Medical Society; at one time president of the Eastern Panhandle Medical Society, of which he was elected an honorary member for life; member city hospital faculty; member and president state board of examiners of nurses; died, May 23, after a long illness, aged 59.

Howard Williams Longyear ⊕ Detroit; Columbia College, New York, 1875; member American Surgical Society and American Gynecological Society; professor of gynecology, Detroit College of Medicine, and consulting physician to Woman's Hospital, consulting gynecologist to Providence Hospital and consulting surgeon to Harper Hospital; died suddenly, June 2, aged 67.

Frederick A. Tucker, Noblesville, Ind.; Rush Medical College, 1897; member Indiana State Medical Society; lieutenant-colonel, U. S. Army, World War, in charge of Base Hospital No. 1, near Paris, for eighteen months; died, June 7, following an operation for appendicitis, aged 48.

Melamed Ovidin, National Soldier's Home, Me.; Temple University, Pa., 1909; served overseas as captain, M. C., U. S. Army, World War; surgeon, Home for Disabled Veteran Soldiers; shot and instantly killed, May 25, by an insane soldier in the hospital, aged 42.

Charles A. Stillwagen ⊕ Pittsburgh; Jefferson Medical College, 1892; postgraduate courses in Berlin and Vienna; member surgical staffs of Pittsburgh and Columbia hospitals, Philadelphia; captain, M. C., U. S. Army, World War; died, June 4, after a long illness, aged 55.

John Edward Hays, Louisville, Ky.; College of Physicians and Surgeons, Kansas City, Mo., 1878; professor of dermatology and syphilology, University of Louisville, 1908-1909; died, from pneumonia, at St. Edward's Hospital, New Albany, Ky., May 21, aged 65.

James Albert Meek ⊕ Norwalk, Conn.; McGill University, Montreal, Canada, 1875; first president, Canadian Society of New York; author of books and brochures on afflictions of the eye, ear, nose and throat; died, May 30, from cerebral hemorrhage, aged 73.

George Elmer Horton, Shelbyville, Tenn.; University of Chattanooga, Tenn., 1908; major, Three Hundred and Fourth Field Artillery during World War, given special discharge, 1918; was shot and killed at Wartrace, Tenn., May 23, aged 43.

Bache McEvers Emmet, New York; Columbia University College of Physicians and Surgeons, New York, 1867; great grandson of the Irish patriot Robert Emmet; died, May 27, at his country home, Ridgefield, Conn.

M. E. Neely, Walterhill, Tenn.; University of Louisville, Ky., 1870; veteran of the Confederate army; at one time member of state legislature; died, May 25, from heart trouble and Bright's disease, aged 78.

William Henry Spicer, New York; New York Homeopathic Medical College and Flower Hospital, 1910; at one time member staff of the Flower Hospital; died, June 6, from bronchitis and heart trouble, aged 57.

Joseph Robinson, Nevada, Mo.; Jefferson Medical College, 1875; at one time superintendent Missouri State Hospital No. 3; died, April 9, from prostatic disease, at the Nevada Sanatorium, aged 74.

John Dattle Carter, Wadley, Ga.; University of Georgia Medical Department, 1905; died in hospital, Elco, Nev., May 20, crushed while working on highway in hope of recovering his health, aged 38.

Nelson Gaddy Harrod, Tampico, Ind.; Kentucky University, Louisville, Ky., 1904; killed instantly when automobile in which he was riding was struck by train, May 31, aged 50.

Moulton J. Kline, Orefield, Pa.; University of Pennsylvania, 1875; at one time member of the Pennsylvania state legislature; died, May 15, at Center Valley, from uremia, aged 66.

⊕ Indicates "Fellow" of the American Medical Association.

Robert D. Weaver, North Middletown, Ky.; Louisville Medical College, 1871; surgeon in Civil War; practicing physician for more than fifty years; died, May 18, aged 72.

Jesse Albert Bolin ⊕ Philadelphia; Jefferson Medical College of Philadelphia, 1881; coroner's physician in 1910; died, May 22, after an illness of thirteen weeks, aged 65.

William T. Johnson, Eldorado, Ill.; Missouri Medical College, 1894; member of Illinois State Medical Society; died, May 24, from carcinoma of the stomach, aged 54.

Job Robert Mansfield, Germantown, Pa.; Hahnemann Medical College of Philadelphia, 1879; member of the Pennsylvania Medical Society; died, May 28, aged 66.

George Franklin Mason, Milwaukee; Milwaukee Medical College, 1901; member Wisconsin State Medical Society; died, May 13, from Bright's disease, aged 67.

Henry Harper Greene, Paines Hollow, N. Y.; Geneva (N. Y.) Medical College, 1859; a member of New York legislature, 1892-1893; died, May 9, aged 84.

Robert Burns Waddy, Lexington, Ky.; Kentucky School of Medicine, Louisville, 1891; at one time mayor of Lexington; died in New York, May 31, aged 67.

Roland Fisher Thomas, Greenburg, La.; Medical Department, University of Louisiana, New Orleans, 1904; died, May 9, at New Orleans, aged 38.

John W. McCausland, Fort Wayne, Ind.; Rush Medical College, 1870; died, from disease of the throat, at St. Joseph's Hospital, May 31, aged 65.

Asa P. Taylor, Lexington, Ky.; Medical College of Ohio, Cincinnati, 1878; died suddenly, May 22, from neuralgia of the heart, aged 65.

Edward H. Thomas ⊕ Argenta, Ill.; Columbia University College of Physicians and Surgeons, New York, 1883; died, May 22, aged 62.

Charles S. Valcour, Nashua, N. H.; Baltimore Medical College, 1895; member Nashville board of education; died, May 21, aged 49.

Eliza Grady, Eastport, Me.; New York Medical College and Hospital for Women, 1901; died, April 12, from angina pectoris.

Nimrod T. Clark, Olympia, Ky.; Medical Department, University of Louisville, Ky., 1892; died, May 24, from sepsis, aged 71.

Rufus G. Williams, Dallas, Texas; University of Louisiana, New Orleans, 1870; Confederate veteran; died, May 24, aged 76.

Union Worthington, Salt Lake City; Tulane University of Louisana, New Orleans, 1886; died, May 30, of tuberculosis, aged 59.

Leander Dewees ⊕ Kokomo, Ind.; Kentucky School of Medicine, 1894; a Confederate veteran; died, May 14, aged 74.

Richard William Wooten, Kinston, N. C.; University of Virginia, Charlottesville, Va., 1870; died, May 20, aged 72.

Joseph Matteson, Chicago; North Western University Medical School, Chicago, 1878; died suddenly, June 1, aged 72.

John B. Finch, Dresden, Tenn.; Vanderbilt University, Nashville, Tenn., 1887; died suddenly, May 19, aged 65.

Nelson I. Hess, Bells, Tenn. (license, Tennessee, 1889); a practitioner for over thirty-five years; died, May 14.

Samuel Paul Vaughter, Little Rock, Ark.; University of Arkansas, Little Rock, 1892; died, May 4, aged 50.

Christian H. Hermann, Amana, Iowa; State University of Iowa, Iowa City, 1881; died, March 6, aged 72.

Van O. Edmundson, Bethel, Tenn.; Vanderbilt University, Nashville, Tenn., 1880; died, May 19, aged 60.

Shelby Wright, North Manchester, Ind.; Louisville (Ky.) Medical College, 1882; died, May 21, aged 63.

Henry J. Connor, Chippewa Falls, Wis.; Rush Medical College, 1883; died suddenly, April 23, aged 62.

John H. Seneff, French Lick, Ind. (license, Indiana, 1897); died, May 23, from paralysis, aged 67.

Herman H. Voss, Racine, Wis.; University of Giessen, Germany, 1879; died, May 26, aged 66.

William H. Mathis, Waverly, Kan.; St. Louis Medical College, 1867; died, May 23, aged 81.

Anna Laura Miller, Chicago; Chicago College of Medicine and Surgery, 1914; died, June 9.

Albert D. White, Gainsville, Ga.; University of Georgia, 1887; died, April 20, aged 59.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MON-ARSONE NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

Mon-Arsone is offered by the Harmer Laboratories Company as "a new and non-toxic arsenical for the treatment of syphilis." In the advertisements for Mon-Arsone it has been claimed that with this drug "the toxic, corrosive and uncertain reactions attending the use of arsphenamine have been entirely eliminated" and that "it has a therapeutic value equal to arsphenamine, but extensive case reports fail to record the slightest toxic reaction following its use."

According to the manufacturers, Mon-Arsone is disodium-ethylarsonate, the sodium salt of ethylarsonic acid, derived from arsenic acid by replacement of one hydroxyl group by the ethyl group — $AsO(CH_2CH_3)(OH)_2$. Mon-Arsone is related to sodium cacodylate, which is the sodium salt of dimethyl-arsenic acid—$AsO(CH_3)_2OH$—derived from arsenic acid by replacement of two hydroxyl groups by two methyl groups. Ethylarsonic acid and its potassium salt were described by La Coste[1] more than thirty-five years ago, and the use of the sodium salt of methylarsonic acid was proposed in France some years ago. The Harmer Laboratories Company claims originality for Mon-Arsone in that it was the first to prepare the sodium salt of ethylarsonic acid and to propose its therapeutic use.

It was reported several years ago by Castelli[2] that sodium cacodylate and the sodium salt of methyl arsenic acid were devoid of effect on experimental trypanosomiasis and spirochete infections. Careful clinical observations in this country by H. J. Nichols[3] and H. N. Cole[4] have demonstrated the inefficacy of sodium cacodylate in the treatment of human syphilis.

Animal experiments carried out in the U. S. Hygienic Laboratory by Voegtlin and Smith[5] show that Mon-Arsone is devoid of any practical trypanocidal action. Thus the "therapeutic ratio" (the ratio of the minimal effective dose to the lethal dose) was about 1, that is, it was effective therapeutically only in approximately fatal doses; the therapeutic ratio for arsphenamine in similar conditions was 17, and that of neoarsphenamine, 28.

The findings that sodium dimethylarsenate (sodium cacodylate), sodium methylarsenate, and sodium ethylarsenate are devoid of any practical trypanocidal action and the conclusion that sodium cacodylate is inefficient in the treatment of human syphilis does not prove that Mon-Arsone is without effect on the disease. These findings, however, certainly demand convincing therapeutic evidence to warrant the recommmendation for the use of the drug in the treatment of syphilis—particularly because the drug is proposed as a substitute for arsphenamine, the value of which is established.

When the Council first took up the consideration of Mon-Arsone, the only evidence for the claim that it "has a therapeutic value at least equal to that of arsphenamine" consisted, with one exception, of reports from those who had experimented with the drug for the Harmer Laboratories Company, including a report by B. L. Wright, L. A. Kennell, and L. M. Hussy,[6] the latter of the Harmer Laboratories Company. These reports appeared to show that the administration of

1. La Coste: Annalen der Chemie (Liebig's) **208**: 34.
2. Castelli, G.: Arch. f. Schiffs- u. Tropen-Hyg. **16**: 605, 1912.
3. Nichols, H. J.: Salvarsan and Sodium Cacodylate, J. A. M. A. **56**: 492 (Feb. 18) 1911.
4. Cole, H. N.: A Study of Sodium Cacodylate in the Treatment of Syphilis, J. A. M. A. **67**: 2012 (Dec. 30) 1916.
5. Voegtlin, Carl, and Smith, H. W.: J. Pharmacol. and Exper. Therap. **16**: 449, 1921.
6. Wright, B. L.; Kennell, L. A., and Hussey, L. M.: M. Rec. **97**: 607 (April 10) 1920.

Mon-Arsone caused less reaction than arsphenamine, and that the immediate effects, judged by clinical symptoms and the response to the Wassermann test, appeared to be good. These trials extended over too short a period of time to permit judgment as to the permanence of the results. A report by an independent observer seemed to indicate that Mon-Arsone does not have the sterilizing action on syphilitic lesions which it is usually believed arsphenamine exercises.

After examining the available evidence, the Council advised the Harmer Laboratories Company that the claim that Mon-Arsone has a therapeutic value equal to arsphenamine appeared unwarranted; that, in the opinion of the Council, Mon-Arsone should not be used except under conditions that justify the experimental trial of an unproved drug, and should not be used in a routine way until the permanence of its effects has been established; and consequently any advertising propaganda for the drug by the Harmer Laboratories Company was to be deprecated.

In its reply the Harmer Laboratories Company admitted that its advertising claim, that Mon-Arsone was at least equal to arsphenamine therapeutically, had been based on reports on fifty cases and on additional reports that were beginning to come in at that time. The Harmer Laboratories Company submitted a list of hospitals and physicians using Mon-Arsone. A letter of inquiry sent by the Council to those who, according to the names in the list supplied by the Harmer Laboratories Company, had used Mon-Arsone, brought seven replies.

The clinical evidence contained in these replies was to the effect that Mon-Arsone had been used in the various types of syphilis and that there was a certain beneficial effect, both clinically and as shown by the Wassermann reaction. In certain instances the Wassermann reaction changed from a four plus to a negative reaction. The reports showed that the efficiency of Mon-Arsone as compared with that of arsphenamine preparations has not been adequately studied. One physician who has used Mon-Arsone extensively reports that in many of the cases treated there seemed to be nearly as good results from the use of Mon-Arsone as is frequently obtained in the use of arsphenamine. He reports, however, that it was necessary in eleven out of one hundred cases to change from Mon-Arsone to neoarsphenamine.

In view of the fact that there is definite lack of evidence to show that Mon-Arsone is the equal of arsphenamine therapeutically, and because of the reports that in some cases it is inferior, Mon-Arsone should not be used in the treatment of syphilis generally until its therapeutic status has been more rigidly investigated and conclusive evidence of its superiority to arsphenamine preparations obtained.

The Council voted not to admit Mon-Arsone to New and Nonofficial Remedies and reaffirmed its conclusion that the claim that Mon-Arsone has a therapeutic value equal to that of arsphenamine is premature and unwarranted; that Mon-Arsone should not be used except under conditions that justify the experimental trial of an unproved drug; and that the advertising propaganda for the drug by the Harmer Laboratories Company is to be deprecated.

When the preceding report was sent to the Harmer Laboratories Company, the firm submitted a reply in which it was stated:

1. That in certain instances patients improved under Mon-Arsone who, previously, had not improved under arsphenamine, and that this should be taken to offset the report of the one hundred cases in which the use of Mon-Arsone had to be abandoned in 11 per cent. of the cases.

2. That the Harmer Laboratories Company has abandoned the claim that Mon-Arsone is therapeutically equal to arsphenamine and that it now furnishes the drug to such men as care to use it simply on the basis of its special and useful characteristics.

The Council heartily endorses the recent warning against the use of untried medicaments which was issued by the U. S. Public Health Service.[7]

Since the Council's report was prepared a report on the effects of Mon-Arsone on experimental syphilis has been published by Nichols,[8] from the Division of Laboratories, Army Medical School, which concludes:

"1. Disodium-ethylarsinate, or mon-arsone, tested on rabbits infected with syphilis shows no spirocheticidal power. The tissues are fatally poisoned as soon as or before the spirochetes are affected.

"2. For its practical use in syphilis there is no such germicidal basis as exists in case of the arsphenamine group."

7. J. A. M. A., June 12, 1920, p. 1654.

8. Nichols, H. J.: The Spirocheticidal Value of Disodium Ethyl Arsinate (Mon-Arsone), J. A. M. A. **76**: 1335 (May 14) 1921.

Correspondence

ENDOCRINOLOGY AND PSYCHANALYSIS

To the Editor:—Permit me to express my appreciation of the editorial "The Endocrine Glands—A Caution" (The Journal, May 28, 1921, p. 1500). I received the other day a reprint on the endocrine glands by a New York physician. Scattered through its pages are twenty-two statements. Only three may be said to be scientifically established; the rest are mere assertions, without a scintilla of experimental or clinical proof behind them.

Our profession is extremely prone to run after fads, and is apt to take hypotheses for established truths, assertions for proofs, the reiterated opinion of one man for the consensus of opinion of the scientific world, post hoc for propter hoc, and the results obtained in one case for results universally obtainable in related cases. Endocrinology holds out great promises; but it must not be allowed to become discredited by the reckless statements of uncritical enthusiasts.

There is but one other branch of medicine, besides endocrinology, which is burdened with so many wild and reckless statements, so many absurd exaggerations, so many tenuous hypotheses passed around for accepted and proved facts, such blind following of unquestionably erudite but bizarre leaders. That branch is psychanalysis. This is a great pity, for that branch of medicine or psychotherapy contains germs of great truths and wonderful possibilities for good in the treatment of various neuroses. But it is being run to death by overenthusiastic or overcommercial physicians, and ignorant, poorly equipped and unscrupulous laymen and laywomen.

It could hardly be successfully gainsaid that at the present moment psychanalysis does more harm than good, is more of a menace than a blessing. And while the same may not be asserted of endocrinology, there is no question that the indiscriminate administration of pluriglandular mixtures when the indications are not clear but only surmised—and they are being so administered—is fraught with possibilities of harm.

William J. Robinson, M.D., New York.

"THE MEDICAL PROFESSION AND THE VOLSTEAD ACT"

To the Editor:—In The Journal, June 4, is a letter from a number of prominent New York physicians protesting against the restrictions with respect to prescribing alcohol put upon physicians under the Volstead Act. That array of distinguished names carries weight and inspires the timid dissident with misgivings. The argument is not so formidable as the list of names affixed to the letter is imposing.

That alcohol has medicinal value has not been demonstrated. The faith in its virtue is inherited rather than proved. Until that point is settled, physicians need not be unduly alarmed over encroachments on their sacred prerogative of prescribing anything they may believe to be of value regardless of the fact of its having any virtue.

It is not a necessary inference that the law recognizes the medicinal value of alcohol. The provision that a certain

amount may be prescribed should be regarded rather as a concession to the prejudices and traditions of physicians than as an admission of its value.

That the restriction is in a measure an indictment of the profession is true. But can we say that our skirts are clear? Are there not among us many who so shamefully abuse the privilege accorded us that we well merit the distrust that is visited upon the profession as a whole? How many medical societies are there that will hold a physician strictly to account for even flagrant violation of the trust reposed in us by the law? Let us purge ourselves before we make complaint. There are many physicians who do not take out a permit at all that they may escape the importunities of bibulous patients and friends. We are not in a sufficiently strong position to protest when we are not wholly to be trusted.

The contention that a physician should not be denied the privilege of prescribing alcohol for himself is not sound. It is not well that a physician should prescribe for himself; more especially is this true when it comes to habit-forming drugs, as alcohol. Who was it that said a man that is his own lawyer has a fool for a client? Too often the physician would have a drunkard for a patient.

Even granting that alcohol may have a medicinal value, if the total harm wrought by it be greater than the individual good, then is not the restriction wise? The public has a complete right to put limitations on the sale and use of anything whatsoever when it seems desirable to promote the general welfare. The public may be trusted to have at least a modicum of common sense.

E. W. HUNTER, M.D., Greenwood, Miss.

"LOCAL ANESTHESIA IN OPERATIONS FOR MASTOIDITIS"

To the Editor:—As a former member of the Medical Corps, U. S. Navy, I resent the unfair criticism by Dr. A. S. McCormick of Dr. E. E. Koebbe's article, entitled "Local Anesthesia for Simple Mastoid Operations." Evidently Dr. McCormick does not know or understand naval regulations or naval hospital routine. What does he mean by "supervised" anesthesia, "which permits the administration by anybody and everybody, usually an orderly or other nonmedical persons?"

In all my experience in U. S. Naval hospitals and elsewhere, I never while operating myself or visiting other clinics of operating surgeons in the U. S. Naval hospitals witnessed the administration of an anesthetic by other than a regular graduate M.D. "Supervised" anesthesia certainly never was inflicted on unfortunate "gobs" in my experience. Furthermore, a careful perusal of Dr. Koebbe's article fails to reveal to me wherein he seeks to "impress on readers the awful defects of general anesthesia in goiter." No such reference is made in the entire article.

In view of the Dr. McCormick's unjust comments reflecting on operative routine and procedure, please publish this letter.

ARTHUR WILDMAN, M.D., Brooklyn.

To the Editor:—In THE JOURNAL, June 4, 1921, page 1594, Dr. McCormick, in criticizing the above named article, criticizes the administration of anesthetics as given in the United States Navy. Dr. McCormick does not state from whom he received his information regarding the Navy; but as he has been grossly misinformed, I take the opportunity to correct his statements which, after thirteen years in the Navy, I feel competent to do.

In the first place, there are no orderlies in the Navy. There is a trained hospital corps, some of whom, after many years of service, have become experts at anesthesia. Then, as in civilian hospitals, there are trained nurses who act in this capacity in some hospitals; but more often a medical officer, thoroughly trained in this work, gives the anesthetic.

I have no hesitation in saying that anesthetics are given in the Naval hospitals with as great a degree of skill as anywhere in the United States, and the mortality rate is lower.

I should feel guilty of neglect of duty should I allow the impression that such a condition exists in the Naval Service to go before the public unchallenged.

H. A. GILTNER, M.D., Parkersburg, W. Va.
Lieutenant Commander, Medical
Corps, U. S. N. R. F.

To the Editor:—I beg to enter my protest against the publication in the official organ of the American Medical Association of the letter by Dr. A. S. McCormick, printed in the issue of June 4.

His remarks are not in the nature of constructive, helpful criticism such as every honest, earnest worker welcomes. They suggest no solution for a problem of which we are fully cognizant, and entirely ignore the very considerable obstacles in the way of such a solution; obstacles greater even than those existing in civilian communities in the United States, for which no uniform standard has yet been adopted in the matter of anesthetization. I can see in Dr. McCormick's communication nothing more than a return to that casual, inaccurate type of abuse of the medical services of the Army and Navy so common before the war and gradually coming into vogue again as the pleasure and privilege of those who attack large questions in an irresponsible and superficial manner.

It seems to the undersigned that, until some uniformity in respect to the administration of anesthetics prevails in the country at large, the time has scarcely arrived to vilify the Navy on that score, and that while there is ample justification for serious discussion, there is no excuse for circulating inaccurate assertions calculated to mislead the uninformed.

The laws in our various states do not yet agree. Some require an anesthetist to have an M.D. degree. Others do not. The mere right to append these letters to one's name is surely no proof of competence to anesthetize.

The courts usually hold the operating surgeon responsible for the anesthesia—*qui facit per alium facit per se*—and a conscientious surgeon and one alive to his own interests as well as the patient's might easily prefer the untitled expert to the incapable M.D.

In some sections of America the administration of anesthesia is restricted to a small coterie of experts, enjoying a lucrative monopoly. Their services are well worth the fees paid, but it is equally true that in each of these localities there are at least a few persons outside of the ring capable of administering an anesthetic, and fair competition with them would reduce the cost to the patient; the patients who have to consider cost far outnumber those to whom money is no object.

What should be stressed is competence and competence alone. To obtain a license to anesthetize it ought not to be necessary to be a male or an M.D. or to have any given social status, but only to demonstrate competence. We have prominent surgeons in America, surgeons of more than local fame, who have trained up untitled women to act as their first assistants in operating.

The proper administration of anesthetics is considered in the Navy a very important matter, far more important than Dr. McCormick appears to realize. How to procure expert anesthetists is a question in which we shall be glad to have all the intelligent, perfectly disinterested help our well-wishers and even our enemies may proffer after they have familiarized themselves not so much with the "conditions forced on the operator by the Navy," as with those forced on the Navy by the apathy, parsimony and pacifism of the people.

What would Dr. McCormick suggest for emergency operations in the case of a smaller vessel carrying one medical

officer? That a highly qualified professional anesthetist assigned to serve at each naval hospital would be a blessing to the service is unquestionable. Procuring his services is another matter.

Any comprehensive, well-digested scheme for reducing the dangers attendant on anesthesia in the Navy will be well received, provided it takes into account all the restrictions imposed upon the service by the inherent conditions of its organization and a legal status which depends not on the naval personnel but on the people who enact the law and hold the purse.

J. S. Taylor, M.D., Washington, D. C.
Captain, Medical Corps, U. S. Navy.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INCREASE OF LARGE MONONUCLEARS — IRRITATION FORMS OF TÜRCK

To the Editor:—1. Can you tell me the significance of an increase in the percentage of large mononuclear cells (transition forms of some authors) in the blood? I have reference especially to those cases showing a pronounced leukocytosis together with a relatively large mononuclear increase. The literature which I have consulted is hazy on this subject. What is the origin of these cells? 2. I would also appreciate an interpretation of the presence of irritation forms described by Türck and their origin.

F. C. Hodges, M.D., Huntington, W. Va.

Answer.—1. As to the significance of an increase in the percentage of large monocuclear cells of the blood, it is a difficult matter to give a definite answer, owing to the fact that there is much divergence of opinion as to the origin and development of these cells. It has been said that these types of white cells are "the *bête noire* of the hematologist." They are found in the lymphatic tissue, bone marrow and spleen, which have caused some authors to style them "lymphoid leukocytes," and still others to term them "splenocytes." They are normally increased in the circulating blood of children, owing to the excessive activity of the lymphoid tissue during this period of life, while many adult bloods show an increase in these cells as an indication of such lymphatic activity. It is rational to suppose that any excessive development of lymphatic tissue or of the bone marrow would lead to an increase of these cells, a condition which prevails in certain cases of lymphatic as well as splenomyelogenous leukemia. Just what the true significance of these cells may be in splenomyelogenous leukemia is impossible to state, yet the fact remains that we do find them often increased to a large extent. Further, it is an interesting fact that the large mononuclear cells are actually increased after removal of the spleen, a probable result of the attempt of other lymphoid tissue to compensate for the loss of the spleen. In a general way, therefore, a direct answer to this question is that an increase in the percentage of the large mononuclear cells of the blood is due to increased activity of the lymphoid tissue, whether this be the lymphatic glands, bone marrow or spleen. One must remember, however, that there may be an actual diminution of the percentage values and yet an increase in the actual number of such cells present, a point which is not always taken into consideration in making differential counts of the blood cells.

2. As to the meaning of the presence of the "irritation forms" of Türck, it is to be said that they have probably the same significance as do the myelocytes, that is, an indication of marked activity of the bone marrow, although Pappenheim regards them as plasma cells largely derived from the lymphocytes. For some unexplained reason the bone marrow responds to certain types of stimulation or irritation by the production of myelocytes, as seen especially in leukemia, while other forms of irritation lead to the production of these so-called "irritation forms," which are mononuclear, nongranular cells differing from the granular myelocyte. They are found in the blood especially in long continued leukocytosis or in anemias following cachectic conditions associated with carcinoma, etc., and in conditions in which few myelocytes and erythroblasts are noted in the blood.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alabama: Montgomery, July 12. Chairman, Dr. Samuel W. Welch, Montgomery.
Arizona: Phoenix, July 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.
California: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.
Colorado: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.
Connecticut: Hartford, July 12-13. Sec., Regular Board, Dr. Robert L. Rowley, 79 Elm St., Hartford
Connecticut: New Haven, July 12. Sec., Eclectic Board, Dr. James E. Ilair, 730 State St., Bridgeport. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.
Delaware: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover. Sec., Homeo. Bd., Dr. H. W. Howell, 824 Washington St., Wilmington.
Illinois: Chicago, June 20-23. Supt. of Registration, Mr. F. C. Dodds, Springfield.
Indiana: Indianapolis, July 12-14. Sec., Dr. Wm. T. Gott, 84 State House, Indianapolis.
Kansas: Kansas City, June 21-22. Sec., Dr. H. A. Dykes, Lebanon.
Maine: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 775 Congress St., Portland.
Maryland: Baltimore, July 19. Sec., Regular Board, Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.
Massachusetts: Boston, July 12-14. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.
Michigan: Detroit, June 20-22. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
Mississippi: Jackson, June 21-22. Sec., Dr. W. S. Leathers, Oxford.
National Board of Medical Examiners, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.
New Jersey: Trenton, June 21-22. Sec., Dr. Alexander MacAlister, State House, Trenton.
New York: Albany, New York City, Buffalo, Syracuse, June 27-30. Assistant, Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.
North Carolina: Raleigh, June 20. Sec., Dr. Kemp P. B. Bonner, Morehead City.
North Dakota: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.
Oklahoma: Oklahoma City, July 12-13. Dr. J. M. Byrum, Shawnee.
Oregon: Portland, July 5-7. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.
Pennsylvania: Philadelphia and Pittsburgh, July 5-9. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.
Rhode Island: Providence, July 7-8. Dr. Byron U. Richards, State House, Providence.
South Carolina: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
South Dakota: Deadwood, July 19-20. Director of Medical Licensure, Dr. H. R. Kenaston, Bonesteel.
Texas: Austin, June 21-23. Sec., Dr. Thomas J. Crowe, 918-919 Dallas Co. Bank Bldg., Dallas.
Vermont: Burlington, June 28-30. Sec., Dr. W. Scott Nay, Underhill.
Washington: Olympia, July 12. Commissioner of Licensure, Mr. Wm. Melville, Olympia.
West Virginia: Charleston, July 12. State Commissioner of Health, Dr. L. T. Vinson, Masonic Bldg., Charleston.
Wisconsin: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

Hawaii April Examination

Dr. Guy C. Milnor, secretary, Hawaii Board of Medical Examiners, reports the written examination held at Honolulu, April 11, 1921. The examination covered 7 subjects and included 40 questions. An average of 75 per cent. was required to pass. Of the 4 candidates examined, 1 passed and 3 failed.

College	Year Grad.	Per Cent.
PASSED		
University of Michigan Medical School	(1911)	84.5
FAILED		
College of Medical Evangelists	(1916)	60.5, 67
Tokyo Charity Hospital Special Medical School	(1916)*	57.3

* Graduation not verified.

New Mexico April Examination

Dr. R. E. McBride, secretary, New Mexico State Board of Medical Examiners, reports that 12 candidates were licensed on diploma and 1 candidate was licensed by reciprocity, at the meeting held at Santa Fe, April 11-12, 1921.

College	Year Grad.
LICENSED ON DIPLOMA	
University of Alabama	(1908)
Georgetown University School of Medicine	(1918)
University of Louisville	(1892), (1911)
College of Physicians and Surgeons of Baltimore	(1907), (1915)
Barnes Medical College	(1906)
University Medical College of Kansas City	(1897)
Washington University Medical Department	(1917), (1919)
John A. Creighton Medical College	(1920)
University of Pennsylvania	(1913)

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
College of Physicians and Surgeons, Little Rock	(1908)	Arkansas

Social Medicine and Medical Economics

DAYLIGHT IN THE SCHOOLROOM

Abstract of Report of Subcommittee on Conservation of Vision and Lighting in Schools *

EDWARD JACKSON, M.D., Chairman, Denver; MISS KATHERINE D. BLAKE, New York, and JOHN F. KEATING, Pueblo, Colo.

The eye has evolved to meet the conditions of daylight stimulus, and is capable of its highest health and efficiency under its normal conditions. It is well that the bulk of school work is done by daylight. But of late years an immense amount of thought and labor have been expended on the improvement of artificial illumination, while nothing has been done to improve the methods of using daylight. The result is that artificial light is being used in many respects more intelligently than daylight, and only the innate superiority and cheapness of the latter have left it in general use in schoolrooms.

So little has been done to apply our knowledge of the physiology of vision to the requirements for indoor use of daylight that it is necessary to begin with fundamentals. The light which is useful is that which falls upon the object looked at and is thence sent to the eye, where it enters the pupil and is focused on the retina. The thing looked at includes both the thing we wish to see and the background which reveals it by contrast, or color difference. We wish to see the letter, but we also look at the paper with which the letter is so contrasted as to reveal its form.

Light entering the eye directly from the source of illumination, or in any way that does not assist in making distinct the thing we wish to see, is not a help but a hindrance to our seeing. For one thing, it causes contraction of the pupil, and in that way actually diminishes the amount of useful light that enters the eye. For another, it wastefully uses up retinal energy accumulated for the purpose of vision, without helping us to see what we want to see. In the third place, it produces retinal impressions that compete with those that are useful for the attention of the recipient, increasing the effort needed to keep the consciousness occupied with the useful impression.

By variation in the size of the pupil which regulates the amount of light entering through it, and by the process of "adaptation" which adjusts the sensitivity of the retina to the intensity of the light reaching it, the eye is capable of service with enormous variations in the brightness of illumination. But there are limits of brightness, beyond which we cannot safely go in either direction. Excessive stimulation unduly exhausts the retina. Deficiency of light lowers the acuteness of vision, and makes more difficult the recognition of objects of a given size and distinctness.

For indoor seeing, the practical problem is largely to get enough light on what we look at. The eye evolved largely for outdoor seeing, and the comparative deficiency of light indoors is enormous. Photography has emphasized this difference. The same film, exposed through the same stop, will require a hundred times longer exposure with a good indoor light than it will require with the light generally available outdoors in the daytime.

The first question to be answered is, How to get enough daylight into the schoolroom? The second is, How to get it to fall in the right direction? The arrangement to be worked out is one that shall secure the sufficient illumination of the aspects of things that we look at.

* Submitted at the meeting of the Joint Committee on Health Problems in the School, of the American Medical Association and the National Education Association, Atlantic City, March 1, 1921.

It has been customary to say that the room must have enough window space; but window space has little significance, until we know what is to be seen through it, and its position in relation to the student. No amount of window space will give a good light from green foliage; or from a wall, unless the wall is of light color and the sun is shining directly on it.

The test of sufficiency of illumination that can be applied to the plans for any schoolroom is, How much open sky, measured in angular space, can be seen from the darkest point in the room at which objects will be placed to look at? In general this must not be less than the equivalent of a square, each side of which subtends an angle of 20 degrees, for a north light in a cloudy climate. This may be reduced about 50 per cent. in a room with south light if heavy clouds rarely diminish the daylight.

LIGHT FROM ABOVE

Objects looked at are held in front of us, so that light should come from behind rather than from in front. But it has generally been overlooked that the eye is particularly suited to looking down on its work, and to using illumination from above. This is the point in which modern arrangements for artificial lighting have outstripped our plans of admitting daylight to a room.

If one stands or sits with the head erect and the eyes looking forward on a level, the field of vision extends upward about 45 to 50 degrees and downward about 65 to 80 degrees from the horizontal plane passing through the eyes. If without changing the position of the head the eyes are turned up and down, they can turn up about 40 degrees and down fully 60 degrees. If, now, the head is thrown forward and then backward, it will be found easier to look directly downward than to look 40 degrees above the horizon.

Our eyes are fitted for use looking downward, and all continuous use of them for fine work is done with the work placed below them. The easy position for reading is with the work placed as much below the eyes as in front of them. Very often the position assumed is one looking almost directly down upon the work. Our work is done on desks and tables, with an upper surface horizontal so that it is best lighted from directly above; or inclined, as in the case of some school desks, to an angle of not often more than 10 degrees with the horizon.

We are so constructed that it is more important for the light to come from above than from behind us. That is where it comes from the open sky: as much from in front as behind, and from both sides; but always from above. We know how unpleasant it is when light is reflected from snow or water and comes nearly as much from below as from above. The great problem in school lighting is to get the light to fall from above. This has been solved for artificial lighting; it remains to be solved for daylight.

The first point is to have the windows go as high as possible. It is often stated that a skylight is the ideal window for illumination, but it is not practical. It can be used only in the highest story, or in one story buildings; it is hot in summer and makes the room hard to heat in winter. These objections to it having been stated, the matter is usually dismissed; and no attempt made to secure the best light possible through windows, the resource that is admittedly practical.

The window should go all the way to the ceiling. The most important reason for having high ceilings is to get high window space. Yet it is common to sacrifice this by placing a foot or so of dead, useless wall, about the top of the window. This foot if utilized to admit light would be worth more than 3 or 4 feet at the bottom of the average window.

There are some mechanical difficulties about having the window begin just at the ceiling, but these are readily overcome. It is possible for the glass of the window to come within 3 inches of the level of the ceiling, instead of from 15 to 18 inches below it, as has generally been the case.

USE OF SHADES

The most popular method, however, of keeping the schoolrooms poorly lighted is the use of an opaque shade, placed at the top of a window. Any shade hung at the top of a window should be white, and of thin, translucent material, which will admit and diffuse all the light possible when the sun is shining directly on it; and it should be rolled up completely when the sun is not shining on it. A dark shade may be placed at the bottom of a window, when somebody has to face it, if the window is so low as to come down near the level of the eyes. Windows in the schoolroom should be made to admit light; this is their primary function, best performed if the bottom of the window is above the level of the eyes. This primary function should not be sacrificed in making the window so that it can be used to look out of. It would be better to make distinct openings for the two purposes. If the window comes just below the level of the eyes, a dark shade can be placed a few inches above the bottom of the window permitting an outlook below it, but pulled up so as to shut off any direct view of the sky from eyes in the usual position for study.

LIGHTING THE CEILING

The weakest point in the utilizing of daylight for the schoolroom is in the failure to light the ceiling, whence the light could be diffused in the normal direction downward upon the scholar's work. This can be done only by reflection. Occasionally reflectors placed outside the building have been used to illuminate rooms by reflecting the light of the sky obtained through a light well in the midst of closely crowded buildings.

Schoolrooms should never have such meager access to daylight. But a highly polished inside shutter placed horizontally can be used to reflect light on the ceiling, and at the same time prevent it from falling on the floor, where it tends to dazzle the eyes directed downward in performing school tasks. Such a shutter should be fastened in place with a hinge that will allow it to be inclined at different angles to meet the differences in the inclinations of the sun's rays at different times in the year. It should extend beyond the sides of the window so as to catch light that would reach the floor when the sun falls obliquely from the right or left of the window. When the light is admitted through a series of windows placed close together, the shutter should be continuous across the whole series. It should generally be about as wide as the distance it is placed below the top of the window, 2 or 3 feet. More than one shutter can be used, placed at different heights before the window, in which case the width should equal the interval between them. Such horizontal shutters will be useful chiefly on windows that receive the direct light from the sun during school hours. But in some cases such a shutter that has a good reflecting surface will materially improve the lighting of the dark parts of the room by reflecting on the ceiling the light of an unobscured north sky.

For buildings so placed that it is impossible to get sufficient clear sky space to furnish light through a lateral window, a reflecting shutter, placed outside the window so as to reflect light from the sky above upon the ceiling, may be the only practical method of illumination. Such a reflector may be made of milk glass, or frosted or fluted glass. It should be hinged like an inside horizontal shutter, to adjust to different angles; especially if the exposure is one where the direction of strong light will vary at different hours of the day.

LIGHT FROM ANY QUARTER

Much has been written with regard to having a north light, of having the light come from one side of the room, and of having it fall over the pupil's left shoulder. Sometimes the south exposure of a school building has been left a blank wall, the opportunity being wasted for flooding a room or series of rooms with the light that was badly needed in them. Cohn declared his preference for a southern exposure. Risley has done the same and has given reasons for his preference.

When the windows are placed high enough and furnished with the proper arrangement of shades or horizontal shutters, the light may be admitted from north, east, south or west, or from all quarters; and is better admitted on two or more sides of the room. Under inferior arrangements that are still common, it has often been necessary to save the pupils from facing the light by compelling the teacher to face it a large part of the time. In order that right handed children should have the light coming over the left shoulder, the direction favorable for their writing, the left-handed children had the shadow of the hand thrown over the pen point, the most unfavorable position for them; and the blackboard and wall charts often had to be placed in unfavorable position, or inconveniently crowded on the only side of the room available for them.

When the windows are placed high enough, they do not shine unpleasantly in the eyes of the pupils or teacher facing that side of the room. The natural arrangement of brow and lashes and the inclination of the head effectively protect the eyes from unpleasant glare. When the light comes in on two or three sides of the room, blackboards and charts may be placed below the windows on sides opposite other windows, and will receive an excellent illumination, while throwing all reflections from their polished surfaces down toward the floor, instead of in the eyes looking at them. One further factor in the lighting of the room is the color and tint of its walls. The predominance of lighting from above is materially increased by having everything above the level of the eyes in as light a tint as possible, either white or light yellowish or greenish. Below the level of the eyes, walls, floor and seats should be relatively dark, and the surfaces not so highly polished as to give regular reflections that will be annoying.

INSTANCES OF PROPER ARRANGEMENT

When the room can be lighted from only one side, it will always be best to have the length of the room parallel to the wall with the windows in it, and its breadth limited according to the height of the ceiling. Thus, with a 12 foot ceiling, the room should not be more than 18 feet wide. The windows should begin at 6½ or 7 feet from the floor and extend to as near the ceiling as possible, and should take up as nearly the whole length of the one side of the room as is compatible with the strength of the building.

It is assumed that through such windows nothing will be visible except clear sky from every part of the room where anything is placed that has to be looked at. If these windows open to the south, or to the east or west, where the sun is likely to shine in during school hours, they must be furnished with light shades that can be used to intercept and diffuse the direct sunlight, and drawn up entirely out of the way when the sun is not shining on that window. The matter of dark shades, to be drawn up from the bottom, is less important if the bottom of the window is as high from the floor as mentioned; it will cause little annoynance, even when entirely unshaded. A room with 15 foot ceiling may be from 20 to 25 feet wide, and the bottom of the windows placed 7 or 8 feet from the floor.

If there are windows on both sides of the room, all having the proper outlook, it may be wider, 30 feet for the 12 foot ceiling or 40 feet for the 15 foot ceiling. Light from one or both ends of the room, through windows of the proper height, cuts out some shadows and gives a more uniformly diffuse illumination, more nearly approaching the ideal of diffuse light from the sky.

Excellent illumination can be secured by extremely simple means, if only the importance of having the light come from above is properly appreciated. In Pueblo, Colo., are two

small, one-room school buildings, built on a plan devised by Dr. R. W. Corwin of that city, in which the rooms are as well lighted as any schoolroom we have ever seen. Teacher or pupil may stand in any part of the room and look in any direction without encountering the slightest unpleasant glare, and with adequate light on everything to be looked at. Except the door space, and the small windows placed low, to look out from, every foot of wall space below the main windows is available for blackboards and charts, which are better lighted than is possible for most schoolrooms. The rooms are 29 by 39 feet with 13 foot ceiling. Close to the ceiling, 4 feet of wall space on three sides is utilized for windows, each of which is hung like a transom, so that it can be opened for ventilation. On the two sides where the direct sunlight can fall on the windows a part of the day, the glass is "frosted;" on the north side it is left clear. The frosted glass cuts down the illumination somewhat on cloudy days, and to this extent it is inferior to light shades that could be drawn out of the way when the sun is not shining.

ESSENTIALS FOR ILLUMINATION

The essentials for good daylight illumination of schoolrooms are few and simple:

1. The selection of a site and plans such that neighboring trees or buildings shall in no case rise more than 15 degrees above the horizontal plane of the bottom of the windows. Large trees, so close to the walls that they can be trimmed up to clear an angle of 60 degrees with the horizon, may be permitted in warm climates where it is important to keep down heat.

2. Placing the windows high enough to permit light from them to fall at an angle of from 15 to 40 degrees in the part of the room most distant from them, shutting off all glare of light below 15 degrees, and placing such windows on all available sides of the room, and especially to the south, where the most light is obtainable.

3. Controlling direct sunlight by light shades that will intercept and diffuse it, drawn out of the way when not needed for this purpose. Placing all dark shades at the bottom of the window, and drawing them up only as needed to raise the level below which glare is excluded from the eyes. Using polished shutters that swing on a horizontal axis to reflect light on the ceiling when obstructions to clear sky render this help necessary.

Book Notices

THE AMERICAN YEAR BOOK OF ANESTHESIA AND ANALGESIA. F. H. McMECHAN, A.M., M.D., Editor. 1917-1918. Cloth. Price, $10. Pp. 483, with illustrations. New York: Surgery Publishing Company, 1921.

Delayed in publication by the World War, this, the second edition of the American Year-Book of Anesthesia and Analgesia, contains those methods of anesthesia and analgesia introduced to expedite military surgery, which are to find a place for themselves in civilian practice for the benefit of all concerned. The several chapters devoted to anesthesia at the front, as well as in the war surgery of the base and reconstruction hospitals, present a remarkable collection of data that will be found invaluable for future military use; and those who have contributed their experiences and methods are among the most noted in this special field. Of a special interest are the various methods of anesthesia for emergencies which admit of transplantation to industrial surgery. Fundamental studies in the pharmacophysiopathology of anesthesia and analgesia, of exceptional merit, have been included; and as many of them have a direct bearing on the clinical handling of patients submitting to operations under narcosis, they are doubly significant and valuable. Thus, anesthesia and acidosis, blood changes, circulatory disturbances and temperature in relation to anesthesia are dealt with at length by clinicians and research workers of note, while the pharmacologic studies of the old and newer anesthetics develop much of importance. Such complicating factors of anesthesia as epilepsy and status epilepticus, as well as tuberculosis of the spine, drug addiction and heart lesions, are discussed in detail; and the relation of oral hygiene, the prophylactic value of pituitary extract and the utility of Trendelenburg anesthesia are all emphasized in comprehensive papers. Considerable space is devoted to the possibilities of operations in the sitting posture under various anesthetics. The clinical and experimental data about analgesia by means of general anesthetics have also been collected, and a broad field of utility indicated. The Year-Book is one of the few publications that enable the anesthetist, progressive surgeon and dentist to review the field of local anesthesia. Aside from contributions on the newer local anesthetics, their pharmacology, comparative toxicity and value, series of valuable technical papers on local anesthesia in general surgery, the specialties and in dentistry and oral surgery are presented. Regional, sacral and spinal anesthesia receive deserved attention. In view of the fact that anesthesia is coming to assume an intimate rôle in decreasing mortality and morbidity in obstetrics, the pertinent papers on anesthesia in obstetrics are of decidedly practical benefit. An added feature of this edition is the cumulative index of the pertinent literature for 1917-1918. This is a great convenience for any one making a study of any particular phase of anesthesia or analgesia, as the index is developed under subject headings, and all the needed and necessary bibliography for reference or teaching is included.

THE PSYCHOLOGY OF FUNCTIONAL NEUROSES. By H. L. Hollingworth, Associate Professor of Psychology in Columbia University. Cloth. Price, $2 net. Pp. 259. New York: D. Appleton and Company, 1920.

The importance of psychogenic factors in the production of faulty adaptation to the experiences and exigencies of modern social life has been recognized. The development of "mental medicine," "psychanalysis" and "psychotherapy" has been progressive. Conflict has been emphasized as an important factor in the production of mental disorder, from the day of demonology to the present day of Freudian psychology. Excluding conditions of mental deficiency depending on failures of development, or due to injury or destruction in the nervous elements or other organic disturbances, there remain symptom pictures for which no structural basis has been discovered: hysteria, neurasthenia, constitutional psychopathy, psychasthenia, anxiety neuroses, compulsion neuroses and, perhaps, paranoia and dementia praecox. Considering the results of the work of the Kraepelin-Janet-Binet and the Freud-Jung-Adler groups psychologically inadequate, the author offers an exposition of the "concept of redintegration," and data confirming this concept—the results of psychologic examination of more than a thousand psychoneurotic patients in U. S. Army General Hospital No. 30 at Plattsburg Barracks, New York. Some of the descriptive concepts of the type of reaction presented by the psychoneuroses, such as transfer of libido, symbolism, regression, conditioned reaction, pithiatism, conversion, general suggestibility, dissociation and fixation, are considered by the author as unintelligible, others as so general that they fail to convey the essential aspect of the individual picture, while others involve conceptions which do not fit in with the accepted systematic accounts of mental processes. The author believes that his concept of redintegration is descriptive of the psychoneurotic picture, identifies the patient, explains the psychogenesis of his symptoms and shows the way to treatment, being at the same time intrinsically intelligible, while a neural counterpart can be conceived without difficulty.

"Redintegration is that type of process in which a part of a complex stimulus provokes the complete reaction that was previously made to the complex stimulus as a whole." The psychoneurotic's disposition is to give a total reaction of previous experience in response to the fragmentary details of the present.

Of practical value is the study of the intellectual status of the psychoneurotic made by Dr. Hollingworth. The general results from the examination of recruits show the average soldier to have a mental age of not over 14. The range, among functional conditions, is from 8.6 years, in the case of

mental deficiency, to 14.0 in the case of psychasthenia. The average mental age of the whole 1,172 patients is 11.7 years, nearly two and a half years below that of the average soldier. It appears that only the low grade and the very high grade intelligence yield to functional war neuroses.

The psychologic service is of inestimable value to the psychiatrist in the study of psychoneuroses for the assistance it offers in diagnosis and classification of patients, in the selection of patients for physiotherapy, and in the direction of occupational therapy, vocational adjustment, educational diagnosis, personal efficiency instruction and morale, and industrial reeducation.

Nuevas Orientaciones Sobre la Patogenia y Tratamiento de la Diabetes Insípida. Por el Dr. Gregorio Marañón. Paper. Pp. 173, with illustrations. Madrid: Libreria Gutenberg de Ruiz Hermano, 1920.

Dr. Marañón, one of the professors in the Central University of Spain, is well known for his research work on endocrinology. In this book he discusses the pathogenesis, etiology, symptomatology, diagnosis, course, prognosis and treatment of diabetes insipidus. He considers the disease as due to a secretory deficiency of the middle and posterior lobes of the pituitary gland, in other words, hypopituitarism. Among contributory factors he mentions infections, poisonings, tumors, traumas and emotional crises. He believes and tries to prove that diabetes insipidus is much more frequent than is generally supposed. In treatment he favors large doses of pituitary extract besides specific treatment whenever indicated. The book is written in a lucid style and has a quite complete bibliography. Scientific workers will note with interest the author's remark in the introduction that a misleading statement by Schäffer on the etiology of this disease proved finally the clue that led to the discovery of its true causation.

The Wassermann Test. By Charles F. Craig, M.D., M.A., F.A.C.S., Lieutenant Colonel, Medical Corps, United States Army. Second edition. Cloth. Price, $4.25. Pp. 279, with illustrations. St. Louis: C. V. Mosby Company, 1921.

In this edition is incorporated the material from the literature which the author considers of permanent value. Several important changes are noted in the technic of this test, the most important being the addition of blood grouping and the directions concerning the preparation of blood cell suspension used in the test. He considers that the importance of selecting donors for the blood cell suspension from individuals belonging to Group Four of the Moss classification can hardly be overestimated. In his preface he regrets the necessity of retaining the name "Wassermann test"; he believes that it has become so fixed in the literature, however, that it would be unwise to change it. He prefers "complement fixation test," although it is possible that this term may be erroneous as an explanation of the mechanism of the reaction. The book is an authoritative guide for those concerned in the performing of this most important laboratory test.

Refraction and Motility of the Eye with Chapters on Color Blindness and the Field of Vision. Designed for Students and Practitioners. By Ellice M. Alger, M.D., F.A.C.S., Professor of Ophthalmology at the New York Post-Graduate Medical School. Second edition. Cloth. Price, $2.50 net. Pp. 394, with 125 illustrations. Philadelphia: F. A. Davis Company, 1920.

This is a second and revised edition of a popular manual, published in 1910 and reprinted several times since, without change. It covers the subject of the functional examination of the eye concisely, and in the main well. There are excellent chapters on optics, the emmetropic eye, the theory and use of the ophthalmoscope, retinoscopy, the various forms of ametropia and heterophoria. Color blindness, the visual field and malingering are also covered. It would seem that the arrangement is unfortunate, as methods of refraction and the description of the various cycloplegics and their uses are entered into before the various refractive errors are described. It is difficult to understand the advice to beginners "to learn to get along without a cycloplegic as much as possible." Surely no examination is complete without the use of a mydriatic. Even in simple chronic glaucoma, with small pupil, it is perfectly safe to use cocain, which can be followed with physostigmin when the examination is completed, and in our opinion it is always best to use a cycloplegic in all other cases, if there is any accommodation remaining. It would seem wiser to advise the beginner to commence his study of refraction with intelligent patients, who can be examined again and again under atropin. One hesitates to criticize methods which must be more or less individual, but a careful reading of this book fails to convince one that the student of ophthalmology, using it as a guide, would be likely to get sufficiently definite ideas of practical methods of work. For example, one looks in vain for sufficiently definite indications for the use of atropin and homatropin, and certainly sufficient emphasis is not placed on the importance of the postcycloplegic examination, from two days to a week following the examination under homatropin, which is unquestionably the key to success which many have failed to find. Furthermore, nothing is said of the desirability of using physostigmin after the examination under mydriatics or cycloplegics, except when the prolonged effect of atropin is desired.

Index of the Periodical Dental Literature. Published in the English Language, Including Sixty-Five Publications in England, Scotland, Canada, Australia, New Zealand and the United States, for the Five Years, 1911-1915. A Classified Subject Index on the Plan of the Dewey Decimal Classification; an Alphabetical Author Index; a List of Dental Books Published During the Same Period. Compiled by Arthur D. Black, A.M., M.D., D.D.S., Dean, Northwestern University Dental School. Published by the Dental Index Bureau under the Auspices of the American Institute of Dental Teachers. Cloth. Price, $6.50. Pp. 478. Buffalo: Dental Index Bureau, 381 Linwood Ave., 1921.

This is an index of the dental literature published in the English language during the years 1911-1915. It consists of two parts—a classified subject index and an index of authors. The subject list is based on the Dewey decimal classification, which has been much elaborated by Dr. Black. Its use is much facilitated by an excellent alphabetical index. We note that the out-of-date custom of indicating volume numbers by Roman numerals has been followed. The index is about the same in size and appearance as the final annual bound volume of Quarterly Cumulative Index to Current Medical Literature, published by the American Medical Association. It represents a vast amount of labor, and should be of great value to research workers in the dental profession.

Kursus der Psychotherapie und des Hypnotismus. Von San.-Rat Dr. Georg Flatau. Second edition. Paper. Price, 16 marks. Pp. 175. Berlin: S. Karger, 1920.

This monograph is the outcome of a course of lectures on hypnotism and psychotherapy which the author for a number of years has given to physicians. The first six chapters are made up of introductory matter: the history of psychotherapy and hypnotism; some general psychologic considerations (relation of mind to body, consciousness, perception, conception, emotions, attention, will, etc.); the sort of disorders that are amenable to psychotherapy; the different forms of psychotherapy (in the waking state and in hypnosis); the nature of and various kinds of suggestion; something about sleep, and the reasonable principles on which a person should act when he tries to put another to sleep. In the next chapter are given definite instructions how to hypnotize, with remarks on the proportion of people who may be hypnotized. Succeeding chapters cover the phenomena of the hypnotic state, the degrees of hypnosis and posthypnotic suggestion. Next the author attempts to explain hypnotism and its phenomena; he says that he uses it in all sorts of phobias, nocturnal and diurnal enuresis, onychophagia and similar habits, spasmodic troubles (epilepsy excluded), tics, occupation cramps, morphinism, alcoholism, nervous asthma, disorders of sleep, sexual disturbances [sic] and many forms of stuttering. In the following chapters, illustrative cases are given and the author's methods further explained. Finally there is a brief exposition of psychanalysis, mostly taken from the literature. The author says he has cured patients by hypnotism when psychanalysis had failed. The work should not be called a course on psychotherapy, but it well presents hypnotism and its medical uses. A physician not familiar with the subject who wants to try hypnotism will find this little book instructive and useful. We commend the author for insisting that hypnotism should not be used by laymen, and that the physician using it should be a good diagnostician and medical practitioner.

Miscellany

TRANSYLVANIA LIBRARY

A. H. BARKLEY, M.D. (HON.), C.M.
LEXINGTON, KY.

An item on Transylvania Library appeared in THE JOURNAL, Feb. 19, 1921. It is doubtful whether any like collection of books so valuable has been kept in the background so long as those now occupying the shelves in Transylvania.

The nucleus of this wonderful collection was started by John Todd of Virginia, who gave to Transylvania Seminary, then located at Crow's Station, now Lincoln County, Kentucky, his library, which consisted of many valuable and rare books. Todd's books were brought from Virginia over the Allegheny Mountains to Kentucky, by what was then known as the "Wilderness Road"; this of itself, when one reflects on the inaccessibility of the destination and the poor facilities for travel, was no small feat to accomplish under such conditions.

These books were brought to Crow's Station, Ky., in 1784, and placed in the double log cabin then occupied by Transylvania Seminary. They remained here until their removal to Lexington, Ky., in 1792.

There was formed in Lexington prior to 1792, a company that styled itself the Transylvania Land Company. This company was made up largely of Lexington citizens of a philanthropic turn of mind, who offered Transylvania Seminary a plot of ground in Lexington, now known as "Gratz Park," if the Seminary would move from Crow's Station to Lexington. This offer was accepted and, in the fall of 1792, the seminary with its collection of books moved to Lexington and occupied a brick building located on the ground donated by the land company.

The time at which the formation of this wonderful storehouse of knowledge was begun can well be recalled, and in presenting these facts it is interesting to note that Kentucky was then a section of Virginia. The ground that the land company gave had been but a short time before occupied by hardy pioneers, and was known as the "Tomahawk Claim," beyond which lay endless leagues of shadowy forest.

The vast domain west of the Mississippi had not been explored. The city of St. Louis was but an output for traders. The name Chicago had not been coined. Fort Dearborn, occupied by two companies of United States troops, marked a roll in the prairie among the sloughs where stands today the Queen and Mistress of the Lakes. Cincinnati had not yet taken her place on the map, being known as Fort Washington,

General Pakenham had not attempted the capture of New Orleans, and General Jackson, who was to drive him with his troopers back to his ships, was unknown to fame.

Wars with the Indians were of frequent occurrence. The prow of a steamboat had never cut the waters of a western stream, and the whistle of a locomotive was unheard in this section.

There were only two avenues by which Kentucky could be reached from the east. One was the Ohio River, the other the Wilderness Road. The former was covered by keel-boats, flat-boats, and canoes; the latter was traversed on horseback or on foot; no wheel had broken it or been broken by it.

It was in such a country and with such environments that this great library began to grow and diffuse knowledge throughout the sparsely settled country.

The history of the library is closely linked with that of Transylvania Medical School. As is well known, Transylvania Medical College, the first of its kind west of the Alleghenies, was located in Lexington, Ky. Its faculty was composed of such men as Drs. Samuel Brown, Frederick Ridgley, William H. Richardson, Daniel Drake, Charles Caldwell, and others of like mental caliber and literary attainments.

At the first meeting of the trustees of Transylvania Medical School early in 1799, Dr. Samuel Brown was authorized to go to Europe and purchase books for the library. Five hundred dollars, no small sum in those days, was given Dr. Brown for this purpose.

Dr. Brown, after much hard travel and many inconveniences reached Europe, and bought such books as in his judgment the college needed to add to its already growing library. These were carefully packed and shipped to this country where, after much delay, they finally reached Lexington, Ky.

As the western country began to develop and the influence of the college and the library began to be felt much beyond its present confines, the need for more books became urgent. In 1820, therefore, Dr. Charles Caldwell was commissioned to proceed to Europe and buy such books as were needed.

Before Dr. Caldwell went to Europe, he induced the legislature of Kentucky to give $5,000 for the express purpose of purchasing books for Transylvania Library, which, as declared in the act, was to remain the property of the state of Kentucky. Simultaneously, the city of Lexington advanced $6,000 for the same purpose, but specified that with this loan the city was to retain a lien on the books. The loan, however, subsequently became a donation. In addition, many physicians in the West and South and in Kentucky gave liberally, making in all about $13,000 which Dr. Caldwell was to spend for books.

Caldwell was a man of refined tastes and of excellent learning, and no one could have been better selected to purchase books than he. This was evidenced by the fact that while in Europe on this mission he procured some of the most valuable books to be had at that time.

The demand for knowledge was so great, and the books then on hand were in such constant use by both physicians and students that it was decided in 1839 to send Dr. J. M. Bush and Robert Peter to Europe to purchase more books. This time they were authorized to spend $11,000, which they did with great discretion, obtaining some of the rarest and most valuable books to be found at that time in London and Paris.

Transylvania continued to spend money for books for the medical library until it had acquired a collection of more than 8,000 volumes, which covered the entire field of medicine and surgery as it was taught at that time.

There are to be found in this library, besides the books mentioned above, the theses of all graduates in medicine from 1818 to 1859, which number 1,700; also 1,000 pamphlets on medical topics by men who were recognized as authority on the respective subjects. There are to be found two dozen lithographs on canvas of prominent physicians and surgeons of the period of 1825 to 1835. These are mostly of those members of the profession who were prominent in the French Academy. The books are in good condition, the paper of good quality, the type clear, and the bindings and plates bear the mark of expert workmanship. Mrs. Norton, the librarian, has gone through the collection, classifying and arranging the books so that there is quick and easy reference to any subject. Visitors are always welcome.

It might be stated that while the trustees of Transylvania were collecting the medical library they were not unmindful of those books on law and literature in general, as there are 10,000 volumes on general subjects and 2,000 law books, comprising in all 20,000 volumes of most valuable books. The library does not shine in books of recent publication; but in rare old books on medicine and the allied sciences, law and general subjects, this collection of books eclipses anything of its kind west of the Alleghenies, and it has few equals in this country and abroad.

These rare old books, when compared with many of the modern ones, recall a few lines from Hazlitt's Essay on "Old Books," in which he says that "dust and smoke and noise of modern literature have nothing in common with the pure, silent air of immortality." And he further adds that "many of the new books are also like modern made dishes in this respect, that they are generally little else than hashes and refaccimentos of what has been served up entire and in a more natural state at other times."

A SELECTION OF TITLES

The following are a few of the books contained in this library, and may serve as an example of what the library comprises:

1. Aeginetae, Pauli, opus de Re Medica nunc primum inte rum, Latinitate donatum per Joannem Guinterium Audernacum, doctorem medicum. Coloniac opera et impensa Joannis Soteris. Folio, 1534.
2. Ambiani, Jacobi Sylvii, Medici et Professoris Regii Parisiensis, Opera Medica, iam demum in sex partes digesta. Aduncta est eivsdem vita et icon. Opera et stvdio Renati Morael Doctoris Medici Parisiensis. Apud Iacobum Chouer. Folio. Genevae, 1635.
3. Alexandri Tralliani, praecellentis medici De Singularum Corporis Partium ab hobinis coronide ad imum usque calcaneum, uitiijs . . . Per Albanum Torinum vito durensem recens Latinitate donati. Excudebat Henricus Petrus. Folio. Basilea, 1533.
4. Avicennae Arabum Medicorum Principis. Ex Gerardi Cremonensis versione & Andrae Alpagi Belunensis castigatione. A loanne Costeo & Ioanne Paulo. Mongio Annotationibus . . . quibus principum Philisiphorum, ac Medicorum consensus dissensusque indicantur. Vita ispsius Auicennae ex Sorsano Arabe cius discipulo, a Nicolao Massa Latine scripta. Per Fabium Paulinum Vitinensen. Tomi duo. Apud Iuntas. Crown folio with vellum binding. Venetiis, 1608.
5. Clericus, Daniel, & J. Jacob. Mangetus. MM DD Bibliotheca Anatomica sive Recens in Anatomia Inventorum Thesaurus locupletissimus in quo integra atque absolutissima totius Corporis Humani Descripto . . . exhibetur, illustrata et aucta. In duos tomos divisa. Filio. Sumptibus Johan. Anthon. Chouet & Davidis Ritter. Genevae, 1699.
6. Cowper, William. The Anatomy of Humane Bodies, With figures drawn after the life by some of the best masters in Europe, and curiously engraven in one hundred and fourteen copper plates, illustrated with large explications containing many new Anatomical Discoveries . . . Oxford, printed at the Theater, for Sam Smith and Benj. Walford, printers to the Royal Society, at the Prince's Arms in St. Paul's Church Yard. Royal Folio. London, 1698.
7. Dioscoridae, P. Pharmacorum, Simplicium, reique Medicae Libri VIII Io, Rvellio interprete In inclyta Argentorato apud Io. Scottum. Folio. Argentorati, 1529.
8. Fabricii, Hieronymi, ab Aquapendente, Equite Sancti Marci, et Anatomico Supraordinario in Florentissimo Gimnasio Patavino, Opera Anatomica, Cum . . . figuris aeneis. Sumptibus Antoni Meglietti. Crown folio, vellum binding. Patavii, 1625.
9. Fallipii Mvtinensis, Gabrielis, Physici ac Chirurgi praeclarissimi, in felicissimo Gymnasio Patavino . . . Opera Omnia, in vnvm congesta . . . Apud haeredes Andreae Wecheli, Claud. Marnium & Io. Aubrium. Folio. Francofurti, 1600.
10. Fracastorii Veronensis, Hieronymi, De Sympathia et Antipathia Rerum, Liber VNVS, de Contagione et Contagiosis Morbis et Curatione, Libri III. Apud heredes Lucaeantonii Iuntae Florentini. Venetiis, 1546.
11. Galeni Opera ex septima ivntarvm editione, quae quid superioribus praestet, pagina versa ostendit, ad amplissimvm Venetorvm Medicorvm Collegivm. Tomi septem. Folio Apud Iuntas. Venetiis, 1597.
12. Harveo, Guilielmo, Angio, in Collegio Medicorum Londinensium Anatomes & Chirurgiae Professore, Exercitationes de Generatione, Apud loannem Ravesteynium. 36 mo. Limp vellum binding. Amstelaedami, 1651.
13. Hildani, Gvilhelmi Frabricii, DN, Illustrissimi Marchionis Badensis & Hochbergensis, &c.—Medico-Chirurgi Ordinardi, Opera quae extant Omnia, Observationum Centuria Prima, secunda . . . sexta. De Conservanda Valetudine . . . Sumptibus Johannis Beyeri. Folio with numerous plates. Francofurti, 1646.
14. Hippocratis Coi, et Claudii Galeni Pergameni Archiatron Opera. Renatus Charterius, Vindocinensis, Doctor Medicus Paris. Regis Christianissimi Consilarius Medicus . . . In tredecim Tomos degessit. Apud Andraeam Pralard Bibliopolam, via Jacobaea, ad insigne Occasionis. Crown folio. Parallel columns of Greek and Latin. Lutetiae Parisiorum, 1679.
15. Malpighii, Marcelli, Philosophi & Medici Bononiensis e Regia Societate, Opera Omnia, Figuris elegantissimis in aesincisis illustrata, Tomis duobis comprehensa. Plantarum Anatomes Partem Secundum. Carolo Fracassato, Pisis Medicinae Professori Ordinario. Folio. 76 full-page illustrations. Apud Robertum Scott & Georgium Wells. Londini, 1686.
16. Medicae Artis Principes. Aretaei Cappadocis. Junio Paulo Crasso Patavino, interprete; Ruffi Ephesti, a Junio Paulo Crasso; Alexandri Tralliani, Joanne Guinterio Anderaco interprete; Pauli Aeginetae, Jano Cornario, interprete; Oribasii Sardiani, Joanne Baptista Rasario, interprete; Aetii Medici Graeci, per Janum Cornarium; Philaretti et Theophili, Albano Torino, Vitodurensi; Actvarii Zachariae Filii, Julio Alexandrino Tridentino; Nicolai Myrepsi Alexandrini, a Leonharto, Fushio, . . . Tubingensis; Aurelii Cornelii Celsi; Seribonii Largi, Caio Julio Callisto; Marcelli, Ioanni Reineke et Guilielmo Rinco. Thick folio with binding of gold-stamped vellum. Title page is missing.
17. Paracelsi, Aur, Philip, Theoph, Bombastaab Hohenheim,—Opera Omnia Medico-Chemico-Chirurgica, tirbus columinibus comprehensa. Editio novissima et emendatissima.. Sumptibus Ioan. Antonii & Samuelis de Tournes. Folio. Genevae, 1658.
18. Paré, Ambroise, Conseiller et Premier Chirurgien du Roy. Les Oeuvres, Corrigees et Augmentees. Sixiesme Edition. Chez Nicolas Buon au mont S. Hilaire, a l'Image St. Claude. Crown folio. A. Paris, 1607.
19. Perdvlcis, Bartholomaei, Doctoris Medici Parisiensis, Universa Medicina, Editio Tertia; Studio & opera G. Savvageon Doct. Med. Collegio Medica Lugdun. Cui etiam accessit De Morbia Animi Liber. Apud Ioannem Bessin, prope portam Collegii Remensis. Parisiis, 1640.
20. Schenckii a Grafenberg, Ioannis, Observationum Medicarum, Rararum, Novarum, Admirabilium & Monstrosatum. Volumen tomis septem de toto homine institutum . . . E. Typographeo Nicolai Hoffmanni, impensa Iouae Rhodii, Folio with a portrait and allegorical title page. Francofurti, 1609.

AVAILABILITY OF THE VOLUMES

Great valuation is placed on this collection of books, and no one doing literary work, whether in law, medicine or the very early classics, should fail to visit this library before completing his data. Many persons of note have availed themselmes of the riches in these old books.

Dr. Albert H. Buck, who for many years was connected with the Medical Department of Columbia University, New York, writes:

> Any city which boasts of such a treasure as Lexington has gets much glory and is responsible to the world for its safe-keeping. There are scores of books in Transylvania Library not to be found in the libraries of the Academy of Medicine, New York, or of the Surgeon-General of the United States. The largest and most complete in the country is at Transylvania, and it was possible for the writer to complete his book "The Dawn of Modern Medicine" in this library without having to go outside it for material.

Miss Agnes Pickering of the University of Chicago, who has been making a study of ancient and rare books in this country and in Europe, after spending several weeks in research study in Transylvania Library, says:

> The literary treasures of this library are of a richness utterly bewildering. The great libraries of the East have absolutely no such collection of rare scientific books as I have found here. There is the further difference that the greatest of the Eastern libraries have picked up many of their rare books one by one, while I have found in Transylvania whole sets of such works as I had not dreamed of finding outside an Italian monastery. These books are without question the most precious heritage that Transylvania has, and form a greater treasure than is possessed by any other college or university in the United States.

138 North Upper Street.

REPORT OF OHIO COMMITTEE ON ANESTHESIA

A committee appointed by the Council of the Ohio State Medical Association to investigate matters connected with anesthesia sent out questionnaires to 500 surgeons and 400 hospital superintendents throughout the country, asking their views at to: (*a*) the choice of graduate physicians or graduate nurses in the giving of anesthetics; (*b*) the responsibility of the surgeon in the determination of what anesthetic agent should be used; (*c*) the choice of the anesthetic agent for ordinary purposes; (*d*) deaths which had occurred from anesthetics, and (*e*) fees or salaries paid for the giving of anesthetics, and asking for any suggestions which might be offered. Of those who replied to the questionnaire, 241 surgeons assume entire responsibility for the choice of anesthetics; twenty-one leave it to the anesthetist; forty-nine assume joint responsibility with the anesthetist. Three surgeons prefer chloroform; 238 prefer straight ether; two use ether with oxygen; twenty-two use nitrous oxid-oxygen; sixty-five use ether with nitrous oxid as a preliminary. One hundred and three prefer the nurse anesthetist; 181 prefer a medical man; forty-seven are indifferent, using either. One hundred thirty-five hospitals prefer ether; ten prefer nitrous oxid-oxygen; thirty-six prefer ether, with nitrous oxid as a preliminary. Eighty-three prefer the nurse anesthetist; seventy-eight prefer the physician anesthetist, and twenty-

eight use the two indifferently. The committee regards the administration of anesthetic agents as being almost entirely a routine procedure, and something which can be done by any intelligent physician or nurse, even by a layman who has had a reasonable amount of instruction in their administration. With the exception of a few highly trained men, the duties of the anesthetists are not such as to render the administrators in any scientific sense specialists. The work of the anesthetist being as a rule routine, the suggestion of many of the hospital superintendents and surgeons that the position should be placed on a salary, like that of hospital superintendent, pathologist, etc., meets the committee's approval in the case of hospitals which have enough work to justify the creation of this position. For smaller hospitals it is recommended that the work, so far as possible, should be done by experienced physicians or nurses, rather than by inexperienced physicians or assistants, including interns—unless the latter are under the immediate supervision of a skilled anesthetist instructor. A number of hospitals employ on salary a part-time anesthetist, who devotes the rest of his time to ordinary professional work. When the number of operations does not justify a whole-time or part-time salaried anesthetist, compensation must be as at present by suitable fees. Since anesthesia deaths, when at all preventable by the anesthetist, usually result from carelessness or inattention, the committee recommends that under no circumstances should the surgeon permit the attention of the anesthetist to be diverted from his work by watching the operation, by assisting in any way in its performance, or by conversation with visiting physicians, nurses or other persons. The committee fails to see as yet a reason for any change in the state law relating to the administration of anesthetics by graduate nurses who have been particularly instructed in their work. The amount and character of such instruction should be determined by rules adopted by the state board of registration.

Medicolegal

Duty as Between Patients—Liability of Mining Company

(Virginia Iron, Coal & Coke Co. et al. v. Odle's Administrator (Va.), 105 S. E. R. 107)

The Supreme Court of Appeals of Virginia reverses a judgment for $5,000 damages that the plaintiff administrators recovered against the defendant company and a physician employed by it to attend its miners, dismissing the case as to the company, and remanding it for a new trial as to the physician. It appeared that the miner in question, whose name was Odle, was taken sick Sunday, Oct. 13, 1918, and sent for the physician on Monday; but the latter sent medicine, and, to daily requests for attendance, said that he could not get off on account of the great amount of sickness in the camp, and had more to do than he could do, while Odle lived 5 miles or more away. Finally on the 20th, the physician went, examined the patient, and prescribed for him. The patient died on the 24th.

The jury was instructed that the plaintiff based his alleged right to damages on the failure of the physician to visit Odle, after repeated requests to do so, until the sixth day after the first request; and that if it believed that Odle was entitled to the services of the physician and his visits were requested and were reasonably necessary, and that it was reasonably possible for the physician to have visited him within the mentioned time, and that he had reasonable ground to believe that Odle was or might become seriously ill and liable to die unless he had speedy medical attendance, then his duty to Odle was paramount to his duty to all other patients except those who were equally entitled to his services and at that time also in equal danger if not attended. But, if it be conceded that the hypothesis was justified by the evidence, and was not misleading, this court holds that it cannot say as a matter of law, as the instruction did, that the duty of a physician to a patient critically ill is paramount to his duty to other patients who are also ill, unless the latter are in "equal danger." Physicians cannot always measure or compare the degree of danger of one patient with another, and this is especially true in cases of pneumonia. Of course, there are cases in which one patient is critically ill, requiring immediate attention, and others manifestly not, and here the duty of the physician is fairly plain; but this could not be said of the case at bar, in which Odle was ill of double pneumonia 5 miles from the camp, requiring half day to visit him and return, and there were five or six cases of pneumonia and several hundred of influenza in the camp requiring the attention of the same physician. The condition of the different patients would be a proper element, and a very important one, for the physician to consider; but at last the determination of the question of what the physician ought to do under such circumstances must in large measure be determined by his judgment, and what should be left to the jury is: Did he exercise that judgment in good faith? If there was any doubt as to whether or not he exercised good faith in the determination of his duty, it was a proper subject for inquiry and investigation on testimony of other physicians, after being informed of the situation and the surrounding circumstances, or on other evidence showing or tending to show a lack of good faith; but this court cannot say, as a matter of law, that "equality of danger" is a test to determine the duty of a physician in a case of this kind.

A similar vice, the court goes on to say, appeared in the next sentence of the same instruction, wherein it appeared that the physician was stripped of the right and duty to exercise his judgment as to what he ought to do under the circumstances. In that sentence the jury was told that if it believed that, during the week beginning October 13, there were only six or eight cases of pneumonia requiring the care of the physician, and these or other serious cases, equally entitled to his services, did not require his constant attention, then it was his duty to make every reasonable effort to visit Odle during that week; and if the jury believed that he could have done so without endangering the lives of the patients who were equally entitled to his services, without extra pay to him, then it was his duty to do so without regard to other patients who had to pay extra to secure his services and who were not in a very serious condition; and for any failure of his in this regard both he and the defendant company would be liable, if it directly contributed to Odle's death, without fault on his part, or on the part of those attending him. The physician had six or eight pneumonia patients at the camp and several hundred patients with influenza. One of the chief dangers of the latter was their tendency to develop pneumonia. It might be that the pneumonia patients "did not require his constant attention," and that he might have visited Odle "without endangering the lives of patients who were equally entitled to his services," and yet it still should have been left to his judgment as to whether or not he should have visited Odle, and the question which should have been left to the jury was his good faith in forming that judgment. It might be that, in looking back on the events of that time, a jury might conclude that he could, with safety to his other patients, have visited Odle; but the real question was: What was the opinion and judgment of the physician at that time, and was that opinion formed in good faith? If he visited other patients in the neighborhood of Odle during the latter's illness, to whom he owned no duty, for the sake of the extra pay he would get, that was a proper subject of consideration as tending to show his judgment at the time as to safety in leaving his patients at the camp; but the instruction was clearly misleading, if not erroneous, in the form in which it was given.

In the opinion of the court, the facts proved did not establish any liability on the coal company. The physician did not occupy the position of agent, in the usual sense of that term. Nor could he be called a servant of the company. The doctrine of respondeat superior, let the superior or master answer, had no application to the case. The position of the physician was rather that of an independent contractor. But that would not excuse the company from liability for his acts or neglects if the company was under a contractual obligation, not merely to employ a competent physician, but also to furnish the employee skilful medical treatment in case of

sickness. There was no express contract between the company and its employees. It made monthly deductions from their pay, and they understood the agreement on the part of the company to be that, in case of sickness, the miner was to receive the care and attention of the "company doctor" free of charge. If the business was not conducted for profit, but only for the betterment of the service, the advantages were mutual; and unless the employer contracted for a different service, it ought not to be held to any greater liability than ordinary care in the selection and retention of the physician.

This case appeared to be one of those in which the fund is administered by the master for the benefit of his servants, without profit or the expectation of profit to the master. An arrangement of this kind is for the mutual benefit of the master and the servant. In many of the small plants no resident physician could be obtained except by a deduction method, and, if the master is to be held liable in such case for negligence or malpractice of the physician when he derives no profit, the chances are that he will not employ a physician. This would be a serious detriment, not only to the employee, but to the public as well, which is interested in the general health of the community and especially in the prevention of the spread of contagious diseases. Of course, the rule would be different if the master were running a hospital or looking after the care of his employees as a business enterprise, with the expectation or hope of a direct pecuniary reward therefrom.

Physicians, surgeons, and medical hospitals operated for profit hold out to the world their capacity to furnish skilful medical and surgical treatment, and are liable for the malpractice and negligence of themselves and their employees; but a mining corporation is engaged in an entirely different business. Its officers and managers are not skilled in medicine and surgery, and, if they employ a physician or surgeon, they cannot supervise the details of his work or the manner of executing it. They have not the capacity to do so. The company may, for a consideration, enter into a contract with its employees absolutely to furnish medical attention at all times during their service. Such a contract is not ultra vires or beyond the powers of the corporation, and if entered into the corporation is bound by it, and obliged to respond in damages for its breach. When such is the contract the company is bound for the malpractice and negligence of a physician employed by it. But such a contract with a mining company must be proved; it will not be readily implied.

Distinction in Lay Testimony as to Insanity and Sanity—Qualifications of Expert

(State v. Liolios (Mo.), 225 S. W. R. 941)

The Supreme Court of Missouri, Division No. 2, holds in this homicide case, in which the defense was insanity, that there was no error in permitting two lay witnesses to testify that the defendant at the time of the commission of the offense charged was sane, their testimony resting apparently on very slight knowledge and being given without the witnesses being required to state in advance the facts on which their opinions were based. The court says that the rule with respect to this matter is that, when a lay witness is called to prove that a given individual was insane, then such witness must, before expressing his opinion, state the facts on which that opinion is founded. The rule is the same in civil cases. The rule is otherwise, however, when the witness is called to testify that the person whose mental conditions is under inquiry is sane. The reason for this distinction is said to lie in the fact that the sane mind is not characterized by the vagaries and eccentricities which marks the minds and color of the conduct of the insane.

With regard to the qualifications as an expert of a physician who was called by the defense to testify concerning the causes which can or may produce temporary insanity, the court says that the witness testified in substance that for twenty-six years he had been engaged in the general practice of medicine and surgery; that he was a graduate of a medical school; that he had had occasion to observe different kinds of insanity and had had several insane patients, probably a dozen or more, in the course of his practice, and had studied them closely. He was then asked whether or not temporary insanity is ever brought on by grief or by continuous study over one particular subject, coupled with loss of food and sleep. He was also asked to state some of the causes of temporary insanity, and whether or not continual and extended worry over a subject in which the party was deeply interested could produce temporary insanity. The court thinks it clear that there was error in sustaining objections to these questions on the ground that the witness had not shown himself to be qualified. The ruling seemed to have been influenced to some extent at least by the declaration of the witness that he was not an expert; but the decision of that question was for the court, not the witness. This court thinks that the witness was competent, as was also the evidence sought to be obtained from him. It is not necessary that the witness should be a specialist, nor even that he should hold a medical diploma. The extent and character of his special learning, knowledge or skill, how it is derived, and on what it is based, are matters bearing on the weight to be given his testimony, which is a question for the determination of the jury; but these questions do not affect the competency of the witness.

Requisites to Commitment to Colony for Epileptics

(Greenman v. Dixon et al. (Mich.), 180 N. W. R. 487)

The Supreme Court of Michigan says that this was a habeas corpus proceeding to test the detention in the Michigan Farm Colony for Epileptics of Laura Greenman, aged 15 years, the plaintiff's child. The writ was directed to the medical superintendent of the institution, which was established under Chapter 56 of the Compiled Laws of 1915, for the treatment of epileptic persons as distinguished from persons idiotic or insane. The writ was accompanied by a writ of certiorari to the judge of probate of Kent County, to review the proceedings in the probate court of that county resulting in the detention of the child in the institution. A petition for the admission of the child to the institution being filed, Section 1601 of the Compiled Laws requires that notice of the day of hearing shall be served not less than three full days before the time of hearing on certain persons, including the person alleged to be epileptic. The petition in this case was filed on the 29th of the month, and an order was made on that day fixing the day of hearing for the 31st, and directing that personal service of a copy of the order be made on the child at least twenty-four hours previous to the time of hearing. The service of the notice on the child was insufficient as to time. That there was a compliance with the other requirements of the statute as to the notice of the hearing was not shown, nor did it appear that any of those to whom the statute required notice to be given attended at the hearing. The order and commitment were void. The probate court derives its jurisdiction from the statute. To obtain jurisdiction in this case, therefore, the provisions of the statute should have been strictly pursued. The right of the plaintiff to sue out the writ was not questioned. But, though the order and commitment were void, counsel contended that this court, under its common-law jurisdiction over infants, idiots and insane persons, might act with reference to the question from its own conscience for the best interests of the child, following the rule that the placing of a child under proper influence and care is of the first consideration, and this regardless of the irregularity of the commitment. However, the rule stated and authorities cited by counsel were not controlling in this case. Laura Greenman might be committed to the institution and there detained only in the event that she should be found to be an epileptic, and that it should be determined that it was necessary and for her best interest that she should be committed thereto. Such finding and determination in this case were originally for the probate court. Laura Greenman must therefore be discharged from such confinement in the institution on the order, and all proceedings in the probate court in the cause subsequent to the filing of the petition for the admission of the child to the institution be set aside. But at the time of the filing of the petition and the making of the void and invalid order and commitment, Lura Greenman was a ward of the probate court as a delinquent child by virtue of proceedings under the provision of Section 2015 of the Compiled Laws. The supreme court was not advised that the

authority of the probate court over the child under the proceedings had been terminated. It was not terminated by the void order and commitment. So the discharge, as ordered, was without prejudice or hindrance to any right of authority which the probate court might have over the child under the statute and proceedings.

Demand Under Statute to Be Taken to Hospital

(People v. Kaufman (Calif.), 193 Pac. R. 953)

The District Court of Appeal of California, First District, Division 2, in reversing a judgment of conviction of the defendant of violating Section 21 of the motor vehicle act of that state, says that the section, so far as at all pertinent to this case, provides that whenever an automobile collides with any vehicle containing a person, the driver of such automobile shall stop it and render to the occupants of the vehicle collided with all necessary assistance, including the carrying of such occupant to a physician or surgeon for medical or surgical treatment, if such treatment be required, or if such carrying is requested by any occupant of the vehicle struck. Any violation of any of these provisions is made punishable by fine or imprisonment, or both. The purpose and propriety of the act are apparent. It was designed to prohibit, under pain of severe punishment, negligent or wanton drivers of motorcars from seeking to evade civil or criminal prosecution by escape before their identity could be established, and similarly to prohibit all drivers, whether negligent or not, from leaving persons, injured in collisions with cars driven by them, in distress and danger for want of proper medical or surgical treatment. It was not designed to be used as a club to exact monetary settlement for injuries either to persons or to property. One of two automobile drivers who may have been equally negligent in bringing about a collision in which neither driver was injured, by first demanding that he be carried to a hospital or surgeon, could not by the expedition of his demand put the stamp of felony on the other, who might refuse the request made in the terms of the statute, but made in bad faith. The complaining witness in this case gave several versions of what was said after the collision of his car with the defendant's, in one of which he said that he asked to be taken to the receiving hospital; that he was hurt; but, in view of certain statements and their effect on the question of his credibility, and in view of a palpable attempt to collect money from the defendant prior to any suggestion of arrest on this felony charge, the court orders a new trial, directing that the jury be instructed in regard to the proper limitations to be placed on the express language of this highly penal statute. A hearing was denied by the Supreme Court of California.

Time of "Convalescence"

(Heymann v. Continental Casualty Co. (La.), 86 So. R. 550)

The Supreme Court of Louisiana says that the question presented in this case depended on an interpretation of the expression, "loss of time during convalescence," as defined in a health rider attached to a life and accident policy of insurance. It appeared that on Dec. 6, 1916, the plaintiff consulted a physician with regard to some stomach trouble, and thereafter visited the physician's office twice a week, and was treated by the physician until April 9, 1917, at which date his ailment had grown so much worse that he went to an infirmary, in which he was confined for about six days, and thereafter at his home until June 9. The defendant company paid the idemnity stipulated from the loss of time during which the plaintiff was confined at the sanatorium and at his home, or from April 9 to June 9, and for the loss of time during convalescence from the latter date until Oct. 2, 1917. The plaintiff, however, claimed indemnity for loss of time also from Dec. 6, 1916, to April 9, 1917, because he was, during that period, "continuously unable to transact each and every part of his business duties and was under treatment by a legally qualified physician, although not confined within the house." But the supreme court does not consider that he was entitled to that, under his contract, which provided for indemnity "for loss of time during convalescence," and defined "loss of time during convalescence," as used, to mean "that period of time during which the insured is rendered continuously unable to transact each and every part of his business duties and is under treatment by a legally qualified physician, although not necessarily confined within the house." Taken literally, that would include loss of time during which the insured was continuously unable to transact each and every part of his business duties and was under treatment by a legally qualified physician, even if he had never been so seriously ill as to suffer "loss of time during confinement," which was first provided for; but the court thinks that the context showed plainly that there was no liability for indemnity for "loss of time during convalescence," unless and until there was a "loss of time during confinement." "Convalescence," too, as generally understood and as defined by the lexicographers, is the gradual recovery of health or physical strength after illness; yet, if it were otherwise clearly defined in the contract, the parties would be bound by the definition adopted by them.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

March, 1921, **1**, No. 6

*Pathology of Common Puerperal Lesions. J. O. Polak, Brooklyn.—p. 547.
*Version. I. W. Potter, Buffalo.—p. 560.
*Potter Version. Elimination of Second Stage of Labor. Report of 200 Cases. M. P. Rucker, Richmond, Va.—p. 574.
Advantages and Disadvantages of Two-Flap Low Incision Cesarean Section; Report of Eighty-Three Cases Done by Fifteen Operators. A. C. Beck, Brooklyn.—p. 586.
*Study of Two Hundred and Seventy Cases of Dry Labor. F. A. Dorman and E. C. Lyon, Jr., New York.—p. 595.
*Fibroma of Ovary. E. D. Clark and W. E. Gabe, Indianapolis.—p. 603.
Some Indications for Hysterectomy. J. F. Baldwin, Columbus, Ohio. —p. 609.
Luteum Extract. A. P. Leighton, Portland, Me.—p. 613.
Chorioepithelioma Following Hydatid Mole; Report of Case. **B.** H. Goff, New York.—p. 619.

Pathology of Common Puerperal Lesions.—Polak states that clinical experience has shown us that a well contracted uterus in normal anteversion is capable of emptying itself of its contents if infection is not introduced from the outside. A relaxed uterus may become bent upon itself, be caught behind the pubis and become extremely anteflexed, or it may be caught below the promontory and become retroflexed; and thus prevent the free outflow of lochia, produce a lochiometra and favor the absorption of toxins, resulting in local pain and constitutional disturbances. This is a mechanical process which is immediately relieved by the establishment of free drainage. On the other hand, a putrid or saprophytic endometritis is an infection of the dead and necrotic superficial structures retained within the uterus which produce irritant material composed of bacterial toxalbumoses and ptomaines. These in turn irritate the endometrium and excite a tissue reaction. These superficial necrotic structures have bacteria in them or on them.

Version.—Last year Potter delivered 1,113 women, of which 920 were delivered by podalic version 400 being primiparas and 520 multiparas. He describes his method in detail and gives a complete analysis of his cases. He claims for his method that the woman suffers no pain after the dilatation of the os has taken place; the soft parts are thoroughly dilated and are not for a long time subjected to pressure so that a relaxed, flabby vagina, and torn perineum and prolapsed bladder does not occur; no elevation of temperature; no shock and therefore more resistant to possible infection; no bleeding of any moment and the uterus remains contracted and in better condition after the delivery is effected. The lochia is less in amount. The baby's head is subjected to less compression injury than is the result after a long and tedious labor and especially after a forceps delivery. Of lesser importance but yet a justifiable consideration, the attending accoucheur is worked less, has more leisure and finds his specialty an agreeable one to practice, instead of what it is now, the bugbear of medicine.

Potter Version.—The Potter version is endorsed by Rucker because it protects the maternal soft parts against undue injuries.

Dry Labor.—It would seem established by the figures given by Dorman and Lyon that the length of time during which the membranes are ruptured before labor is not an important factor, either in prolonging labor or in producing morbidity or fetal mortality. Protracted duration of pains in dry labor, on the other hand, greatly increased the morbidity and tripled the fetal mortality. The morbidity risk increased consistenly in proportion to the number of vaginal examinations. The use of the dilating bag, even when employed to induce labor, did not reduce morbidity and seemed unfavorable to the fetus. Dry labor requires operative termination in one third of the births. The risks of breech labor are much greater if the membranes are ruptured early. The cesarean operations in the series gave very good results, despite the grave prognosis usually given to abdominal hysterotomy in dry labor. Dry labor increases puerperal morbidity 8.5 per cent. and fetal mortality 3 per cent., the dangerous elements being prolonged labor, intra-uterine contamination (usually from vaginal examinations), and the operative terminations.

Fibroma of Ovary.—Clark and Gabe report a case in a woman aged 46. A diagnosis of pelvic tumor was made before operation. They state that the diagnosis is dependent solely on microscopic examination. In the presence of a hard unilateral, movable tumor with ascites, where the more common causes of ascites can be ruled out, ovarian fibroma is highly probable. The treatment is operative; the prognosis good.

American Journal of Public Health, Boston

February, 1921, **11**, No. 2

Value of Animal Experimentation to Mankind. G. H. Whipple, Berkeley, Calif.—p. 105.
Who Shall Nurse the Sick? J. D. Robertson, Chicago.—p. 108.
Value of Public Health Survey in Public Health Campaign. M. P. Horwood and J. Schevitz.—p. 113.
Epidemiologic Study of Smallpox in California. J. N. Force, Berkeley, Calif.—p. 119.
Vaccination and Student. R. L. Wilbur, San Francisco.—p. 126.
Medical and Anti-Medical Smallpox Legislation in California. C. H. Rowell, Fresno, Calif.—p. 128.
Outbreak of Smallpox; Methods of Control. L. J. Roper, Portsmouth, Va.—p. 138.
Results of Vaccination in Philippines. V. G. Heiser, New York.—p. 142.
Common Sense Versus Custom in Appointment of Health Officials. H. B. Larner, Montclair, N. J.—p. 143.
Sanitation in Venezuela and Colombia. J. L. Crane, Jr., Cambridge, Mass—p. 145.
Detection of Manural Pollution in Milk by Anacrobic Spore Test. J. Weinzirl, Seattle, Wash.—p. 149.
Breast Feeding in Reduction of Infant Mortality. J. P. Sedgwick and E. C. Fleischner, San Francisco.—p. 153.

March, 1921, **11**, No. 3

Industrial Wastes in Relation to Water Supplies. W. Donaldson, New York.—p. 193.
Mothercraft Instruction for School Girls. M. B. Dickinson, Boston.—p. 199.
Lactose Broth for Isolating Bacterium Coli from Water. E. A. Wagner and W. F. Monfort, St. Louis.—p. 203.
Hospital Betterment Movement in California. W. E. Musgrave, San Francisco.—p. 208.
What New York State has Done in Health Centers. B. R. Rickards, Albany, N. Y.—p. 214.
Present Status of Health Center. W. H. Brown, Washington, D. C.—p. 218.
Is Health Center a Health Center? Need of a Positive Health Ideal in Health Center. P. S. Platt, New Haven, Conn.—p. 221.
Baby Health Centers. L. A. DeVilbiss, Washington, D. C.—p. 231.
Sanitary Control of Public Swimming Pool. G. W. Simons, Jr., Jacksonville, Fla.—p. 234.
Nomenclature of Tuberculosis. N. van Patten, Cambridge, Mass.—p. 239.
Comparative Studies of Diphtheria Cultures of Loeffler's Medium with Original Swabs Transported by Mail. C. C. Young and M. Crooks, Lansing, Mich.—p. 241.

Archives of Internal Medicine, Chicago

May 15, 1921, **27**, No. 5

Responses of Circulation to Low Oxygen Tension. C. W. Greene and N. C. Gilbert, Columbia, Mo.—p. 517.
Determination and Significance of Electrical Axis of Human Heart. F. R. Dieuaide, Baltimore.—p. 558
*Paroxysmal Tachycardia with Reference to Nomatopic Tachycardia and Rôle of Extrinsic Cardiac Nerves. A. M. Wedd, Pittsburgh.—p. 571.
*Iron and Arsenic as Influencing Blood Regeneration Following Simple Anemia. G. H. Whipple and F. S. Robscheit, San Francisco.—p. 591.
*Creatinin Coefficient in Pulmonary Tuberculosis. T. Raphael and N. Eldridge, New York.—p. 604.
Standards for Normal Basal Metabolism. J. H. Means and M. N. Woodwell, Boston.—p. 608.
*Blood Urea Nitrogen in Acute Intestinal Obstruction. H. W. Louria, New York.—p. 620.

Paroxysmal Tachycardia.—Six cases of paroxysmal tachycardia which illustrate moot points and the variety of clinical conditions in which the disorder occurs are recorded by Wedd. Two occurred in elderly individuals in whom there are signs of degenerative changes involving the heart and aorta. A third case is an example of a group of paroxysmal tachycardias that are usually considered to be of reflex origin. Three of the cases seem to fulfill the requirements of the "maladie de Bouveret." In this connection the rôle of the extrinsic nerves of the heart in paroxysms of tachycardia has been considered and it is believed unnecessary to postulate the existence of an underlying toxemia which renders the heart abnormally susceptible to nerve impulses, for both of these factors may well be one and the same thing, and it is hardly necessary at present to attempt to differentiate neuropathology from chemical pathology in the autonomic nervous system.

Value of Iron and Arsenic in Anemia.—Whipple and Robscheit claim that iron in the form of Blaud's pills is inert when given under controlled conditions in anemia periods under the conditions of these experiments. Iron in the form of ferric citrate (subcutaneously) and ovoferrin (orally) has no significant effect on the curve of hemoglobin regeneration under controlled conditions. Iron forming a part of a standard salt mixture (McCollum and Simmonds) may be concerned in a somewhat favorable anemia reaction, but even this reaction is not surely related to the iron salt. At best this reaction does not compare favorably with those recorded in association with certain potent diet factors. Iron in the form of hemoglobin (organic iron) may be concerned in the somewhat favorable reaction observed following the administration of hemoglobin orally, intraperitoneally of intravenously. But the iron may be less concerned in this reaction than the pyrrol complex. Arsenic in the form of sodium cacodylate or Fowler's solution is inert in these same anemia periods. No drug has been tested which can compete with the meat factors in stimulating a rapid regeneration of hemoglobin during these anemia periods induced by simple hemorrhage. These carefully controlled experiments give no support to the time honored custom of administering iron and certain other drugs in conditions of simple anemia.

Creatinin Coefficient in Tuberculosis.—On the basis of the data secured in their study, it seems to Raphael and Eldridge that, in apparently clinically uncomplicated cases of pulmonary tuberculosis, the creatinin coefficient is slightly below the average normal figure, and that it reaches its greatest height in middle grade cases, i. e., those in which increased catabolism, due to disease activity, has not yet been offset by excessive tissue waste and generally lowered vitality.

Blood Urea Nitrogen in Acute Intestinal Obstruction.—Seven cases of acute intestinal obstruction are described by Louria in all of which there was an increase in blood urea nitrogen. In one case in which the blood urea nitrogen was 130 mg. per hundred c.c. the phenolsulphonephthalein excretion was found to be 58 per cent. in two hours and ten minutes. In one case, a generalized urticarial eruption appeared while the patient was convalescing from an acute ileus. As the substance which causes the toxemia of acute intestinal obstruction.

Archives of Ophthalmology, New York

May, 1921, **50**, No. 3

*Ocular Symptoms in Hypophyseal Disease with Acquired Syphilis. G. E. de Schweinitz, Philadelphia.—p. 203.
Control of Pituitary Lesions, as Affecting Vision, by Combined Surgical Roentgen-Ray and Radium Treatment. C. H. Frazier, Philadelphia.—p. 217.
*Molluscum Conjunctivitis. H. Gifford and S. R. Gifford, Omaha.—p. 227.
Lacrimal Sac Extirpation Simplified. A. Greenwood, Boston.—p. 234.
Two Unusual Cases of Pterygium. F. Yano, Nagoya, Japan.—p. 239.
Bilateral Circumpapillary Chorioretinitis with Detachment of Retina in Syphilis. A. Knapp, New York.—p. 242.
Case of Lipaemia Retinalis with Hypotony in Diabetic Coma. M. Cohen, New York.—p. 247.

Eye in Pituitary Disease with Acquired Syphilis.—None of the ocular symptoms depending on pituitary body disease, de Schweinitz says, is of itself characteristic of acquired syphilis, and these symptoms, therefore, do not differ from those exhibited by patients who are not syphilitic. It is possible, even probable, that a careful analysis of cases of pituitary body disorders, with exterior ocular muscle palsies, would show a greater incidence of such paralyses in syphilitic subjects, especially in secondary involvements from bony or dural syphilis. Naturally, if a patient with acquired syphilis develops the symptoms of hypophyseal disease, active specific treatment should, and would, be instituted. If in such circumstances the gland itself is not either primarily or secondarily syphilitic, the ocular signs of pituitary body involvement would not yeld, and surgical interference is indicated. If the gland is the seat of syphilis, being gummatous, for instance, a freely employed specific treatment may result in satisfactory and even brilliant results. All patients, therefore, with pituitary body disorder, who also have constitutional syphilis, or from whom the suspicion of such an infection cannot be eliminated, should have the advantage of a full trial of this therapeutic test. In stages of glandular insufficiency the efficacy of organotherapy is probably enhanced by simultaneous administration of mercury (preferably by inunctions) and the gland extracts, even though the presence of syphilis is not demonstrable by the usual methods. de Schweinitz suggests the probability that a combination of thyroid and pituitary gland extracts is more efficient than either of the extracts alone, and that this combination, associated with mercury, is more effective than is an extract of one gland, even though given in conjunction with unguentum hydrargyrum.

Molluscum Conjunctivitis.—The Giffords have seen, in the last fifteen years, about a dozen cases in which persistent irritation of the conjunctiva has been kept up by one or two molluscum nodules at the edge of the lids. In none of them has there been any other evidence of the disease on the uncovered portions of the body, and the patients know of no other nodules of the sort, but they were not stripped for examination. The diagnosis, except in the cases mentioned, was made from the characteristic appearance of the nodule. In more than three fourths of the cases only a single nodule was present. In one of the older cases, one of the Giffords inoculated a whole nodule from the cheek under his own skin, with negative results.

Arkansas Medical Society Journal, Little Rock

May, 1921, **17**, No. 12

Whose Fault Is It That Cancer Is Not More Frequently Cured? F. J. Taussig, St. Louis.—p. 217.

Boston Medical and Surgical Journal

May 26, 1921, **184**, No. 21

*Infraction of Second Metatarsal Head. C. F. Painter, Boston.—p. 533.
Importance of Public Health Nurse in Tuberculosis Campaign. J. H. Pratt, Boston.—p. 537.
Cerebral Hemorrhage of New-Born. F. C. Irving, Boston.—p. 539.
Essential Factors of Cancer Causation. J. E. Shannon, San Diego, Calif.—p. 542.
Public Health Considerations Relating to Influenza, Pneumonia and Allied Epidemics. Epidemiologic Point of View. F. G. Crookshank. London.—p. 548.

Infraction of Second Metatarsal Head.—The case reported by Painter appears to represent one of a group of traumatic lesions occurring usually as the result of "stubbing" the toe. It is probable that because the disability is not great, they are regarded by the patients as sprains; the majority of them probably take care of themselves and only the ones where separation of the cartilage is complete, seek out the doctor for advice. Some are probably treated as anterior arch trouble or metatarsalgia, and if the treatment is kept up long enough, and the separation of cartilage is not complete, it is as good treatment as if the condition had been more accurately diagnosed.

Colorado Medicine, Denver

May, 1921, **18**, No. 5

Stenosis of Esophagus. T. E. Carmody, Denver.—p. 95.
Hypertrophic Tuberculosis of Ileocecal Region. A. S. Taussig and O. M. Shere, Denver.—p. 102.
Abdominal Pain; Its Significance and Some Unusual Operative Findings. C. E. Tennant, Denver.—p. 106.
Branchial Fistulas; Report of Case. L. I. Miller, Denver.—p. 110.
Tuberculosis of Eye. W. C. Finnoff, Denver.—p. 113.

Florida Medical Association Journal, St. Augustine and Jacksonville

March, 1921, **7**, No. 9

Treatment of Perforating Wounds of Eyeball; Report of Cases. J. W. Taylor, Tampa.—p. 134.
Removal of Foreign Bodies from Air and Upper Food Passages. L. C. Ingram, DeLand.—p. 137.
Minor Eye Injuries. W. H. Adams, Jacksonville.—p. 139.
Vertigo: Report of Case. A. K. Wilson, Jacksonville.—p. 141.
Acute Surgical Abdomen. J. W. Alsobrook, Plant City.—p. 143.
Emphasizing Some Features of Acute Pyelitis in Adult. R. H. McGinnis, Jacksonville.—p. 144.

Indiana State Medical Association Journal, Fort Wayne

March 15, 1921, **14**, No. 3

Diagnosis and Treatment of Diseases and Injuries of Spine. G. D. Marshall, Kokomo.—p. 69.
Duty of State to Epileptic. W. C. Van Nuys, Newcastle.—p. 72.
Significance of Epilepsy. C. A. Marsh, Newcastle.—p. 76.
Physician. F. B. Wynn, Indianapolis.—p. 82.

April 15, 1921, **14**, No. 4

Student Health at Indiana University. J. E. P. Holland, Bloomington.—p. 103.
Benefits of Compulsory Military Training. C. E. Reed, Culver.—p. 105.
Malnutrition of School Children. O. B. Nesbit, Gary.—p. 108.
Clinical Blood Chemistry Tests. J. O. Ritchey, Indianapolis.—p. 110.
Physician. Fads and Fashions of Medical Practice. F. B. Wynn, Indianapolis.—p. 117.

May 15, 1921, **14**, No. 5

Pelvic Lymphangitis. C. Habich, Indianapolis.—p. 139.
*Polyneuritic Syndrome in Young Children. M. K. Miller, South Bend.—p. 144.
Treatment of Aged Patients with Benign Prostatic Tumor. F. Crockett, Lafayette.—p. 145.
Subcutaneous Injuries to Liver. J. Thomson, Garrett.—p. 152.
*Failure of Modern Medicine to Properly Evaluate Physiotherapy. F. B. Wynn, Indianapolis.—p. 153.

Polyneuritic Syndrome in Children.—A case exemplifying a "polyneuritic syndrome" is presented by Miller. The predominant symptoms consist of listlessness combined with extreme restlessness, rapid loss of weight, profuse perspiration, necrosis of gums and alveolar processes with loss of teeth, swollen, tender, cold, bluish-red fingers and toes with maceration of the skin over them, and diminished reflexes. The picture was associated with slight fever, leukocytosis, and suggested the result of an infection.

Physiotherapy.—The main purpose of Wynn's paper is to show that the medical profession has failed to measure up to duty in the study and application of the common natural agencies in relation to the cause and cure of disease. Physicians have failed, first because medical schools have not taught these things thoroughly or systematically; because hospitals have not provided the facilities or a staff or teachers thoroughly competent to instruct; and third because nurses have not received efficient instruction in carrying out the methods. Neglect to give these subjects the attention they merit in therapy has been more responsible than aught else for the development of recent sects in medicine.

Journal of Immunology, Baltimore

May, 1921, **6**, No. 3

*Are Agglutinins Lipoidal in Nature? C. Krumwiede and W. C. Noble, New York.—p. 201.
*Relation Between Absorption of Antibodies and Isolated Protein Bodies. R. Umemura, Tokyo.—p. 205.
*Specificity of Anti-organ Serums. M. S. Fleisher and N. Arnstein, St. Louis.—p. 223.
Polyvalent Antibody Response to Multiple Antigens. F. M. Huntoon and S. H. Craig.—p. 235.

Agglutinins Not Lipoidal.—There was nothing in the experiments performed by Krumwiede and Noble to indicate that agglutinins are lipoidal in character to the extent that they are soluble in lipoid solvents. In no case were they able to reduce the titer of extracted serums beyond a reduction which is explainable by the manipulation of the serum. In no case was there a transfer of agglutinins by the extracting solvent where they could not at the same time demonstrate a transfer of antigenic proteins.

Relation Between Absorption of Antibodies and Proteins.—The rate of absorption of antibody Umemura claims depends on the quanity of proteins associated with it. The quanity of proteins contained being the same, the rate of absorption of antibody associated with isolated protein bodies is slower than that of the whole normal serum. There is no difference in the rate of absorption of the antibodies of each isolated protein. Hence there is an advantage in preferring isolated protein bodies, containing a minimum of protein, in the use of antibodies.

Specificity of Antiorgan Serums.—Fleisher and Arnstein were able to demonstrate tissue specificity in liver, kidney, spleen, brain, muscle and testicle. The methods of demonstrating this specificity and the degree of the specificity varies in the different tissues. In some cases the specificity is absolute, in others it is only relative. The authors believe that the difficulty in demonstrating this specificity lies apparently in the extreme complexity of the biologic composition of the tissues, and possibly in the interrelationship existing between various tissues.

Journal of Laboratory and Clinical Medicine, St. Louis

February, 1921, **6**, No. 5

*Comparative Values of Complement Fixation Methods in Syphilis. H. D. McIntyre, E. A. North, and A. P. McIntyre, Cincinnati.—p. 233.

*Primary Lymphosarcoma of Stomach. A. C. Broders, A. E. Mahle, Rochester, Minn.—p. 249.

Etiology of Acute Inflammations of Nose, Pharynx and Tonsils. S. Mudd, S. B. Grant and A. Goldman, St. Louis.—p. 253.

Report of Five Thousand Bloods Typed Using Moss's Grouping. W. L. Culpepper and M. Ableson, Detroit.—p. 276.

Comparative Value of Complement Fixation Methods in Syphilis.—Cholesterolized antigen properly prepared and titrated, the authors claim, yields from 10 to 15 per cent. more positive Wassermann reactions on syphilitic serums than does the plain antigen. The Hecht-Gradwohl test, when positive in the temperature zone, is diagnostic of syphilis. It will yield 15 per cent. more positive reactions than does the classical Wassermann reaction. The Wassermann test employing complement fixation in the icebox at 2 C. will yield a much higher percentage of positive reactions than does the Hecht-Gradwohl test employing complement fixation in the water bath. With complement fixation under the same conditions, however, the tests practically agree. The three serologic reactions appear in the serum and disappear under treatment in the following order: The icebox Wassermann reaction is the first to appear positive, the Hecht-Gradwohl test follows, the water bath Wassermann reaction disappears first, the Hecht-Gradwohl reaction next, and icebox reaction last.

Primary Lymphosarcoma of Stomach.—In a series of twelve cases of lymphosarcoma of the stomach observed in the Mayo Clinic from Jan. 1, 1913, to Dec. 1, 1920, the average duration of clinical symptoms was six and eight hundredths months. Eleven patients gave a history of loss of weight, nine of pain, seven of vomiting, and two of bleeding, two had histories suggestive of previous ulcer. The average age of the patients was forty-six and twenty-five hundredths years; the youngest patient was 16, and the oldest, 62. Eleven were males. In seven cases the clinical diagnosis was carcinoma; in one ulcer; in one abdominal tumor, probably inflammatory; in one lesion of the stomach, probably malignant; in one pyloric obstruction; in one upper abdominal tumor, probably of the pancreas. Resection was performed in six cases; in the other six the condition was found to be inoperable on exploration. The neoplasms were located for the most part in the pyloric portion of the stomach. Two of the six patients who had resections died of peritonitis following operation. One patient died four months after operation with a recurrence in the lower bowel, liver, and remainder of the stomach. One returned practically five months after operation in poor condition; he had a mass in the left epigastrium which probably was a recurrence. Another returned practically seven months after operation, apparently with a recurrence. The remaining patient was operated on too recently to be considered in the results. Four of the patients who had explorations are dead. They lived for from six weeks to four months after exploration.

Journal of Orthopaedic Surgery, Lincoln, Nebr.

May, 1921, **3**, No. 5

*Backache and Anatomic Variations of Lumbosacral Region. A. O'Reilly, St. Louis.—p. 171.

*Mechanism of Human Foot in Walking. A. Gibson, Winnipeg, Manitoba.—p. 188.

Reconstructive Surgery of Traumatic Foot and Ankle Deformities. A. Cotton, Baltimore.—p. 196.

Fracture of Forearm in Children. J. Grossman.—p. 217.

Non-Operative Treatment of Scoliosis. W. Truslow, Brooklyn.—p. 228.

Backache and Anatomic Variations of Lumbosacral Region. Roentgenograms of 300 patients with backache were examined by O'Reilly. Tracings were made from 199 and these were studied for variation in the sacro-iliac joints, the transverse processes of the fifth lumbar, and other changes. These tracings could be divided into three definite types. In Type I the sacrum is fairly high between the ilia. It is fairly broad and the upper border extends to, or a little beyond the line of the iliac crests, before it curves to form the line of the sacro-iliac joint. The crests of the ilia curve at an angle of about 45 degrees. The distance between the posterior portion of the crest and the line of the sacro-iliac is fairly broad. This is a mixed type and is found in both males and females. In Type II the crests are almost vertical. The outlines of the posterior spines of the ilia are sharp and angular. The general impression is that the sacrum is narrow and is set low between the crests. The line of the sacro-iliac is well beyond the shadow of the crests and the distance has a tendency to asymmetry. The sacro-iliac may be either broad or shallow. This is almost exclusively a male type. Type III somewhat resembles Type I, but the sacrum is wider; the curve of the sacro-iliac begins before it crosses the shadow of the ilium, so that there is a distinct notch. In Type III, the shadow of the sacro-iliac is more shallow than in Types I and II. This is a female type. All these types show some variations and many irregularities.

Heel on Boot.—From Gibson's study the fact emerges that the use of a heel on the boot involves a sacrifice of stability. But since the ground we tread is for the most part smooth, and comparatively free from obstacles, a small sacrifice of this may be made with impunity. If it be admitted that the use of a heel to the boot economizes expenditure of energy in locomotion, the use of a heel of moderate height is a measure of practical utility. More important than the height of the heel is its area. This should always be large. For practical purposes a heel not exceeding 1 inch or at the most 1½ inches in height permits of active use of the calf muscles, does not excessively throw the weight forward, and yet takes off a considerable portion of the muscular strain of walking. One must bear in mind that in walking the minimum of muscular effort is made. If sufficient is called for to produce tiring of the muscles, the result will be that more and more weight will be thrown on the ligaments, the muscles themselves will be used as ligaments, and there will be consequent stretching with development of the symptoms of foot strain.

Journal of Urology, Baltimore

March, 1921, **5**, No. 3

*Tumors of Vesical Neck and Prostatic Urethra and Their Relation to Treatment of Chronic Prostatitis. L. P. Player and C. P. Mathe, San Francisco.—p. 177.

Follow-Up Record in Cases of Tumor of Bladder. J. L. Crenshaw, Rochester, Minn.—p. 211.

*Urinary Antisepsis; Secretion of Antiseptic Urine by Man Following Oral Administration of Proflavine and Acriflavine. E. G. Davis, Omaha.—p. 215.

*Action on Gonococcus of Various Drugs Commonly Used in Prophylaxis and Treatment of Gonorrhea. E. O. Swartz and D. M. Davis, Baltimore.—p. 235.

Submucous Ulcer of Bladder in Male. H. C. Bumpus, Jr., Rochester, Minn.—p. 249.

*Surgical Treatment of Gonorrheal Epididymitis. H. W. McKay, Charlotte, N. C.—p. 255.

Sterilizer for Cystoscopes. A. Randall and S. W. Moorhead, Philadelphia.—p. 265.

Tumors of Bladder Neck.—Observations made by Player and Mathe through the cysto-urethroscope revealed three types of tumors, the morphologic appearances of which were as follows: (*a*) True polypi with pedunculated cases; (*b*) polypoid masses with sessile bases; (*c*) simple edematous excrescence. Histologic study of these tumors showed them to be made up either of glandular or of connective tissue with

a general infiltration of round cells, polymorphonuclear leukocytes and plasma cells throughout the growth, associated with chronic granulation tissue due to a focus of infection which is continued. In those cases in which the vesicular and prostatic secretions were found to be greatly improved, where, however, a continuance of symptoms occurred and polypi or polypoid masses existed, the symptoms did not clear up until these tumors were finally destroyed by fulguration. It is pointed out that these growths can act as a source of irritation and so cause a reinfection of the prostate and the seminal vesicles. On the removal of these tumors, 73 per cent. of these resistant cases showed marked improvement with probable cure; 20.5 per cent. showed slight improvement, and 5.8 per cent. showed no improvement.

Urinary Antisepsis.—Proflavine and acriflavine, administered by mouth in 0.1 gm. and even 0.05 gm. dosage, to normal individuals Davis states is secreted in the urine in sufficient concentration to render the latter an unfit culture medium for the colon bacillus and staphylococcus, provided the reaction of the urine is alkaline. The same effect is inconstantly obtained in acid urine. This antiseptic action becomes evident about two hours after drug administration, and persists for at least eight hours. Control samples of urine, obtained before drug administration and twenty-four hours later, uniformly permitted a profuse growth of both organisms. Colon bacilli survive for only about eight hours in dye-containing alkaline urine obtained from patients four hours after the administration of acriflavine, or proflavine, 0.05 gm. Preliminary experiments indicate that intravenous administration of smaller dosage causes more prompt and efficient antiseptic action. The indiscriminate use for this purpose of products marketed under the name of proflavine or acriflavine, but of undetermined purity and toxicity and efficiency Davis states is distinctly inadvisable.

Effects of Germicides on Gonococcus.—Silvol, cargentos, argyrol and protargol according to Swartz and Davis have a definite but not very high germicidal value against the gonococcus. For all these substances the values are of the same order. Phenol, tricresols, potassium permanganate, zinc sulphate and boric acid have too little germicidal value against the gonococcus to be useful as germicidal in the urethra. Chlorazene has a moderate germicidal value against the gonococcus. Potassium mercuric iodid has a high germicidal value against the gonococcus. The gonococcus is many times more susceptible to the drugs tested than are *B. coli* or *Staphylococcus aureus.*

Surgical Treatment of Gonorrheal Epididymitis.—The open operation with drainage McKay claims is the most efficient and happiest way to terminate the most troublesome complication of gonorrhea.

Maine Medical Association Journal, Portland

May, 1921, **11**, No. 10

Clinical Psychiatry. F. C. Tyson, Augusta.—p. 301.
Spirit of Our Calling. W. E. Lincock, Caribou.—p. 305.

Medical Record, New York

May 28, 1921, **99**, No. 22

*Gastric Ulcer and Its Treatment. J. B. Moynihan, Leeds, England.—p. 903.
Hormones and Emotions. S. Naccarati, New York.—p. 910.
Petroleum Gas Poisoning, Especially is Mexican Field. D. Brown, New York.—p. 915.
Intussusception in Infancy and Childhood. With Report of Successful Case of Resection for Gangrenous Intussusception. W. M. Silleck, New York.—p. 918.
Treatment of Arthritis by Nonspecific Therapy. I. Betz, Brooklyn.—p. 920.
Bloodless Surgery in Flat Foot. W. T. Clark, New York.—p. 921.

Treatment of Gastric Ulcer.—Moynihan's record of cases since 1909 is as follows: gastrectomy, 96 cases, 2 deaths, 2.08 per cent.; gastro-enterostomy: posterior, 701; anterior, 8; in Y, 13; author's operation, gastro-enterostomy in Y with jejunostomy, 14; gastro-enterostomy in Y with gastrostomy, 2; total, 748 cases, 7 deaths, 0.9 per cent. In many cases the appendix was removed, and in some the gallbladder was drained or excised. In two cases ovarian cysts were removed also. Excision of gastric or duodenal ulcer with or without gastro-enterostomy, including Balfour's operation, 43 cases, 1 death. Hourglass stomach, treated by multiple short-circuiting operations; gastro-enterostomy combined with gastrostomy, etc., 19 cases, 1 death. Jejunostomy, 4 cases, 1 death. Grand total, or excluding 32 cases of jejunal ulcer in which there were two deaths, the total number of gastric and duodenal ulcers is 878, with 10 deaths, a mortality of 1.11 per cent.

Missouri State Medical Association Journal, St. Louis

May, 1921, **18**, No. 5

*Pupil as a Diagnostic Aid in Neurosyphilis. E. L. Russell, Kansas City.—p. 149.
Two Cases of Pellagra or Acrodynia in Children. J. Zahorsky, St. Louis.—p. 153.
Pneumoperitoneum. L. R. Sante, St. Louis.—p. 155.
*Draining Gallbladder by Instilling Magnesium Sulphate into Duodenum. F. Neuhoff, St. Louis.—p. 158.
Paralysis Fly Lucilia Caesar. Some Difficulties Encountered in Obtaining Its Toxi Virulent Larvae for Experimental Purposes. E. W. Saunders, St. Louis.—p. 160.

Pupil as Diagnostic Aid in Neurosyphilis.—Admitting his inability to locate the lesion more definitely in syphilis of the nervous system by the pupillary findings, Russell insists that these are of great assistance added to other symptoms, especially if one takes up thoroughly the disturbances in motility, that is the muscular pareses.

Draining Gallbladder by Magnesium Sulphate.—In the cases of four patients who had no gallbladders, the magnesium sulphate brought about the same amount of bile as in persons with the gallbladder intact. However, it was never acid, was of a lighter color, less viscid, more transparent and of lower specific gravity than in the cases of patients having gallbladders even though normal. This confirms Lyon's contention, that magnesium sulphate injection drains the gallbladder. It likewise shows that the magnesium sulphate stimulates greatly the flow of bile direct from the liver, and what is obtained after its employment is gallbladder bile mixed with a large but probably variable amount of bile freshly secreted by the liver. From a therapeutic point of view, Neuhoff thinks the application of magnesium sulphate through the duodenal tube has a definite field of usefulness. In early cases of gallbladder infection and bile stasis it no doubt may, by draining the gallbladder, prevent the more dangerous stages of infection or the formation of stones. It ought to be employed, at intervals, after cholecystectomy to prevent the dangerous sequels to which these patients are often liable.

New York State Journal of Medicine, New York

May, 1921, **21**, No. 5

*Some Unusual Experiences in the Diagnosis and Treatment of Intermittent Hydronephrosis. G. E. Brewer, New York.—p. 151.
Surgical Physiology and Pathology of the Colon from the Roentgen-Ray Standpoint. J. T. Case, Battle Creek, Mich.—p. 156.
Prevention of Diphtheria. W. H. Park, New York.—p. 158.
*Mesenteric Vascular Occlusion. R. G. Loop, Elmira, N. Y.—p. 164.
Pathology and Treatment of Corneal Ulcers. N. W. Price, Niagara Falls, N. Y.—p. 168.
Psychoneuroses of War. C. R. Payne, Wadhams, N. Y.—p. 171.
Medical Education. E. A. Vander Veer, Albany, N. Y.—p. 173.
*Syphilis in Children of School Age with Heart Disease. B. F. Donaldson, New York.—p. 176.
Acute Mastoiditis in the Aged. T. L. Saunders, New York.—p. 177.
The Nursing Situation. W. G. Thompson, New York.—p. 178.

Diagnosis of Intermittent Hydronephrosis.—In the cases cited by Brewer the symptoms most often were simply those of an intermittent hydronephrosis from any cause, and calculus somewhere in the upper urinary tract, was the preoperative diagnosis in the majority of instances. In at least one third of the cases of ureteral calculus on the right side in which Brewer operated, there had been performed a previous operation for removal of the appendix or an exploration of the gallbladder.

Mesenteric Vascular Occlusion.—Seven cases are reported by Loop. The significance are (1) incomplete intestinal obstruction—small ineffectual bowel movements, (2) the slight degree of muscular rigidity as compared to the severity of the pain, (3) moderate distention without tympany, (4) the absence of pulse or temperature reaction except after the development of peritonitis, and (5) the self-limited vomiting. The presence of blood in the vomitus and stools unless other-

wise explained is another valuable sign, but was observed by me only twice.

Syphilis in Children with Heart Disease.—Of 183 Wassermann tests made on eighty-four children with heart disease only one positive reaction was obtained by Donaldson. It would seem that syphilis is not a very great factor in the causation of heart disease in children.

Philippine Journal of Science, Manila

December, 1920, **17**, No. 6

Relation of Salt Proportions and Concentrations to Growth of Young Wheat Plants in Nutrient Solutions Containing a Chlorid. S. F. Trelease.—p. 527.
New Genus of Myrsinaceae from the Philippines. E. D. Merrill.—p. 605.
Low-Sun Phenomena in Luzon. III. Marine Sunsets and Duration of Sunset on Manila Bay and China Sea. W. J. Fisher.—p. 607.
Malayan Bees. T. D. A. Cockerell, Boulder, Colo.—p. 615.
Trematodes from Philippines. E. C. Faust, Peking, China.—p. 627.
Black Spot of Citrus Fruits Caused by Phoma Citricarpa McAlpine. H. A. Lee.—p. 635.

Public Health Journal, Toronto

March, 1921, **12**, No. 3

Fundamental Facts in Organization. A. D. Blackader.—p. 97.
Place of Occupational Therapy in Mental Hygiene. N. L. Burnette.—p. 103.
Statistics and Publicity in Child Welfare Work. C. A. Hodgetts.—p. 107.
Fighting Disease.—p. 114.
Forward Movement in Public Health and Its Relationship to Social Advance. C. Miller.—p. 120.
Victorian Order of Nurses. Prenatal Visiting Under the V. O. N. E. Haslam.—p. 127.

Rhode Island Medical Journal, Providence

February, 1921, **4**, No. 2

Spinal Mechanism in Dual Rôle. F. E. Peckham, Providence.—p. 19.
Future Treatment of Disease. D. L. Richardson, Previdence.—p. 23.
Heart and Its Relation to Mental State. "A Country Doctor" in Rhode Island.—p. 27.

Virginia Medical Monthly, Richmond

May, 1921, **48**, No. 2

History of Ophthalmology and Otolaryngology in Virginia. J. A. White, Richmond.—p. 59.
Diabetes Insipidus. Report of Case. J. S. Davis, University.—p. 63.
Retrobulbar Neuritis. H. Woods, Baltimore.—p. 69.
Case of Horseshoe Kidney. R. C. Bryan, Richmond.—p. 75.
Inadvisability of Making Hurried Diagnosis in Cases of Suspicious Tuberculosis. J. G. Marston, Norfolk.—p. 80.
Undergraduate Instruction in Tuberculosis. W. C. Klotz, Charlottesville.—p. 84.
Infections of Paranasal Sinuses. J. W. White, Norfolk.—p. 87.
Pediatric Clinics: Clinical and Administrative Management. S. Newman, Danville.—p. 89.
Special Society: Its Purposes and Possibilities. H. H. McGuire, Winchester.—p. 92.
Philosophy of Medical Diagnosis. W. T. Vaughan, Richmond.—p. 94
Fractures of Forearm, Including Injuries to Elbow and Wrist Joints. E. E. Feild, Norfolk.—p. 98.
Cystitis. R. S. Fitzgerald, Richmond.—p. 100.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Surgery, Bristol

April, 1921, **8**, No. 32

*Carcinoma of Appendix Causing Diverticula of Appendix and Acute Appendicular Obstruction, D. P. D. Wilkie.—p. 392.
*Treatment of Congenital Hypertrophic Stenosis of Pylorus by Rammstedt's Operation. R. A. Ramsay.—p. 397.
Development of Cysts in Connection with External Semilunar Cartilage of Knee Joint. R. Ollerenshaw.—p. 409.
*Five Hundred Goiter Operations; Special Reference to After Results. J. Berry.—p. 413.
Intestinal Stasis Followed by Cystic Dilatation of Cecum, without Intestinal Obstruction. W. G. Spencer.—p. 452.
*Closure of Septic Bone Cavities Following Gunshot Wounds by Muscle Flaps. D. Wood.—p. 460.
*Case of Persistent Vitelline Artery: Fatal Intra-Abdominal Hemorrhage from Rupture of Vessel. J. Fraser and J. E. McCartney.—p. 478.
Capillary Angeiomatosis of Parotid Gland (Partial Excision). C. Nicory.—p. 481.
Babcock's Extraction Operation for Varicose Veins. G. H. Colt.—p. 486.
Study of Loose Bodies Composed of Cartilage or of Cartilage and Bone in Joints. A. G. T. Fisher.—p. 493.
Downward Dislocation of Patella. H. Rutherfurd.—p. 524.
Carcinoma of Breast. G. W. Nicholson.—p. 527.

Diverticulum of Appendix Causing Intestinal Obstruction.—In the three cases cited by Wilkie the presence of the growth in the appendix obstructing its lumen led to very definite acute symptoms which called for operation. The carcinoma situated near the proximal end of the appendix gave rise to symptoms of acute appendicular obstruction which in two of the cases called for immediate surgical intervention, and in the third case led to repeated attacks until the appendix was removed. In two of the cases the obstruction, before finally occluding the lumen completely, had caused a chronic increase in tension in the appendix leading to the formation of diverticula, through one of which perforation eventually occurred. In one case there were two separate and apparently entirely independent though similar growths in the appendix, the one at the tip, the other at the base. These three cases were typical of appendix carcinoma in: (1) the early age incidence (15, 22 and 17 years, respectively); (2) the spheroidal-cell type of growth; (3) the absence of metastatic glandular involvement.

Pyloric Stenosis; Rammstedt Operation.—Of the ten cases on which Ramsay's paper is based, five ended fatally, but none were fatal from the shock which was a frequent termination after the older operations.

Goiter.—Berry's analysis of 500 cases is presented in such detail as to prohibit abstracting, hence the original article must be consulted.

Closure of Septic Bone Cavities with Muscle Flaps.—Wood's paper is based on a series of twenty-four consecutive cases. The pedicle muscle flap is a living plug with its own blood, and often its own nerve supply. It is consequently able to resist low degrees of infection. This is a great advantage over other methods proposed. The use of muscle as a hemostat is well known in brain surgery. Its similar action in bone cavities is of great importance. It prevents the accumulation of bloot clot, which would act as a pabulum for organisms in the wound.

Persistent Vitelline Artery.—In the case cited by Fraser and McCartney there was a small tumor at the umbilicus no greater than a pea with a persistent irritating discharge from its surface which tended to produce excoriation of the surrounding skin. The tumor seemed to consist of granulation tissue, and was growing by a narrow pedicle from the deeper portion of the umbilicus. Its surface gave rise to a small amount of secretion. There was no sign of any cavity in its interior, and it did not appear to connect with any deeper abdominal structure. The condition was regarded as that of a simple umbilical granulation. The tumor was lifted from the umbilicus and the pedicle was divided with the cautery. The child, aged 4 months, remained well for twenty-four hours, but after this period it began to show certain alarming features. The pulse increased in rapidity and the appearance was one of considerable shock. The child succumbed within forty-eight hours of the original operation. On opening the abdomen, the peritoneal cavity was seen to contain a large quantity of blood, of which about 4 ounces were in the pouch of Douglas. There was no evidence of peritonitis or of perforation. A thin fibrous cord, 1½ inches long, stretched from the umbilicus a little to the left of the middle line, to the mesentery of the ileum, about 18 inches from the ileocecal valve. The actual attachment of this cord to the mesentery, which appeared to be held an inch from the gut wall, was hidden by a hematoma in the mesentery. This hematma was about an inch in diameter, and at the apex was a small hole from which the blood had escaped into the peritoneal cavity. The other organs of the body showed nothing worthy of note. On dissecting the cord through the hematoma, it was found to be attached to a branch of the superior mesenteric artery. This shows that the cord was the persistent left vitelline artery. Its lumen was completely obliterated, even at the junction with the superior mesenteric branch. Opposite the attachment of the vitelline artery there arose from the superior mesenteric artery a small branch which had been torn across, and this was responsible for the hemorrhage. During the operation, on lifting the tumor from the umbilicus traction was exerted on the vitelline artery and, through it, on the main vessel, this causing the rupture of the small branch. As

a result, a hematoma was formed in the mesentery, and after this had attained a certain size, the stretched peritoneum over it ruptured, and blood escaped into the peritoneal cavity.

British Medical Journal, London

May 21, 1921, **1**, No. 3151

*Acute Infective Arthritis. F. J. Steward.—p. 727.
*Acute Intestinal Obstruction. E. R. Flint.—p. 729.
Abdominal Pain: Its Mechanism and Clinical Significance. A. E. Maylard.—p. 731.
Physiologic Cost of Muscular Work. L. Hill and J. A. C. Campbell.—p. 733.
*Comparative Systolic Blood Pressure Readings in Arm and Leg in Aortic Incompetence. O. K. Williamson.—p. 734.
Elementary Psychology in General Hospital Teaching. W. Calwell.—p. 736.
Obstruction by Band in Large Scrotal Hernia. P. Turner.—p. 738.
Radical Cure of Varicocele. J. O'Conor.—p. 738.
Ligation of Left Subclavian Artery. W. Gemmill.—p. 739
Dermatitis Caused by Bitter Orange F. A. Murray.—p. 739.

Acute Infective Arthritis.—Steward cites cases which illustrate various modes of joint infection: from the exterior; by spread from neighboring parts; and general blood infection.

Acute Intestinal Obstruction.—A series of 282 cases is analyzed by Flint. The mortality was 15.6 per cent., including strangulated external hernia and acute obstruction from carcinoma. Leaving these out of account, there were seventy cases, with a death rate of 28.5 per cent. The mortality of all cases not requiring resection in this series was 9.3 per cent. —that is, 236 cases, with twenty-two deaths. The mortality of all resections was 45.4 per cent.

Arm and Leg Blood Pressure in Aortic Incompetence.—Williamson records his observation of twenty-four cases of undoubted and, indeed, well marked aortic incompetence. In fourteen of these a difference obtained in the arm and leg readings. In the ten remaining cases there was either a higher arm than leg reading or there was no difference in favor of the leg reading. Ten out of the fourteen patients showing the difference had thick arteries. In the fourteen adult cases eleven showed the difference, whereas it was observed only in three of the eight children, in none of whom were any arterial changes found. These two points suggest very strongly the arterial origin of the phenomenon. In regard to the relationship of the degree of pulse pressure to the arm-leg difference, there was no correspondence between the two.

Journal of Laryngology and Otology, Edinburgh

May, 1921, **36**, No. 5

One Hundred Eighty-Eight Cases of Acute Otitis Media and Mastoiditis in Which Schwartze Operation was Performed. G. A. A. Boyd.—p. 217.
Diagnosis of Disease of Otolith Apparatus. R. Barany.—p. 229.
Rôle of Tonsils in Certain Cases of Diphtheria "Carriers." H. Tilley.—p. 235.
Two Cases of Traumatic Adhesion of Soft Palate to Posterior Pharyngeal Wall Following Removal of Tonsils and Adenoids; Re-establishment of Nasal Respiration by Operation. A. L. Turner.—p. 237.

Journal of Pathology and Bacteriology, Edinburgh and London

April, 1921, **24**, No. 2

*Neural Origin of Certain Sarcomas of Brain. J. R. Perdrau.—p. 129.
Fibroma in a Honey-Bee. P. B. White—p 138.
Method of Mounting Flat Pathologic and Other Specimens in Gelatin. T. H. G. Shore.—p. 140.
Diagnosis of Syphilis in Malarial Subjects by Wassermann Reaction. J. P. Johnson.—p. 145.
Preparation of Diphtheria Toxin. K. G. Dernby and H. David.—p. 150.
*Cultivation of Gonococcus. C. E. Jenkins.—p. 160.
*Decalcifying and Dehydrating Fixative. C. E. Jenkins.—p. 166.
*Mode of Infection of Schistosomum Japonicum and Principal Route of Its Journey from Skin to Portal Vein in Host. Y. Miyagawa and S. Takemoto.—p. 168.
Experimental Study of Avian Beriberi. G. M. Findlay.—p. 175.
Production of Coliform Infection in Urinary Tract of Rabbits. E. H. Lepper.—p. 192.
Supposed Importance of Vitamins in Promoting Bacterial Growth. J. W. M'Leod and G. A. Wyon.—p. 205.
Study of So-Called Parameningococci. L. Cronstedt.—p. 211.
Studies on Heterophile Antigen and Antibody. T. Taniguchi.—p. 217.

Neural Origin of Brain Sarcoma.—Two cases of "sarcoma" of the brain are recorded by Perdrau which show characters pointing to a neural origin and are, therefore, true neuroblastomas. In the first case the bipolar neuroblast is the prototype of the tumor, and in the second case the unipolar (or pear-shaped) neuroblast, the latter being the more malignant one of the two.

Cultivation of Gonococcus.—Ten per cent. whole blood agar has been found by Jenkins to be a satisfactory medium for culturing the gonococcus. The reaction of the agar from which it is made should be +4 or +5. At optimum conditions of temperature and moisture, and when grown on a suitable medium, all strains develop equally; the variations in the amount of growth and in the appearance of the different strains only become manifest when the conditions are made relatively unfavorable.

Decalcifying Fixative.—The formula which Jenkins designed to avoid the objections to picric or nitric acid is: hydrochloric acid, 4; glacial acetic acid, 3; chloroform, 10; water, 10; absolute alcohol, 73. The tissue should be immersed in 100 times its volume of solution. Tissues placed in this fluid do not show the slightest discoloration, except some bleaching which does not affect the staining. Decalcification is rapid; a piece of rib 2 inches long was quite soft in forty-eight hours. After the completion of decalcification washing is not necessary; the tissue may be passed straight into absolute alcohol to complete the dehydration and to remove the acid. Tissues treated with the fluid take Ehrlich's hematoxylin. Differentiation is normal.

Mode of Infection of Schistosomum Japonicum.—Miyagawa and Takemoto were able to determine that the principal route of invasion of *Schistosomum japonicum* from the skin to the portal veins in the host, was as follows: The young worms penetrate actively into the skin, principally into the lymphatic spaces, then for the most part they invade the blood capillaries or the small peripheral veins, later gathering in the right side of the heart. Some of those in the skin tissue pass by the lymphatic vessels to the lymphatic glands, in which some are arrested and killed; others, however, being able to pass through into the emergent veins finally reach the right side of the heart. The worms in the right side of the heart now pass to the lungs. They are arrested a short time in the lung tissue, owing to the disproportion in the size of the worms and alveolar capillaries. Finally, they return to the left side of the heart and are carried through the aorta to the wall of the gastro-intestinal canal, after passing through which they reach their permanent residence (the portal branches in the liver) by the mesenteric veins. Some of the worms in the systemic circulation can directly reach the liver by the hepatic artery.

Kitasato Archives of Experimental Medicine, Tokyo

March 10, 1921, **4**, No. 2

*Antirabic Inoculation of Dogs and Results of Its Practical Application. S. Umeno, Vet and Y Doi.—p. 89.
*Leukocytes in Influenza: Etiologic Significance. S. Yabe.—p. 109.
*Cultivation of Bacillus Leprae. K. Kohda.—p. 141.
Life Cycle of Fasciolopsis Buski, Lankester. K. Nakagawa.—p. 159.

Antirabic Inoculation of Dogs.—The importance of the vaccination of dogs to prevent spread of rabies among dogs is emphasized by Umeno as being most effective. He prepared an antirabic vaccine from the brain and the spinal cord of a rabbit, which had been inoculated with the fixed virus. The brain and spinal cord, were pounded in a mortar. One part of this pounded material was mixed with 4 or 5 parts of phenolized glycerin water. In order to diminish its virulence, this mixture was stored for a certain period of time either at room temperature or in the ice chamber. The dose was 6 c.c. of vaccin per 15 kg. body weight of the dogs. This quantity of vaccine was injected in two different places. Among 31,307 vaccinated dogs occurred only one case of vaccination loss and one in which the vaccination was not to be regarded effective enough. There appeared quite a number of rabid dogs among the nonvaccinated dogs.

Leukocytes in Influenza.—Yabe states that in influenza leukocytosis must occur in the initial stage of the infection, i. e., during the incubation period or on the first or the second day of the illness, and then a decrease must occur. In the convalescent serum of influenza, a substance has been found which interrupts the decrease in the leukocyte count and

which may be considered to be a kin of antitoxic immune substance. In the normal blood such a substance has never been found. The immune serum, which was obtained by immunizing animals with influenza bacilli, contains the same antitoxic substance as the convalescent serum. But the serum immunized with any other species of bacteria has no antitoxic power against the toxin of influenza. Yabe concludes that the causative agent of uncomplicated influenza must be *B. influenzae*.

Cultivation of Lepra Bacillus.—All of Kohda's work was done with Kedrowski's lepra bacillus, an acid and alcohol fast bacillus, which develops on culture mediums similar to the avian tubercle bacillus. Against some experimental animals it showed a weak pathogenicity. It was proved to have a positive immunologic reaction against leprous serum, although it is not specific. An especially striking feature was that the serum of lepra tuberosa fixed complement stronger than that of lepra nervorum. Kohda believes that all the phenomena observed must be considered as a group reaction of all the acid fast bacilli toward the leprous serum.

Medical Journal of Australia, Sidney

April 2, 1921, **1**, No. 14

*Papilloma of Urinary Bladder. S. Harry Harris.—p. 265.
Volvulus in Infant Four Days Old. F. C. Burke-Gaffney.—p. 269.

April 23, 1921, **1**, No. 17

Pathology of Functional Nervous Disorders. H. K. Fry.—p. 325.
Intestinal Parasites in North Queensland. S. M. Lambert.—p. 332.

April 30, 1921, **1**, No. 18

I. Commonwealth Government Service.—p. 347.
II. Public Health Service of New South Wales.—p. 348.
III. Evolution of Public Health Administration in Victoria.—p. 350.
IV. Development of Public Health Department of Queensland.—p. 352.
V. Public Health in South Australia.—p. 354.
VI. Health Administration in Tasmania.—p. 357.
I. School Medical Service of New South Wales.—p. 359.
II. School Medical Inspection in Victoria.—p. 360.
III. Medical Inspection of School Children in Western Australia.—p. 364.
IV. Medical Inspection in State Schools of Tasmania.—p. 366.

Papilloma of Bladder.—Of thirty-eight patients, thirty-three were treated by the high frequency current through the cystoscope without mortality and five by suprapubic cystotomy with complete destruction of the tumors and entire mucous membrane of the bladder by the Paquelin (benzin) cautery. Of the latter, one died. The remaining four patients so treated were well and free of recurrence at periods after operation ranging from one and a half to four and a half years. Three were suffering from very extensive multiple recurrences after previous suprapubic operation elsewhere; and the condition had been pronounced inoperable. Of the thirty-three patients treated by the high frequency current, eight had more or less extensive—and in four cases multiple—recurrences after operation elsewhere by the suprapubic route. Of these, six are known to be well and free of recurrence at periods ranging from twenty months to four and a half years. The other two were well at the time of the last report, six months after the disappearance of the tumors.

South African Medical Record, Cape Town

April 23, 1921, **19**, No. 8

Puberty Gland (Interstitial Gland) and Some of Its Functions. H. V. Exner.—p. 142.
Intra-Urethral Chancres. B. Bernstein.—p. 151.
Snake Venom for Epilepsy. F. W. Fitzsimons.—p. 153.

Annales de Médecine, Paris

March, 1921, **9**, No. 3

*Gout and Cholesterin. A. Chauffard and J. Troisier.—p. 149.
*Pneumonia in the Aged. G. Roussy and R. Leroux.—p. 161.
*D'Herelle's Bacteriophagum. P. Ameuille.—p. 197.
Place of the Sympathetic Nervous System in Human Pathology. A. C. Guillaume.—p. 208.

Gout and Cholesterin.—Chauffard and Troisier relate that with Grigaut's modification of Folin's technic they found the uric acid content of the blood in gout was regularly 0.1 per thousand, instead of the normal 0.04, and the cholesterin content was likewise abnormally high. In nine of thirteen cases of gout, the cholesterin ranged from 1.50 to 2.95 per thousand. This excess of cholesterin is deposited at various points, the process being the same as with urates, only in lesser degree. They describe a case in detail showing the superposed cholesterinemia and uricacidemia plus intercurrent fatal tuberculous disease of the kidneys.

Pneumonia in the Aged.—Roussy and Leroux give a profusely illustrated description of the pathologic anatomy of bronchopneumonia in twenty-one persons from 64 to 81 years of age. The pneumonia is due to some casual infection of a local point of lesser resistance from thrombosis entailed by the chronic arteritis or sclerosis of the lung.

D'Herelle's Bacteriophagum.—Ameuille's survey of the literature on this subject shows conflicting views, but there can be no doubt of the peculiar biologic reaction involved.

Bulletin de l'Académie de Médecine, Paris

May 3, 1921, **85**, No. 18

*Aneurysm of the Aorta. L. Rénon, R. Mignot and Blamoutier.—p. 528.
*Syphilitic Aortitis. C. Fiessinger.—p. 537.
*Gastrectomy for Hard Ulcer. V. Pauchet.—p. 539.
*Treatment of Bacilli Carriers. R. Dujarric de la Rivière.—p. 542.

Treatment of Aneurysm of the Aorta.—Rénon relates that Tuffier operated on a spindle-shaped aneurysm of the ascending portion of the aorta in a woman of 62 with positive Wassermann reaction but no signs of syphilis. A strip of fibrous tissue, from the woman's fascia lata, was wrapped around the aorta to reenforce its wall. The sternum was cut across at the second interspace, which allowed ample access to the aneurysm; it covered a stretch of about 5 cm. The strip from the fascia lata was passed twice around the vessel and fastened to it with silk. The strip was about two fingerbreadths wide, and it was drawn tight to reduce the diameter of the vessel a little. The sternum was sutured with silver wire. The dyspnea and pains were relieved at once but there was an intrathoracic sensation as of a cramp for three months, and at times later. The aneurysm in the course of six and a half years had about regained its former size when the woman succumbed to intercurrent disease. In the discussion that followed, Delorme suggested that the immediate and striking relief may have been due to a regional sympathectomy realized by freeing the aorta to allow the strip of fascia to be passed around it. This recalls Jonnesco's case of angina pectoris with dilated aorta cured by severing the trunk of the sympathetic. We have thus three methods of treatment at our disposal: reenforcement of the wall by wrapping a strip of fibrous tissue around it; regional sympathectomy, and remote trunk sympathectomy. The first technic is applicable only to a limited region, but the third might act on any portion of the aorta.

Posttraumatic Syphilitic Aortitis.—Fiessinger warns of the necessity for a course of specific treatment before any operation on a syphilitic, relating several instances of acute aortitis developing at once after an operation, the myocardium giving way, with fatal outcome. In one of his cases the operation had been nothing more serious than iridectomy. An interval of three months elapsed in one of the cases, death following in two months.

Gastrectomy for Hard Ulcer.—In one of Pauchet's five cases of total gastrectomy, the woman of 53 seems to be entirely normal at present, over two years since the operation.

Hot Air in Treatment of Bacilli Carriers.—De la Rivière has found that a jet of superheated air playing on the tissues of the throat for a total of ten or fifteen minutes, seems to kill off the diphtheria bacilli in chronic carriers. This result was obtained in from three to five sittings in his fifty cases; only one required fifteen.

Bulletin Médical, Paris

May 7, 1921, **35**, No. 19

*Dyspepsia. F. Ramond and C. Jacquelin.—p. 377.
Hallucinations with Secondary Psychoses. R. Benon.—p. 378.

Dyspepsia.—Ramond and Jacquelin describe what they call the "early gastric syndrome." This condition is as well defined as the pyloric syndrome, and requires prompt treatment as otherwise it tends to anachlorhydria. The gastritis is in the upper third of the stomach, and the meals should be arranged to spare this portion of the stomach; no fluids with meals, and the total amount of food not reaching above half the height of the cavity.

Bulletins de la Société Médicale des Hôpitaux, Paris

April 29, 1921, **45**, No. 14

*Treatment of Tachycardia. C. Lian and H. Welti.—p. 559.
Toxicity of Certain Samples of Neo-Arsphenamin. Eschbach.—p. 567.
*Intra-Articular Serotherapy. A. Netter.—p. 573.
Toxin Versus Endotoxin of Diphtheria Bacilli. Babonneix.—p. 575.
*Urticaria and Mastication. P. Pagniez and L. de Gennes.—p. 577.
Nephritis in Malignant Endocarditis. Caussade and Foucart.—p. 581.
*Wassermann Test in Epidemic Encephalitis. E. Duhot and P. Crampon.—p. 587.
*Protein Shock Therapy. E. Lévy-Solal.—p. 591.

Physostigmin in Treatment of Tachycardia.—Lian and Welti call attention to this drug as another weapon for combating tachycardia. In the eleven adults described, marked relief was obtained, but it was mainly subjective. The relief from the palpitations was as marked in the cases with exophthalmic goiter as with mere hypersympathicotonia and in cardiovascular disease without thyroid symptoms. Intense vasomotor disturbances in one case improved, but in another no influence on "hot flashes" was apparent. There were no by-effects except transient malaise in one woman who had taken twice the prescribed dose at one time. They gave 1 mg. of the eserin sulphate before one, two or three meals during the day, keeping this up for from four to seven days or even for two or three weeks. Hypertonia of the sympathetic nervous system seems to be the indication for it.

Intra-Articular Serotherapy.—Netter extols the promptly curative action of intra-articular injection of antigonococcus serum in suppurating gonococcus arthritis. When the specific antiserum is not available, a rapid and definite cure may be obtained with nonspecific antiserum. This was his experience in a case of pneumococcus arthritis, in two paratyphoid cases, in a case of inherited syphilis, and in one of frambesia; in ten other cases it proved impossible to determine the exact bacteria responsible, but antimeningococcus serum or other antiserum proved effectual, or even normal serum.

Urticaria from Rapid Eating.—The young man bolted his food, taking only fifteen minutes for dinner. There were no signs of dyspepsia, but recurring urticaria was most annoying. When ordered to eat slowly, at once the urticaria subsided, but it returned on resumption of his bad eating habits. Repeated tests confirmed that the urticaria was brought on by inadequate mastication, and that it could be warded off effectually by careful chewing, apparently regardless of the nature of the food. Bolting the food induced a condition in which the ingestion of food a few hours later upset the balance; an anaphylactic shock followed, manifest in the form of urticaria, migraine or asthma, etc.

Wassermann Reaction in Epidemic Encephalitis.—Duhot and Crampon comment on the positive response to the Wassermann test in certain cases of epidemic encephalitis. They found it negative in twenty-six cases but in six others a positive reaction was obtained during the course of the disease; it returned to negative during convalescence. The positive response was obtained only in the cerebrospinal fluid, not in the blood. One of the six patients was a child of 10, and the 3 plus reaction at the fourth month was followed by a negative response during convalescence the next month. There was nothing to indicate syphilis in any of these patients.

Protein Therapy in Puerperal Septicemia.—Lévy-Solal reports a case of puerperal streptococcus septicemia rebellious to all measures until as a last resort an intravenous injection was given of 10 c.c. of a 5 per cent. solution of peptone (Witte). Headache and backache followed and the temperature ran up, but there was no sign of collapse, and by the twelfth hour the temperature and pulse had dropped to normal. The third day the temperature ran up again to 104 but was controlled anew by a second injection of the peptone. It induced a very slight reaction and convalescence became definitely installed at once. In the discussion that followed, most of the speakers emphasized that shock treatment should never be applied except after failure of the ordinary measures. Milian reported a case in which a subcutaneous injection of 0.5 gm. of peptone seemed to rouse an old latent tuberculous focus, tuberculous pleurisy following. Fiessinger ascribed the action to the release of ferments in the leukocytes, saying that the effect will be proportional to the strength of these ferments, and that the leukocytes are more resistant in certain phases of the disease than at others. A number reported on shock treatment of typhoid. Abrami warned in particular against any attempt at shock therapy for persons inclined to urticaria, asthma, Quincke's disease or any pathologic condition of the colloidoclasis type. In two such cases recently, intravenous injection of 20 c.c. of a 9 per thousand solution of sodium chlorid induced a most violent shock reaction. The most scrupulous skeptophylaxis is not certain to ward off a violent shock, and even an intense shock does not always display a curative action.

Lyon Chirurgical, Lyons

March-April, 1921, **18**, No. 2

*Treatment of Fractures of Long Bones. V. Putti.—p. 133.
*Surgical Affections of Lower Bladder. Rochet.—p. 143. Cont'd.
*Traumatic Lesions of the Wrist. E. Destot.—p. 164.
*Tuberculous Perinephritis after Nephrectomy. L. Thévenot.—p. 179.
Anatomy of Mammary Vessels. P. Bonnet and L. Barbier.—p. 188.
*Rupture of Vessels with Fracture of Sternum. Idem.—p. 207.
Capillaries in Raynaud's Disease. Leriche and Policard.—p. 214.

Circular Constriction in Treatment of Fractures of Long Bones.—Putti gives an illustrated description of his method of belting the fractured bone which he has been using for eight years in a total of over 100 cases. It was introduced in this country a year or two later by Parham. Putti uses two of the metal "ribbons," each usually 3 mm. wide by 250 mm. long, applying them with a small instrument which draws them tight and buckles back the end. With a transverse fracture he applies the belts over a narrow, rubber-covered steel plate, with two grooves for the two metal belts. In the majority of his cases the metal caused no disturbance, becoming embedded in the normal callus. Only rarely has he been obliged to remove this buried prosthesis later, on account of subjective disturbance. The metal strips can be applied inside or outside of the periosteum. In infected cases, this *cerclage au ruban*, applied temporarily, often renders good service.

Surgical Affections of the Lower Bladder.—In this first instalment, Rochet discusses the diagnosis and treatment of inflammatory lesions of the lower bladder, perivesical abscess, diverticulum, and perivesical hydatid cyst. In a case described, a large infected diverticulum with fetid contents was cured by working loose and resecting, through the opened bladder, the mucosa lining of the diverticulum. The opening of the pocket was enlarged and the raw surface was left to heal and obliterate the cavity spontaneously. The patient's condition had been too precarious for a more radical operation, but this resulted in a complete cure in three months. His disturbances had long been erroneously attributed to the prostate. Rochet adds that a low perivesical hydatid cyst can be treated by a perineal incision alone, to insure drainage, leaving the sac otherwise unmolested.

Traumatic Lesions of the Wrist.—This is the introduction to a work intended to be a sequel to the monograph published by Destot in 1905 which was the outcome of nine years of special study of injuries of the wrist. His death prevented the completion of the work.

Tuberculous Perinephritis After Nephrectomy.—Thévenot analyzes ten cases in which the bed of the kidney became inoculated with tuberculosis at the removal of the tuberculous kidney. Although the infection seems grave at first, yet under persevering treatment the large defect, after suppurating for a time, may heal over, or at least leave merely a small fistula. It is a very tedious complication, but only one of the cases mentioned proved fatal, one man of 45 succumbing to tuberculous meningitis in less than a month after the nephrectomy. The bed may be infected by pus during the operation, or it may become infected from the ureter as the catgut ligature is absorbed and the contents of the ureter escape. When the symptoms develop first after the tenth day, this latter mechanism seems most plausible. In one case the operative wound opened, about the third week and the gaping mouth of the ureter was seen in the center of the inflammatory focus. It healed completely in less than a month. All the fat tissue encircling the kidney should be removed with it.

Fracture of the Sternum.—Bonnet and Barbier report two cases showing the danger of secondary hemorrhage, with fracture of the sternum, from rupture of the internal mammary vessels which had apparently escaped the traumatism. Traction from adhesion to the bone is evidently the cause of the tardy rupture.

Nourrisson, Paris

May, 1921, **9**, No. 3

*Morbid Conditions with Athrepsia. A. B. Marfan.—p. 129.
*Enlargement of Liver in Beriberi in Infants. T. Suzuki.—p. 142.
Welfare Work for Illegitimate Children. H. Mensi.—p. 161.
Pneumococcus Meningitis. G. Blechmann.—p. 179.

Morbid Conditions Associated with Athrepsia.—In an article summarized recently, on page 1372, Marfan cleared away all that has been obscuring the clinical picture of denutrition in infants. He here reviews the concomitant destructive lesions from trauma and secondary infections or irritations affecting the tissues that have thus had their vitality weakened. Diarrhea with hypothrepsia or athrepsia is the most common form of the disturbances resulting from the child's not getting breast milk. He groups them under the term athelosis, from *thele*, "breast." The diarrhea may subside and the child be apparently digesting cow's milk, but the state of denutrition may continue to progress to fatal athrepsia if the child is less than 4 months old. In other cases the diarrhea comes and goes, but the denutrition continues, although less regularly. When the diarrhea persists, the denutrition generally progresses without let-up. The destructive lesions may develop on skin, bowel, palate or on the lungs, from local defective circulation. Rachitis, on the other hand, is rare with athrepsia.

The Liver in Beriberi.—Suzuki has found beriberi in the infants of healthy mothers and vice versa, in Japan. The infant may present all the symptoms and signs of beriberi and yet be free from it, but a characteristic feature in infants is enlargement of the liver. Miake found it pronounced in 19 of 125 cases, but Suzuki found the liver extremely large in all the infants with the cardiac type of beriberi. The paralytic form of beriberi does not seem to be accompanied by enlargement of the liver. It warns of impending heart disturbances, and is thus an unfavorable omen.

Paris Médical

May 7, 1921, **11**, No. 19

*Diseases of Deranged Metabolism in 1921. F. Rathery and R. Glénard.—p. 353.
*Dietetic Treatment of Diabetes. M. Labbé.—p. 364.
Experimental Research on Scurvy. Mouriquand and Michel.—p. 366.
The Ultraphotometer. A. Baudouin and H. Bénard.—p. 373.
Deficiency Disease. P. Le Noir and C. Richet, Jr.—p. 376.
Alveolar Tension as Test for Acidosis. Rathery and Bordet.—p. 380.

Diabetes and Gout in 1921.—Rathery and Glénard review the extensive literature of the last two years on diabetes and gout, analyzing a number of important contributions. Most of them have been published or summarized in The Journal. They say that the intensive study of these two diseases, especially the extensive work by the Americans, seems to have only confirmed the general principles formulated long ago by the French physiologists. They are inclined to think that the endeavor to render the diabetic always aglycosuric is too sweeping. In tenaciously striving to banish the sugar from the urine, sometimes grave by-effects may be observed. Joslin warns that sodium bicarbonate may do harm in diabetic coma. He does not approve of large doses or giving it more than a short time. In respect to gout, Rathery and Glénard extol Grigaut's modification of the Folin and Denis' phosphotungstic colorimetric test for uric acid in the blood. He applies the reaction to the filtrate of the blood, without isolating the uric acid first. The recent finding of cholesterin along with urates in the gouty tophus may explain some of the symptoms of gout. It points to malfunction of the liver.

Carbohydrates in Diabetes.—Labbé concludes from his extensive clinical and experimental research that the pathologic anatomy and the functioning in different cases of diabetes vary so widely that it is impossible to base on them any histophysiologic theory of diabetes, or foresee the action of any special diet.

Presse Médicale, Paris

April 30, 1921, **29**, No. 35

The Spirit of French Medicine. L. Rénon.—p. 341.
Autoserotherapy in Skin Diseases. L. Cheinisse.—p. 345.

May 4, 1921, **29**, No. 36

*Absence of Neck. L. Dubreuil-Chambardel.—p. 353.
*Continent Artificial Anus. J. François.—p. 355.
Improved Clinical Polygraph. R. Lutembacher.—p. 356.

Absence of Neck.—A new case is added to the eleven on record in which the head is implanted directly on the trunk, without any neck. This anomaly does not seem to interfere with reaching an advanced age.

Continent Artificial Anus.—François has been inspired by the skin-lined tunnels of kinematized amputation stumps to apply a similar technic to insure continence of an artificial anus. A skin-lined tunnel is made on each side of the artificial anus, and a steel bar, 12 cm. long and covered with rubber tubing, is slipped into each tunnel. The two parallel bars slide on an upright at one end. The other end of each bar is fitted with a ball tip, and the two bars are drawn together by a rubber band. A contrivance of this kind has been worn for a month by two patients with cancer of the rectum, and is proving highly satisfactory. The article is illustrated.

May 7, 1921, **29**, No. 37

Comparison of the Blood Pressure in Arm and Leg with Aortic Insufficiency. C. Aubertin and E. Woillez.—p. 361.
*Entero-Antigens in Treatment of Dysentery. J. Danysz.—p. 362.
*Gastric and Duodenal Ulcer. G. A. R. Loewy.—p. 363.
The Colloids in Therapeutics. W. Kopaczewski.—p. 365.

Nonspecific Entero-Antigens.—Danysz relates that the mortality from dysentery in Poland has been averaging 26 per cent., according to a recent letter from Poznan, but in forty cases treated with entero-antigens, only one patient died and in this case the cachexia was intense, at the sixteenth day, when this treatment was begun. At first Danysz prepared the entero-antigen from the patients' own stools, but as the bacteriologic findings seemed to be of such a uniform type on the whole, he found a stock culture equally effectual. As now made it contains the enterococcus, diplococcus, and proteus, all heated to 80 or 100 C. He says the most frequent reaction and the one most easily inspected is the stimulation of the secretion of bile. After a single subcutaneous injection or the ingestion of 1 ampule, an abundant afflux of bile into the digestive tract is apparent. It is impossible to conceive that the antigen selects one organ to act on; it is more reasonable to assume that the action is on the nerve centers, these in turn displaying the elective action which we have to assume from the benefit that has followed its administration in certain rebellious skin diseases, asthma, etc.

Medical Treatment of Gastric and Duodenal Ulcer.—Loewy describes in detail Sippy's method as he studied it for several days at the Presbyterian Hospital in Chicago. He tells his confrères that this method is logical and has demonstrated its usefulness, and should be given a thorough trial, during the early stage of a gastric or duodenal ulcer, and always after an operation for ulcer. (Sippy described his medical cure by efficient removal of gastric juice corrosion in The Journal, May 15, 1915, p. 1625.)

May 11, 1921, **29**, No. 38

*Dyspnea in Cardiorenal Disease. F. Bezançon, S. I. De Jong and A. Jacquelin.—p. 373.
*Typhoid Lung Lesions. A. Lemierre and P. N. Deschamps.—p. 375.

Dyspnea in Cardiorenal Disease.—Bezançon and his co-workers state that a small focus of congestion is usually responsible for the asthmatiform dyspnea coming on suddenly in disease of the heart and kidneys. It is encountered with high blood pressure or retention of chlorids or both, and there is a history of bronchial or pulmonary affections. Treatment as for asthma is usually ineffectual, but venesection may have a marvelous action, and a salt-poor diet is an important adjuvant. Test ingestion of chlorids may bring on an attack, thus confirming the necessity for restriction of salt.

Typhoid Pseudotuberculous Pulmonary Symptoms.—Lemierre and Deschamps warn that in the course of typhoid or paratyphoid a cavity may develop in the lung exclusively of typhoid or paratyphoid origin. Differentiation is possible only by the absence of tubercle bacilli from the sputum. It is rarely possible to cultivate typhoid or paratyphoid bacilli, but Widal accomplished it in one case by puncturing the lung and inoculating the culture medium with the few drops of bloody fluid thus obtained. The addition of bile to the culture medium promotes the proliferation of the bacteria.

L. Bernard found tuberculous lesions in only 2 per cent. of the typhoid cadavers during the war, although the clinical diagnosis had often been tuberculosis.

Progrès Médical, Paris

April 9, 1921, **36**, No. 15

*Gastroradiculitis from Pott's Disease. F. Ramond and C. Jacquelin.—p. 155.
Sulfarsenol in Serologic Tests in Syphilis. L. Duroeux.—p. 155.
Criminal Acts Against Decency. Balthazard.—p. 159.
*Diffuse Phlebitis; Two Cases. Moreau.—p. 161.
Hexamethylenamin by the Vein. H. Paillard.—p. 162.

April 16, 1921, **36**, No. 16

Purpura in Three Pregnancies. H. Vignes and Stiassnie.—p. 167.
Septicemia of Dental Origin. J. Tellier.—p. 168.
Traumatism of Spinal Cord. Delbet.—p. 169.

Gastroradiculitis from Pott's Disease.—Ramond and Jacquelin refer to recent works by Bouchut showing the frequency of inflammation of nerve roots in cases of alleged painful dyspepsia. The radiculitis is often of syphilitic origin, and subsides under proper treatment without any measures directed to the stomach. They report here a case of tuberculous vertebral caries which was responsible for the pains in the stomach. They have also encountered a case of chronic gonococcus disease of the vertebrae entailing intense pain in the stomach. The gastric symptoms from this radiculitis may suggest gastritis, ulcer or spasm, and their rhythmical appearance is often misleading. The pains may spread from the epigastrium to the back, the interspaces and the flanks. Sometimes the remote pains are hard to reconcile with a stomach lesion. In the tuberculous case the oppression in the stomach followed at once after the meal, and in fifteen minutes the pain became intense, with cramps, and spread to the back, to the point of the tuberculous lesion. Then came regurgitation, and three or four hours after the meal there was a burning pain in the stomach for a few minutes. Then the cycle closed and there was peace until the next meal except for general asthenia. These symptoms apparently indicate total gastritis, but the stomach is normal except for the oversensibility from irritation of the splanchnic nerves. Milk is liable to induce a burning pain, and the meal exaggerates the pain as a rule. Sodium bicarbonate gives no relief, and may intensify the pain. Opium and cocain usually help. By tracing the gastric disturbances to their source causal treatment may be instituted.

Diffuse Phlebitis.—In Moreau's two cases, the suppurative phlebitis involved the veins in the leg, the iliac veins and the inferior vena cava, confirmed by necropsy.

Schweizerische medizinische Wochenschrift, Basel

May 5, 1921, **51**, No. 18

*Micromethod for Sugar in Blood. S. H. Reist.—p. 419.
Partial Antigens in Therapeutics. M. Landolt.—p. 423.
*Enterostomy. F. Brunner.—p. 426.
Apparatus for Automatic Percussion. C. Jörgensen.—p. 428.

Test for Sugar Content of the Blood.—Reist has applied the Pavy urine technic as a micromethod, and describes it as reliable enough and so simple as to be within the reach of all, not requiring any complicated apparatus or calculations. The 0.1 c.c. of blood is blown into a test tube containing 3 c.c. of alcohol, the whole shaken and set aside for an hour, when the albumin will all be precipitated. The fluid is filtered, and the alcohol evaporated in the water bath. This leaves the sugar deposited on the wall of the test tube, and it is dissolved by adding 0.3 c.c. of Pavy's solution I and the same amount of Pavy's solution II, and adding 1.8 c.c. of distilled water, and mixing by swinging the tube until the sugar is all dissolved and the fluid is blue. The test tube is then placed on an asbestos grate, touching the grate, and is gently heated. The reaction is the decoloration of the fluid. The Pavy solution I is made with 4.158 gm. of copper sulphate, and distilled water to 500 c.c. The formula of solution II is 20.4 gm. Rochelle salt; 20.4 gm. potassium hydroxid; 300 gm. ammonia, and distilled water to 500 c.c. As the reaction requires a certain amount of sugar, he adds a given amount to the test tube and subtracts this in titration. The physiologic range of glucose in human blood seems to be from 0.06 to 0.11 according to Naunyn, Bang, and six others cited. Reist found up to 0.292 in seventeen diabetics, repeatedly tested. In nineteen nondiabetics the range was from 0.028 to 0.128.

Enterostomy.—Brunner points to his ten cured cases out of a total of thirty-four in which enterostomy was applied as a last resort. It has little if any chance of success in generalized peritonitis. In three of his cases he made an opening into the intestine at several different points before the desired result was obtained The fistula healed spontaneously in all the cases in which the intestine had been sutured water-tight to the peritoneum, but the fistula persisted and required operative measures when the intestine had been sutured to the skin. To close the fistula, he resects and sutures the defect in the side of the bowel. This does not narrow the lumen; on the contrary it bulges, as he found at necropsy four years later in one case.

Policlinico, Rome

May 2, 1921, **28**, No. 18

Reciprocal Innervation of Antagonist Muscles. Dorello.—p. 611.
Sinusitis from Measles. R. Monteleone.—p. 616.
Suture of Vessels in Wounds of Dural Sinuses. C. Mantelli.—p. 618.
*Source of Error in Tests for Acetone. E. Pittarelli.—p. 621.

Source of Error in Tests for Acetone.—Pittarelli declares that the source of error he has discovered in tests for acetone invalidates most of the analyses that have been published to date with distilling technic. This is easy, simple, rapid and absolutely reliable provided no rubber is used about the apparatus. He has found that rubber under the influence of steam or boiling water yields a volatile substance which responds to all the tests which have been found to be the most sensitive reactions characteristic of acetone. Any tests for acetone made with any technic calling for rubber parts or connections, are therefore liable to prove misleading.

April 15, 1921, **28**, Surgical Section No. **4**

*Eventration and Ventral Hernia. O. Cignozzi.—p. 133.
*Intermetacarpolysis. O. Cipollino.—p. 138.
*Plastic Closure of Femoral Canal. A. Indelli.—p. 140.
*Treatment of Varicose Veins in Leg. U. Nobili.—p. 149.
*Malformation of Ureter.. D. Pizzetti.—p. 160.
*Treatment of Congenital Megacolon. C. Viscontini.—p. 174.

Radical Treatment of Eventration and Ventral Hernia.—Cignozzi comments on the simplicity and the excellent results of Trotta's method which he has applied in 110 cases of postoperative eventration or large ventral hernia. The skin is incised in a very long ellipse and the skin and adipose tissue are detached from the aponeurosis, and removed, and the aponeurosis below is drawn together and sutured with stout silk. The first suture is taken quite a distance back from the edge, in sound tissue, 4 or 5 cm. above the eventration, and includes part of the muscle. The thread is then passed through the opposite aponeurosis to correspond, and as the threads are drawn up and tied the aponeuroses are coaptated and the anterior edges are doubled. There has been recurrence in only three of the cases and these were among the earliest. Some have been under observation for up to nine years. The ellipse of skin resected must be large, from 25 to 30 cm long with the more extensive lesions. The aponeurosis is least elastic in the liver and spleen region. He has been applying this same principle in fifteen cases of inguinal hernia in women, doubling up the aponeurosis in this way after excision of the sac, without trying to close the inguinal canal directly.

Reconstruction of Thumb.—Cipollino produced a new and useful thumb after the natural thumb had been shot away. He merely slit the soft parts in the first metacarpal space, deep enough to mobilize the first metacarpal bone, and sutured two pedunculated skin flaps around the latter. The flaps from the dorsal and palmar skin had the pedicles on opposite sides of the new thumb. The latter does its work well and with considerable power, so that this method, with anatomic healing in ten days, should be preferred, he declares, to all other methods for reconstruction of a working thumb.

Plastic Closure of Femoral Canal.—Indelli closes the canal with an autoflap from the femoral arch itself, as he explains with illustrations.

Treatment of Varicose Veins in Leg.—Nobili reviews ten years' experience with Schiassi's method of treating varicose veins by inducing an obliterating endophlebitis. This simple,

convenient and effectual treatment can be applied by any practitioner. The main trunk of the saphenous vein is isolated and severed at a point on the thigh about four fingers below the groin. The vein is isolated below the knee, also, and at this point a 1 per cent. solution of iodin is injected. The fluid injected upward pours out of the stump projecting from the thigh. This stump is then ligated and the skin sutured. Injected downward, the fluid works through the varicose veins. Spinal or general or local anesthesia is necessary. In some of the twenty-two cases described, a clump of veins was resected besides. In others, Nobili made supplementary injections of the fluid into other stretches of the veins directly through the skin, without incising it. Saphenectomy is unnecessary with this Italian method of suppressing the function of the vein.

Malformations of the Ureter.—Pizzetti reviews the literature on this subject and reports a case in which a fall had aggravated conditions, with resulting pyonephrosis.

Congenital Megacolon.—Viscontini took up some folds in the huge colon, according to Parlavecchio's method, and the young woman was restored to complete health after seven years of various disturbances from the megacolon. The enlargement affected only the transverse colon, which was 30 cm. in circumference and the walls in portions were up to 3 cm. thick. A series of interrupted sutures was taken through the serosa and muscular layers of the wall, over a stretch of 30 cm., the sutures about 2 cm. apart A second and third row of sutures were taken in addition, the wall being thus taken up in folds to bring the lumen to normal size, and the colon was fastened loosely to the aponeurosis. Daily defecation has been the rule during the year since.

Rivista Critica di Clinica Medica, Florence

March 25, 1921, **22**, No. 9

Cure of Gangrenous Process in Lung by Artificial Pneumothorax. F. Rodano.—p. 97.

Brazil Medico, Rio de Janeiro

April 9, 1921, **35**, No. 15

Three New Nematodes. L. Travassos.—p. 179.
*Ascaridiasis. Pedro Palermo.—p. 180. Conc'n.

April 16, 1921, **35**, No. 16

Treatment of Acne. R. Kehl.—p. 195.

April 23, 1921, **35**, No. 17

Transmission of Trypanosomas by Leeches. C. Pinto.—p. 205.

Ascaridiasis.—Palmero emphasizes anew that ascarids may give rise to symptoms simulating a number of morbid conditions, citing some typical instances. Among them is the case of a child with what seemed to be typhoid fever, but all the symptoms subsided after expulsion of 100 ascarids. Another child of 4 presented the classic picture of meningitis, but this also subsided after an effectual vermifuge. Two attempts with calomel and santonin had given no results, but immediate recovery followed oil of chenopodium with expulsion of 298 ascarids. He lists the various nervous, gastro-intestinal and other symptoms that may be induced by ascaridiasis, and remarks that the symptoms frequently appear in epidemic form and only examination of the stools will clear up the diagnosis. He declares in conclusion that examination of the stool should be the routine practice; the microscope will give the clue to many mysterious pathologic conditions.

Semana Médica, Buenos Aires

March 31, 1921, **28**, No. 13

*Arrhythmias. A. Vitón.—p. 361.
*Typhus in South America. R. Kraus and J. M. de la Barrera.—p. 371.
Prophylaxis of Tuberculosis. P. T. Panza.—p. 376.
*Heterobacteriotherapy and Protein Therapy. R. Kraus.—p. 377.
Eugenics and the War. R. Kehl.—p. 379.

Arrhythmias.—Vitón reviews the present conceptions of different forms of arrhythmia and says that the diagnosis and prognosis depend on the myocardium. Under 15, arrhythmia is usually of respiratory origin. Extrasystoles between the ages of 15 and 25 are connected with abuse of tobacco and other excesses, or with extremely excitable or neuropathic temperaments. Over 50, they generally warn of pathologic conditions in the myocardium and of auricular fibrillation later. Paroxysmal tachycardia shows that the heart is not quite normal, and that the work imposed on it must be graduated to correspond.

Typhus in South America.—Kraus and Barrera conclude from their research that the typhus in Peru, Bolivia, Argentina and Chile is identical with that in Europe and North America. Proteus X 19 agglutination seems to be constant in South America, but a negative reaction does not exclude typhus. A further biologic reaction which confirms the identity of typhus in South America is the "anamnestic reaction": For example, one man with typhoid agglutinated the proteus at 1:10,000 and the typhoid bacillus at 1:4,000. It was learned later that the man had lived in Russia until the last twelve years. In another case the proteus reaction at 1:200 in the course of measles was explained in the sailor, likewise, by a former residence in an endemic focus of typhus.

Heterobacteriotherapy and Protein Therapy. — Kraus describes the history of the application of nonspecific vaccines, etc., in treatment of disease, and relates his own experience with it. He claims that his work in 1914 gave the impulse to this line of research, opening a new field for therapeutics with nonspecific proteins.

April 7, 1921, **28**, No. 14

*Ovarian Tumors Complicating Pregnancy. M. T. F. de Gaudino.—p. 389.
*Bile Peritonitis. R. E. Donovan.—p. 403.
Injury of the Eyes and Workmen's Compensation. P. B. Ferro.—p. 406.

Ovarian Tumors Complicating Pregnancy.—Gaudino gives the details of ten cases of ovarian tumors complicating pregnancy, delivery or the puerperium. Cesarean section was required in two; in three the cyst was discovered and punctured through the vagina during delivery, which then proceeded undisturbed. In another case a gelatinous cyst ruptured during labor and was removed by a laparotomy two days after delivery, but the woman died from purulent peritonitis. In another case the tumors were removed through the vagina, both ovaries being found the seat of a dermoid cyst. Scarcely any ovarian tissue could be discovered and yet the woman had passed through two pregnancies. It seems best to remove an ovarian tumor when diagnosed early in a pregnancy, but later it is better to postpone the operation until after childbirth. Nearly four pages of bibliography are appended.

Bile Peritonitis.—In Donovan's case the peritoneum was found clogged with bile but no defect could be discovered in the bile apparatus, although calculi could be felt in the gallbladder. The condition of the heart compelled haste, and the gallbladder was merely cleared out and drained, and recovery was soon complete. The few cases of the kind on record are compared with this. The excellent results in his case confirm the advantages of palliative measures under these conditions.

Siglo Médico, Madrid

March 12, 1921, **68**, No. 3509

The Bile. V. Ribón (Bogota).—p. 237.
Serotherapy in Pneumococcus Infection. T. Morató Cárdenas.—p. 239.

Archiv für Kinderheilkunde, Stuttgart

April 5, 1921, **69**, No. 2

*Blood Sugar in Children. A. Mertz and E. Rominger.—p. 81.
*Vegetative Nervous System in Children. E. Friedberg.—p. 107. Begun in No. 1, p. 1.
Danger to Wetnurse from Latent Congenital Syphilis. F. Stradner.—p. 132.
Defect in Parietal Bone in Child. H. Cosack.—p. 135.
Recent Literature on Digestion in Infants. H. Davidsohn.—p. 142.

The Sugar Content of the Blood in Children.—Mertz and Rominger tabulate the findings in their numerous series of tests on healthy and sick children. The sugar content of the blood four hours after feeding averaged 0.081 per cent. in healthy infants, irrespective of age and mode of feeding. Absorption of a test dose of 30 gm. of dextrose from the gastro-intestinal tract was nearly inhibited by giving 0.5 gm. tannin. Absorption was least in infants that were of the dried-out type, while it was most pronounced in those with succulent bowel mucosa, as in the exudative diathesis, the doughy children and in dyspepsia. With liver derangement,

the hyperglycemia reaction to test ingestion of dextrose is retarded and attenuated. This anomalous response is particularly pronounced when both liver and kidneys are functionally below par.

Pharmacologic Tests of the Vegetative Nervous System in Children.—Friedberg gives the details of various tests applied to 72 children, including 12 healthy, 5 with spasmophilia, 3 with asthma, 2 with rachitis, and 5 with various disorders of endocrine origin. His conclusions are mainly negative. The findings in spasmophilia seem to indicate that tetany in children is essentially different from tetany in adults. Normal responses to the pharmacologic tests were sometimes obtained in the severest forms of rachitis. Disturbances of endocrine origin gave conflicting findings, probably from the interplay of several of the ductless glands. The exudative diathesis evidently is not a form of vagotonia in children, as some maintain.

Deutsche medizinische Wochenschrift, Berlin

April 28, 1921, **47**, No. 17

Simpler Culture Method for Weil Spirochetes. Manteufel.—p. 461.
Chronic Bacillary Dysentery. Strasburger.—p. 463. Cont'n.
Simplification of the Indicator Method. L. Michaelis.—p. 465.
Value of the Pirquet Cutaneous Reaction. Kretschmer.—p. 465.
*Bandageless Treatment of Wounds. Braun.—p. 466.
*Subcutaneous Infusion by the Drop Method. Strübing.—p. 469.
*Gout in Relation to the Nervous System. S. Cohn.—p. 470.
*Enuresis and Circulatory Disturbances. Bossert-Rollett.—p. 471.
Spasmodic Muscle Contraction and Blood Picture. Schaps.—p. 472.
Value of the Fürstenau Actinimeter. P. Keller.—p. 473.
Abortive Treatment of Syphilis. F. Lesser.—p. 474.
Turtle Tubercle Bacilli and Friedmann Treatment. F. F. Friedmann. —p. 474.
"Harmful Effects of the Friedmann Treatment" (Grass). R. Goepel. —p. 476. Idem. E. Blos.—p. 476.
Remarks on the F. F. Friedmann Articles. M. Kirchner.—p. 476. Idem. F. Klopstock.—p. 476. Idem. H. Grass.—p. 476.
Chinosol in Typhoid Fever. C. Heuser (Buenos Aires).—p. 477.
*Present Views on Pathogenesis of Appendicitis. Fischer.—p. 477.
Diagnosis of Tuberculosis in Children. L. Langstein.—p. 479.

Bandageless Treatment of Wounds.—Braun discusses the advantages and the indications for omission of a close dressing. Tight bandages may cause the wound secretion to be held back instead of being absorbed, and exert otherwise an unfavorable effect on the wound area, creating at times just the conditions under which decomposition of the wound secretion and infection with *B. pyocyaneus* take place. Under open treatment the wounds are easier to get at and inspect, and the sticking of the dressings is done away with. The wound needs, however, a loose protective covering, which may be kept from contact with the wound by the use of splints or bent wires or a frame. Material to absorb secretions should be placed where needed. An open-weave covering may be employed if it is best to keep the wound dry, or a close-weave cover may be used and a moist compress laid on or near the wound if a moist chamber is indicated. Braun recommends the bandageless treatment, in selected cases, in aseptic operative wounds closed by suture, fresh injuries without visible signs of infection, dirty or plainly infected wounds, phlegmons, suppurative wounds of nonphlegmonous character, bone fistulas, and in granulating wounds. He gives also a number of contraindications; for example, it would not be wise to confine a patient to the bed or keep him in an uncomfortable position if the ordinary dressings would allow him full freedom of movement; then, too, nervous, restless persons are not good subjects for bandageless treatment of wounds.

Subcutaneous Infusion by Drop Method.—Strübing reports the experience of the municipal hospital of Stettin in the numerous cases in which subcutaneous drip infusion of epinephrin was employed. He prefers subcutaneous to intravenous infusion partly because the former requires no incision, and it can be repeated as often as desired. While admitting that the effect of intravenous infusion is more intensive for the moment, he thinks that the subcutaneous application is in most cases quite sufficient, provided adequate doses of epinephrin are used. Only so many drops must fall as are readily absorbed, so that accumulation of fluid underneath the skin is prevented. This is necessary for dosage, and because infection cannot be prevented otherwise. The method gave the best satisfaction in cardiovascular weakness and in bronchial asthma. The technic is outlined.

Gout in Relation to the Nervous System.—On the basis of animal experimentation, Cohn states his belief that a precondition for the genesis of gout is an increase in the sodium salts found in the organism. This must find its expression in the nervous system, as the axis-cylinder is the only organ of the body that contains free sodium salt as well as sodium salts combined with albumin. Also clinical observations indicate that the nervous system is an important factor in the production of gouty deposits.

Enuresis and Disturbances of Circulation.—Bossert-Rollett thinks that too little attention is paid to the relation between enuresis and derangement of the circulation. In a series of cases in children she found a wide variation in the amount of urine voided at night and during the daytime. This condition did not seem to be occasioned by any pronounced affection of the kidneys or the heart, nor was it affected by the character of the diet. Under ordinary conditions the children suffered from nocturnal enuresis, but when allowed to remain in bed during the day there was no trouble either day or night. An explanation of this anomaly she finds in a circulatory disturbance, which is clinically evident in the feeble first heart sound.

The Pathogenesis of Appendicitis.—In discussing the etiology of appendicitis, Fischer relates his experience in China with this disease. In spite of the fact that intestinal parasites are widespread in China, acute appendicitis among the Chinese is extremely rare. During his six years of surgical activity in Shanghai he recalls only two cases of appendicitis in Chinese, although there were large numbers of other surgical cases. Among Europeans there seemed to be just as many cases proportionally as in Europe. The anatomic relationships about the appendix, to judge from necropsies, are not essentially different in the Chinese. Fischer thinks that this fact points away from helminths as a possible etiologic factor, and tends to incriminate the European diet, for among the Chinese the diet is more strictly vegetarian than among Europeans, among which class in China, constipation is of frequent occurrence.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

April, 1921, **54**, No. 4

*Influence of the Ovaries on Glycemia. O. Hürzeler (Berne).—p. 215
*Conception Control. B. Ottow (Dorpat).—p. 219.
*Clinical Phenomena of the Puerperium. C. Abernetty.—p. 227.
*Interpositio Uteri in Treatment of Prolapse. J. Peffer.—p. 236.
Laparotomy for High Cervicovesical Fistulas. E. Sachs.—p. 245.
*Present Status of Tuberculous Peritonitis. P. Wienecke.—p. 247.

Influence of the Ovaries on Glycemia.—Hürzeler relates that rabbits were injected with epinephrin until no further hyperglycemia developed. If the ovaries were then removed, transient high glycemia followed. This shows, he says, that the ovary has some influence on the sugar level in the blood.

Conception Control.—Ottow analyzes the biologic principles for eugenic birth control, and especially generative prophylaxis by vasectomy or autotransplantation of both testicles.

The Clinical Phenomena of the Puerperium.—Abernetty analyzes the most important clinical phenomena of the puerperium. In five days after delivery in primiparae [illegible]. In 34 per cent. of the fifty women studied complained of subjective disturbances, pains in breast, axillae or sacrum, or chilliness. The temperature always rose slightly the third or fourth day, which he ascribes to the constant and regular infection, but as the organism conquers this the temperature goes down the fifth day.

Interpositio Uteri for Prolapse.—Peffer states that a permanent cure was realized in 92.4 per cent. of ninety-five cases of genital prolapse treated by interposition of the uterus. The literature shows an equally good proportion of permanent cures, up to 100 per cent.

Tuberculous Peritonitis.—Wienicke's conclusions from his study of the literature of the last twenty years are that treatment must be predominantly with hygiene and dieting. Operative measures may become necessary from vital indications, and should be considered in the ascitic form after failure of conservative measures. The outlook is less favorable in the adhesive form. The prognosis is almost inevitably grave with the ulcerating form. After operative measures, general treatment must be enforced with special care and energy.

Münchener medizinische Wochenschrift, Munich

April 29, 1921, **68**, No. 17

Conditions for Pathologic Tissue Formation. Walz.—p. 505.
Epidemiology of Epidemic Encephaltis. Kayser-Petersen.—p. 507.
Active or Passive Diastole? A. Weber.—p. 508.
The "Language" of Bees. K. von Frisch.—p. 509.
Intestinal Parasites in Bavaria. Jung and Sell.—p. 511.
Treatment of Empyema Fistulas. C. Ritter.—p. 513.
Tuberculin Treatment of Tuberculous Pleuritis. C. Stuhl.—p. 514.
Treatment of Chronic Arthritis with Sulphur. Meyer-Bisch.—p. 516.
Irradiation after Mammectomy for Cancer. H. Lossen.—p. 518.
Treatment of Incarcerated Hernia. K. Nikolaus.—p. 520.
Effect of Ovarian Secretions on Lactation. A. Weil.—p. 520.
Inadequate Food in Relation to Suprarenal Function. Peiser.—p. 521.
Diabetes Mellitus. E. Toenniessen.—p. 523.

Wiener klinische Wochenschrift, Vienna

April 21, 1921, **34**, No. 16

Neuromalike Formation in Appendix. Maresch.—p. 181.
Radium Therapy. G. Riehl.—p. 182.
Combined Glucose and Arsphenamin Treatment. V. Pranter.—p. 183.
*Treatment of Psoriasis. O. Sachs.—p. 185.
Therapeutic Import of Acidosis in Diabetes. Salomon.—p. 185.
*Blood Pressure under Epinephrin plus Papaverin. K. Csépai.—p. 186.

Treatment of Psoriasis with Intravenous Injections of Sodium Salicylate.—Sachs reports that since 1918 he has successfully treated thirty-four cases of psoriasis vulgaris with intravenous injections of a 20 per cent. solution of sodium salicylate. Only recent cases proved to be adapted to the treatment. The treatment of recent cases with baths and ointments he has found to be superfluous. The first injection was 2 gm., the second 3 gm., and the third 4 gm., which was usually the maximal dose. From six to eight injections, extending over a period of three or four weeks, generally suffice, but the efflorescence does not disappear until two or three weeks after the last injection.

Effect of Papaverin on Increased Blood Pressure in Man as Induced by Epinephrin.—Csépai reports that in his animal experiments papaverin counteracted increase of blood pressure induced by epinephrin, but that in man in most cases it caused a still further increase, although the effect was not uniform. Not in a single instance could a reduction of increased blood pressure induced by epinephrin in man be noted, which is directly opposed to the results of Pal's investigations.

Zentralblatt für Chirurgie, Leipzig

April 16, 1921, **48**, No. 15

*Spasm of the Ileocecal Valve Sphincter. Heile.—p. 506.
*Results of Treatment of Tuberculous Glands. H. Tichy.—p. 512.
Bactericidal Qualities of Procain. E. Seitz.—p. 514.
Calvé-Legg-Perthes Disease and Pes Adductus in Fetal Chondrodysplasia. S. Weil.—p. 517.

Diagnosis and Treatment of Spasm of the Ileocecal Valve Sphincter.—Heile's first typical case was a soldier on whom appendectomy had been performed but which left him with the same symptoms as before, periodic darting pains in the right side. Over the cecum he felt a certain protuberance and a kind of elastic rigidity such as might characterize contraction of the cecum. Other patients later described the pains more as a periodic cramp, but the twinges seemed to predominate. In only two cases were radiating pains complained of. As the soldier above mentioned felt pain only when in the cecal region a rigid loop was palpable, Heile operated on the supposition that adhesions were causing the trouble. He was surprised to find the peritoneum normal. He then completely severed the ileocolic muscle, and the soldier was immediately and permanently relieved of his symptoms. Twelve similar cases have been seen since that time, and in every instance the appendix had been removed on the assumption of appendicitis, but appendectomy had in no case relieved or even changed the symptoms. Three women had also had an operation on the adnexa later but without relief. In all twelve cases the cecum was more or less movable. The general condition of the patients was bad, and they were all suffering from constipation. Some were generally regarded as nervous and hysterical. By a type of bauhinoplasty, which he describes with five illustrations, and which consisted essentially of the transverse division of the ileocolic muscle, he was able to effect a radical symptomatic cure in every instance. Some of the cases are now three years old and the symptoms have not returned. In differentiation in doubtful cases he has had to rely on the subjective symptoms and the contraction and relaxation of the cecum under the palpating hand.

Operative Versus Roentgen-Ray Treatment of Tuberculous Glands.—Reexamination two years or more later showed recurrence in 74 per cent. of thirty-one cases of tuberculous glands treated by operative measures, but there was recurrence in only 11 per cent. of twenty-seven that had been treated by raying. In another group of eight operative and twenty-five rayed cases, the percentage of recurrences was 75 for the former and 12 for the latter. All were selected cases with enlarged or softened glands, but no fistulas.

Zentralblatt für Gynäkologie, Leipzig

April 16, 1921, **45**, No. 15

*Experiences with Symphysiotomy. J. Quante.—p. 513.
*Symphysiotomy or Cesarean Section? B. Schwarz.—p. 521.
Indications for Ventrifixation of the Uterus. R. Hastrup.—p. 527.
*Treatment of Puerperal Fever with Human Serum. Bartram.—p. 529.
Case of Criminal Abortion with Complications. Hornung.—p. 535.

Experiences with Symphysiotomy.—Quante relates the experience of the Dortmund Woman's Hospital in twenty-eight cases of symphysiotomy. From 1906 to 1913 pubiotomy was employed in twenty-three cases, but was given up on account of the secondary injuries and danger of infection. He says that symphysiotomy is, within proper limits, a justifiable operation, but that the indications and the prognosis present many difficulties. In the case of primiparae the indications for the operation should be drawn very close, and it should not be performed unless normal labor is present, and then only if there is not too big a discrepancy between the size of the head of the child and the width of the pelvis so that a spontaneous birth can be counted on with certainty. In the case of multiparae he thinks the operation, with a moderately narrow pelvis, will save the lives of many children. Here, too, spontaneous birth must be sought for, although he admits that he attained it in only eight cases out of twenty. In cases free from infection, Quante regards cesarean section unconditionally preferable to symphysiotomy, especially for primiparae. In his 200 cases of cesarean section there were only three deaths. There was no disturbance in the gait after the pelvis-enlarging operations in any instance, but the incision suppurated in two cases, with severe thrombophlebitis in one, compelling incision later. One of the four primiparae required high forceps to complete the delivery, and the urethra was torn and the clitoris and vicinity badly lacerated. In another case a large hematoma developed in one labium, and in another the cartilage was found ossified.

Symphysiotomy or Cesarean Section.—Schwarz gives his reasons for preferring symphysiotomy to cesarean section in narrow pelvis in which surgical intervention is indicated. The mortality and morbidity of the mothers are less. The length of treatment is shorter. Mortality of the children is, to be sure, 25 per cent. higher, but, to make up for this fact, fertility after symphysiotomy is unimpaired, whereas by cesarean section it is reduced at least one half. Symphysiotomy permits the surgeon to wait the extreme limit of time for a spontaneous birth. The technic of symphysiotomy is easy and simple, and the operation requires only from one to two minutes, and can be performed under infiltration anesthesia. Ten per cent. of later births are spontaneous. Infection is not a contraindication to symphysiotomy. The slight danger of injury to the bladder or the urethra and of later prolapse, which threaten in symphysiotomy, is more than outweighed by the greater dangers of cesarean section, higher mortality, rupture of uterus in following births, and formation of adhesions and hernia. In his total of 113 symphysiotomies (Mainz Midwives' School) the bladder was injured in five cases, and four in this group were left with incontinence of urine. This was corrected by a plastic operation in two instances, and one woman controls the incontinence with a pessary. A hematoma developed in the labia in four cases, and there has been prolapse later in six.

Treatment of Puerperal Fever with Human Serum.—Bartram found that homogenous and own blood serums introduced parenterally exerted a beneficial influence in puerperal fever. The serum of the pregnant and of the convalescent from a fever of septic origin seem especially adapted to this therapy.

Zentralblatt für innere Medizin, Leipzig

April 2, 1921, **42**, No. 13

*Protein Therapy (a Survey). F. E. R. Loewenhardt.—p. 258.

April 23, 1921, **42**, No. 16

Venesection in Chloremia. J. Löwy.—p. 330.

Parenteral Protein Therapy.—Loewenhardt gives a résumé of what has been accomplished thus far in this field in Germany, and concludes that the whole problem is still too little developed for exact rules for the general use of proteins in this line. He states, however, that without doubt in selected cases good results may be secured in many different diseases. At present it is merely a question of collecting the observations of various investigators and the results of further experimental study before the method can be made available to the general practitioner.

Mededeel. v. d. Burg. Geneesk. Dienst, Java

1920, No. 6. and No. 7. Parallel Dutch-English Edition

*Transmission of Malaria by Mosquitoes. B. Hylkema.—p. 50.
*Survival of Stegomyia Fasciata at Low Temperature. P. C. Flu.—p. 98.

Transmission of Malaria by Ludlowi Mosquito.—Hylkema reports that he succeeded in infecting from 20 to 50 per cent. of captured specimens of *Myzomyia ludlowi* with the parasite of quartan malaria. The mosquito was then capable of transmitting the disease to man in from eleven to thirteen days. The period of incubation until the prodromal attack amounted to twelve days. The Belawan district was particularly favorable for this research as the ludlowi is the only anopheles found there, and quartan malaria was found in 29 per cent. of the children and subtertian in 21 per cent. The corresponding figures for adults were 26 and 21.5 per cent.

Survival of Stegomyia Fasciata at Low Temperature.—Flu's tests demonstrated that the yellow fever stegomyia is killed in twenty-four hours by a temperature below 6 C. A temperature between 7 and 10 C. benumbs it, but four days of this are required to kill it. His research was undertaken to determine the danger from these mosquitoes accidentally brought on board ship on fruit, etc., and placed in the refrigerator.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

March 26, 1921, **1**, No. 13

*Blood Pigment Versus Porphyrin. I. Snapper and Dalmeyer.—p. 1676.
*Helminthiasis. A. Verschoor.—p. 1682.
*Allergic Immunity and Anaphylaxis. D. Klinkert.—p. 1685.
Confusional Mental States. F. P. Muller.—p. 1692.

Transformation of Blood Pigment into Porphyrin.—This communication from Snapper's clinic relates that in 16 per cent., of forty-one gastric cancer patients, only iron-free hematin—porphyrin—was found in the stools. Tests for occult blood with negative findings must be supplemented by tests for porphyrin to avoid blunders. In 25 per cent. of thirty-one cases of gastric or bowel ulcer, there was no trace of occult blood, but in 9 per cent., iron-free hematin was found. In seventy-three cases of various other pathologic states, no blood was found in 54 per cent, but in 7 per cent the reaction was positive for porphyrin alone, and in the rest for hematin. These data confirm that occult blood in the stools is not a reliable sign of benign ulcer in the digestive tract, but that the absence of the porphyrin spectrum in the stool extract testifies against malignant disease.

Helminthiasis.—Among some blunders in diagnosis related by Verschoor is the case of an abdominal tumor in a woman of 70 which subsided when ascarids were discovered and 89 voided. Another instance was a boy of 5 long under treatment for malaria; pain around the umbilicus and the child's picking at its nose first suggested helminths, and a vermifuge cured the "malaria." Verschoor adds that the anus and the finger nails should always be washed with soap on arising and after defecation to prevent reinoculation with oxyurids.

Anaphylaxis.—Klinkert thinks that we are on the wrong track in the present conception of anaphylaxis. The anaphylactic shock is only the pathologic exaggeration of allergy. It occurs when in some unnatural manner alien serum is injected directly into the blood stream, and thus forces the nervous defensive mechanism to a sudden hasty response. It is a man-made artificial product.

April 2, 1921, **1**, No. 14

*The Otto-Chrobak Pelvis. J. B. Waller.—p. 1830.
*Hysterectomy for Puerperal Sepsis. H. F. Lumentut.—p. 1843.
Case of Primary Gastric Sarcoma. D. Klinkert.—p. 1850.
Epilepsy at 44. J. de Jongh.—p. 1852.
Spinoza's Medical Friends. I. Fischer.—p. 1856.
*Medical Topics in Netherlands Art. G. van Rijnberk.—p. 1874.

The Otto-Chrobak Pelvis.—Waller adds another to the fifteen cases on record in which the acetabulum protruded into the pelvis. His patient was a woman of 20 with bilateral Otto-Chrobak pelvis. The extreme protrusion had been exaggerated on one side by fracture of the acetabulum from a trauma too slight to have affected normal bone.

Hysterectomy for Puerperal Sepsis.—Lumentut reports three cases of threatening puerperal sepsis with repeated rigors and bad pulse in which prompt recovery followed abdominal hysterectomy. There is every reason, he reiterates, to manage a case of puerperal sepsis the same as sepsis under other conditions and from other causes.

Medical Subjects in Art.—In this fourth instalment, van Rijnberk reproduces nine prints from the sixteenth and seventeenth centuries, all portraying the pulling of teeth.

Acta Medica Scandinavica, Stockholm

May 6, 1921, **54**, No. 6

*Pneumococcus Types. O. Thomsen and S. Christensen.—p. 501.
*Meningococcal Infection. O. Thomsen and F. Wulff.—p. 513.
*Pathology of Parathyroid Glands. H. Bergstrand.—p. 539.
*Inversion of Abdominal Reflexes. G. H. Monrad-Krohn.—p. 601.

Types of Pneumococci.—Thomsen and Christensen describe (in English) research on mice which has confirmed the identity of types I to III found in America and in Denmark.

Meningococcal Infection.—A similar article by Thomsen and Wulff was summarized in THE JOURNAL, July 5, 1919, p. 73. (This one is in English.)

Pathology of the Parathyroids.—Bergstrand gives six pages of bibliographic references and compares with this literature some cases of tumor or hyperplasia of the parathyroids he found in 200 cadavers examined. In one case the parathyroids were much enlarged while the thyroid was partially atrophied, suggesting compensatory hyperplasia. Tumor-like enlargement of the parathyroids has been found so often accompanying osteomalacia that a connection between them seems plausible, although it is not constant in osteomalacia. In other cases the parathyroid tumor accompanied nephritis, tetany, eclampsia or epilepsy. Bergstrand has been examining the parathyroids in fifty cases of nephritis recently, and found one or more enlarged in ten cases. In one in this group there was considerable calcium in the kidneys. Little is known in regard to the elimination of calcium by the kidneys in nephritis. The cases on record of "renal dwarfism" and of chronic nephritis with genu valgum confirm the possibility of a connection between kidney functioning and the osteomalacia responsible for genu valgum. Several instances of death after an operation for genu valgum have been published, including Erdheim's case in which a tumor was found in one parathyroid. He listed this case as rachitis, but Bergstrand thinks it should be classed as "renal dwarfism." (In German.)

Case of Inversion of Abdominal Reflexes. — Necropsy revealed a large glioma in the left semioval center of the boy of 16 with bilateral inversion of the abdominal reflexes. (In English.)

Hospitalstidende, Copenhagen

March 23, 1921, **64**, No. 12

*Restriction of Fluids with Bronchiectasia. F. Vogelius.—p. 177.

Restriction of Fluids in Treatment of Bronchiectasia.—Vogelius has only one case to report but the benefit was striking. The diagnosis was fetid bronchitis, anemia, and bronchiectasia but no signs of tubercle bacilli. The amount of fluid allowed was reduced to 500 or 700 c.c. during the day. Once a week a larger amount was allowed for one day. The sputum dropped to 75 c.c. from the previous 200 up to 500 c.c. In a month it dropped to 35 and by the end of the second month expectoration had practically ceased. After three months of this restriction of fluids the man of 63 was dismissed in good condition with all restrictions removed, and was in constant good health for two years, increasing 5 kg.

in weight. The treatment makes considerable demands on the will power, but with intelligence and a little opium to tide the patient past the first days of thirst, no trouble was experienced in this case. His experience confirms the excellent results reported by Singer and by Hochhaus in the majority of their nine and fourteen patients. Vogelius has also benefited many patients with chronic bronchitis by raising the foot of the bed for a few hours each day. This brings the stagnating secretions into contact with more sensitive portions of the bronchial mucous membrane, and the secretions are then coughed up. Laboring men have been able to get rid of large amounts of fetid secretions in this way and been free from coughing and expectoration at their work during the day. But this is only palliative; restriction of intake of fluids attacks the cause. The diet must be light and nourishing with green vegetables and fruit, and the course usually has to be kept up for from four to six weeks. The diuresis and the weight fall off at first but this is usually transient. Of course, this treatment should not be attempted with kidney disease or on suspicion of tuberculosis.

March 30, 1921, **64**, No. 13

*Dysregulatio Ammoniaci. E. J. Larsen.—p. 193.
Abortion from Fourth to Seventh Month. Trier.—p. 201. Conc'n No. 14, p. 209.

Loss of Neutrality Balance.—Larsen describes four cases out of a total of thirty-six in which the regulation of the neutrality of the tissues was evidently upset. This dysregulatio ammoniaci, as he calls it, seems to be a feature of epilepsy, but in these cases the underlying disturbances were traumatic neurosis, psychogenous psychosis, psychopathic constitution, hysteria or melancholia. The symptoms in all besides the signs of regulation disturbance, were mydriasis, headache, dread, vasomotor sensations, depression, and nightmares. The tendency to wandering away with or without amnesia, dipsomania, confusion and vertigo are other features of this clinical group which is evidently closely allied to epilepsy.

April 6, 1921, **64**, No. 14

*Bacteriophagum Intestinale. E. Gjørup.—p. 214. Conc'n No. 15, p. 234.

The Intestinal Bacteriophagum.—Gjørup reviews what has been published on the subject of d'Herelle's bacteriophagum. He is inclined to agree that in this we have for the first time a means to render a filterable virus macroscopically evident. Stool from a dysentery convalescent is mixed with broth and filtered through porcelain after standing eighteen hours. The filtrate is added to a broth culture of Shiga's bacillus cultivated from the same patient. An agar plate is then inoculated with this broth culture. After a few hours or days the colonies of dysentery bacilli seem to be annihilated at points. Patches all over the plate can be seen, from 1 to 5 mm. in diameter, with no dysentery bacilli in these patches. The size and number of these patches depend on the amount of filtrate that was added in the first place. This phenomenon d'Herelle explains as the result of the growth of an invisible, filterable virus which lives on the dysentery bacillus as an obligatory parasite. This explains the name he gave it, bacteriophagum intestinale. Gjørup thinks that this points the way for further research on other ultravisible viruses. He has demonstrated the presence of the bacteriophagum in some cases of transient diarrhea and of typhus in this way. He cites the various objections that have been made to this interpretation, and shows that Kabeshima's suggestion that it is from catalytic action is untenable.

Hygiea, Stockholm

April 16, 1921, **83**, No. 7

*Epidemic Encephalitis. R. Holmström.—p. 213. Conc'n No. 8, p. 241.

Epidemic Encephalitis.—Holmström analyzes his twenty-seven cases of epidemic encephalitis with special regard to the nervous and mental symptoms. All recovered but six. One patient had a new period of hallucinations and paresthesias six months after the first onset. Another developed a new weakness in the arms four months after the onset. In Economo's case that lasted for two years, necropsy showed both old and recent inflammatory lesions. Holmström's experience testifies to the importance of bed rest in treatment and of physical and mental repose, kept up as long as possible. Some of his patients had been sent to the hospital with the diagnosis of influenza, paratyphoid, polyneuritis, ileus, appendicitis, perforated gastric ulcer or hypertrophied prostate (from the abrupt anuria). All had fever, and there had been a longer or shorter period of somnolency in all, and also nystagmus, and the majority had diplopia. These were the only features in common, the rest of the clinical pictures being as numerous and diverse as there were patients.

Norsk Magazin for Lægevidenskaben, Christiania

May, 1921, **82**, No. 5

*Congenital Syphilis in Second Generation. E. Bruusgaard.—p. 353.
Case of Tuberculoid Leprosy. E. Bruusgaard.—p. 359.
*Curability of Tuberculous Meningitis. G. Anderssen.—p. 364.
Benefit from Transfusion of Blood plus Splenectomy in Case of Pernicious Anemia. K. Haugseth.—p. 366.
Ocular Symptoms in Epidemic Encephalitis. B. Malling.—p. 369.
*Familial Angina Phlegmonosa. F. Leegaard.—p. 381.

Congenital Syphilis in the Second Generation.—The grandmother is being treated for a gummatous tertiary periostitis, the mother for periostitis of both tibias, and the boy of 8 has fan-shaped deep scars extending from the corners of the mouth, with a 2 plus Wassermann reaction. The mother during the pregnancy had tertiary ulcerations and keratitis. This is the fifth thoroughly studied case of congenital syphilis in the second generation at the Christiania Hospital.

Curability of Tuberculous Meningitis.—Anderssen reports two cases in which the diagnosis of tuberculous meningitis seemed beyond question in the boy of 15 and girl of 7 but the boy recovered with no sequelae except extreme strabismus. The disease in the girl improved and the child was sent back to school in two weeks, in spite of the physician's protest, and she died about a month later.

Familial Peritonsillar Abscess.—Leegaard relates that of his 52 male and 68 female patients with angina phlegmonosa, 76 of the 154 other members of the families had presented a similar throat disease at some time. The 73 patients with recurrence of the suppuration had 55 other members of the families with the disease and only 18 members free from it. This familial occurrence seems to be a special feature of peritonsillar abscess, and he theorizes to explain the anatomic reason.

Ugeskrift for Læger, Copenhagen

May 5, 1921, **83**, No. 18

*Auricular Fibrillation and Quinidin. K. Faber.—p. 577.
The Statements of Medicolegal Experts. J. Bock.—p. 584.

Quinidin in Treatment of Auricular Fibrillation.—Faber extols the value of quinidin as a means to arrest auricular fibrillation and the resulting arrhythmia in a large proportion of cases. Testimony is accumulating in this line, and Vetlesen has given a vivid description of its effect on distressing perpetual arrhythmia in his own person. Faber reports an instructive case in a man of 59 with high blood pressure but no sign of kidney or valvular disease, although the left ventricle was hypertrophied. The auricular fibrillation had been continuous for the last three months and intermittently before that. The electrocardiograms showed typical continuous arrhythmia without contractions of the auricle, and the pulse showed a pronounced deficit. Quinidin was given in a single dose of 1.20 gm. and the next day the same amount was given three times, dissolved in sulphuric acid mixture. The following day the dose was 30 cg. and the day after that 45 cg. During these five days no modification of the arrhythmia could be detected, but the sixth morning the arrhythmia had vanished. Under two weeks' further observation the pulse was regular, between 64 and 80, without deficit; no dyspnea, and the man was dismissed with earning capacity restored, free from subjective disturbances except that the arrhythmia had been succeeded by ventricular extrasystoles. These became less frequent thereafter; after two months only about one a week. In a second case, in a woman of 57 with old chronic heart disease, ascites and edema besides the fibrillation, no benefit was realized from a systematic course of this drug, in pills, up to 2 gm. a day. From the experiences to date, success can be counted on, Faber remarks, in about 66 per cent. of the cases.

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THE DEFECTS IN OUR OBSTETRIC TEACHING *

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Advances in medicine and surgery, in better diagnosis, preventive medicine and improved surgical technic, have reduced the mortality of typhoid fever, diphtheria, pneumonia, intestinal perforations, appendicitis, cholecystitis and numberless other acute and subacute conditions to an almost irreducible minimum. Contrast this with the fact that the number of women who die from childbirth is increasing from year to year and that puerperal septicemia seems to be the only form of wound infection the occurrence of which has remained totally unaffected in the past decade by the advancement of scientific knowledge. In New York City on the island of Manhattan, last year one mother died for every 205 babies born, while in the greater city of New York, one woman in every 250 deliveries died from infection or as an indirect result of it. The mortality from puerperal infection remains practically the same today as it was in 1900; and the mortality from childbirth is second only to that from tuberculosis in women of reproductve age, and between 40 and 50 per cent. of these deaths are due to sepsis. Furthermore, consider the fetal mortality: One baby out of every twenty-one is born dead, and one out of every twenty-six dies before it is a month old.

More than 61 per cent. of all gynecologic surgery is the direct result of poor obstetric practice. This great wastage of human life, this consequent invalidism in those who survive their infection and trauma is absolutely preventable; hence I feel that this subject is worthy of consideration by such a representative body as this.

What are the reasons for this wastage of human life? It does not occur in the well managed obstetric clinics where the patient is given the benefit of proper and painstaking prenatal care and good obstetric judgment. Why, then, is it necessary in every-day obstetric practice? Why should the mortality from childbirth place the United States fourteenth on the list among sixteen leading civilized nations?

REASONS FOR MORTALITY FROM PUERPERAL INFECTION

In looking over the causes which contribute to this frightful mortality, I have first of all considered the teaching that is given to the students in our medical schools. Investigation shows that the didactic instruction is excellent and is fairly uniform; but, owing to the inadequate facilities for clinical observation which are available in the majority of schools, and the fact that both the profession and the laity continue to consider purturition as a normal process, the student often goes out with the impression that, because he has passed his examinations, he is competent to attend any woman in labor. This is not so any more than that he is competent to open the abdomen without previous special training. Unfortunately, there is no law other than his own conscience which governs his decision as to how far he can go in the management of the particular care.

The average graduate has been drilled in mensuration, abdominal diagnosis, watching the progress of normal labor, ausculatation of the fetal heart, and in aseptic technic. He is a fair male midwife, nothing more. He is capable of delivering multiparas with ample pelves, and this he can safely do provided he is conscientious in his asepsis. If he is not, the woman is far safer to be confined without the presence of a physician than to have one who introduces bacteria from without.

Another reason why infection and invalidism follow so frequently in the train of parturition is an apparent lack on the part of the practitioner, as well as on the part of some specialists, of an appreciation of the actual physiology of pregnancy and the several stages of labor. This whole process has been fortified by every factor that Nature can place there to prevent sepsis and to accomplish delivery without injury to the child or the maternal soft parts; yet failure to observe the steps of this physiologic process is of daily occurrence.

PHYSIOLOGIC PROTECTIONS AGAINST INFECTION

Certain obstetric truths cannot be too often repeated; hence, with the full knowledge that I am making statements that are known to you all, I am going to show how Nature has fortified the individual against infection in the normal course of labor.

First, the secretions of the normal pregnant woman are antagonistic to pathogenic bacteria, and during the latter weeks of pregnancy and until labor has actually begun there is a tenacious plug of mucus in the cervix which stands as a barrier between the infective portion of the vagina and cervix, and the sterile uterine cavity. Not until labor actually begins is this plug passed, and then the membranes become the barrier to invasion from below. The membranes have another function, and that is their hydrostatic action, which not only protects the child from uterine compression, but effaces, obliterates and dilates the cervix by a series of equable pressures which minimize the trauma to which this part of the uterus must be subjected. Only by their preser-

* Chairman's address, read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Second Annual Session of the American Medical Association, Boston, June, 1921.

vation can the integrity of the cervix be preserved and trauma minimized, which insures better tissue resistance; later, as the membranes rupture and the liquor amnii escapes, it carries with it and before it the bacteria which have reached the portio and entered the cervical canal. After the cervix has become sufficiently dilated to permit the passage of the child, the fetus comes through the cervicovaginal canal, pushing everything before it, practically scrubbing the surface as it goes. The escape of the fetus is followed by a gush of hind-waters which further washes the canal from above downward, and this in turn is followed by the separation and expulsion of the placenta, which turns itself inside out through the ruptured membranes, thus keeping everything clean behind it. Furthermore, Nature has added the protection of an antibactericidal quality to the lochia, during the first twenty-four hours postpartum, while the uterus is contracting and retracting and closing the uterine sinuses.

No one can study these physiologic processes without being impressed with the natural precautions which are afforded the woman against infection from without. Yet practitioners feel that they can anticipate these normal processes—artificially dilate the cervix, prematurely rupture the membranes, traumatize the soft parts, expedite labor by forceps or version, reduce the natural resistance, and carry bacteria from the unsterile into the sterile zone without getting a resulting morbidity.

OBSTETRIC SURGERY

Every year some of our great teachers present and advocate before a body of specialists some method to shorten the process of labor, relatively safe in their hands, but dangerous in the hands of those less skilled; for meddling in midwifery costs numberless lives. These suggestions appeal to the busy practitioner, yet were never intended for his practice. The time to recognize abnormalities, disproportions and complications is before they occur, in order that proper preventive treatment can be instituted.

The surgeon does not open the abdomen with a jackknife which he takes out of his pocket: he prepares his field of operation, his instruments and his hands. He takes care to repair the damage he has done by controlling his hemostasis, coaptating the edges of his wound because the quality of his work is judged by the result which the patient can see; but so far as my investigation has gone, no obstetric condition is so formidable that the practitioner will not make a try at it at least. This is because he has not been taught, and the public has not as yet recognized that obstetrics is a specialty—that the obstetrician must be an obstetric surgeon, who has had a training in the fundamentals of the science and the art of obstetrics, general and special diagnosis and an appreciation of the principles underlying obstetric surgery. To entitle him to be considered as a specialist he has to produce a living child which has a reasonable certainty of life, and a mother who recovers without morbidity, and is restored functionally and anatomically to as perfect a state as she was in before she was delivered.

That this is not being done is shown by the registered areas of the United States, which show that there has been a definite increase in the mortality from childbirth from 1902 to 1919. There have been approximately three times as many deaths from sepsis, four times as many deaths from eclampsia, and twice as many from other obstetric causes as there were seventeen years ago; besides the hundreds that die annually as the indirect results of labor from injuries, and the consequent operations for their repair, from nephritis which originated during pregnancy, and from endocarditis which has been aggravated by repeated labors.

PRENATAL CARE

I feel that it is time that the public be taken into our confidence and taught what can be done by prenatal care and proper and clean obstetrics; for good obstetrics would go far toward removing the horrors of childbirth and the consequent dread of invalidism. Prenatal care is the right of every prospective mother. Prenatal investigation permits us to discover syphilis, prevents the occurrence of eclampsia, allows the recognition of malpositions, and thus minimizes the difficulties of labor.

From the foregoing statements, which are facts, it is evident that our obstetric teaching is defecttive. There should be more uniformity in the teaching of the fundamentals of obstetrics and the principles that are generally accepted. Greater emphasis should be laid upon the responsibility of the obstetrician for the lives of both mother and child; and in order to turn out men who are even qualified to attend a primipara in labor, there must be greater clinical facilities for instruction of our students.

It does no good to say that the size of the classes should be reduced, when there is a constant cry for more and more physicians. The facilities must be increased.

Millions are expended every year for research and laboratories, but almost nothing is given to the establishment and maintenance of properly equipped maternity hospitals. Why, if it is necessary for the American College of Surgeons to require an apprenticeship in surgery before a man can be recognized as capable of doing a surgical operation, is it not just as necessary that the man who is to deliver a woman should have sufficient training to insure a satisfactory recovery, and a live baby?

Too little prenatal care is given to the average woman. The responsibility of the physician is underestimated, while he overestimates his abilities.

It will take a great deal of education of the student, the physician and the laity to change existing conditions; and as I look over the field, I have become more and more convinced that the demand of better work, which means longer apprenticeship, must come from the people, for it is they who are the losers. It is they who sustain the economic loss by invalidism, and it is they who must either directly or indirectly contribute the funds to maintain maternity hospitals, of adequate size to serve the community and instruct practitioners.

20 Livingston Street.

Syphilis as Cause of Infant Mortality.—It has also been shown that economic conditions tend to increase infant mortality in nonsyphilitic families. If our families were all of the lowest class, we could hardly point to syphilis as the chief cause of interrupted pregnancies and infant deaths. The largest infant mortality rate in the nonsyphilitic families was in those families in which the annual earnings of the father were under $625, while the smallest rate was in the families with an income of $900 or more. Seventy-two per cent. of a small group of forty-one of our paretics who were visited for exact information on income had an annual income of $900 or over. This indicates that our families are not on the poverty line and that economic status does not greatly influence the percentages.—Solomon, *Social Hygiene* **6**:474 (Oct.) 1920.

THE TREATMENT OF THE TOXEMIA OF EARLY AND LATE PREGNANCY*

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This paper deals only with the treatment of the toxemia of pregnancy, reference being made to the etiology in order to explain reasons for choosing a given method of treatment.

There are two methods of managing these cases: One is to treat symptoms as they arise; the other is to base treatment on the pathology of the condition. I believe the latter to be the better method, while giving due regard to symptoms, and conserving the patient's strength and preventing suffering.

A majority of opinion would acknowledge the essential element in the toxemia of early and late pregnancy to be the presence, in the blood of the mother, of poisons which alter the blood tension and predispose to the formation of minute emboli and thrombi. The symptoms produced by this condition will depend on the virulence of the poisons and the pathologic and anatomic peculiarities of each patient. In early pregnancy, the embryo has much to do with this condition through the rapid growth of the chorion and syncytium, and the free discharge of their cells into the blood stream of the mother. Immunizing substances in her blood are overburdened, for the time being overpowered, by this process. After the formation of the placenta, the conditions are different and the pathologic picture is drawn in the placental tissues, and in the vital organs of the mother.

In early pregnancy, we recognize that the diseased condition affects the metabolism of the patient because of the immediate disturbance of all the processes of nutrition. The nervous phenomena of the toxemia of early pregnancy are those which invariably follow a profound disturbance of digestion and assimilation. Thus, when nephritis in the nonpregnant checks assimilation and excretion, there occur the nausea, vomiting and prostration characteristic of the toxemia of early pregnancy. In some diseases of the liver, when there is no pregnancy, the symptoms are those of toxemia in the pregnant woman.

TREATMENT OF TOXEMIA OF EARLY PREGNANCY

So far as the treatment of the toxemia of early pregnancy is concerned, it cannot be intelligently conducted unless it is based on the altered condition of the patient's nutrition. Second in importance is the disordered state of the nervous system. If it can be recognized that any one of the processes essential to assimilation is at fault and this can be corrected, obviously the condition can be controlled. Thus, if the pregnant patient is suffering from deficient action of the thyroid gland, the administration of thyroid extract in some suitable form is indicated. If persistent disturbance of blood pressure called attention to the deficient action of the suprarenals, the administration of epinephrin would be appropriate. If conditions were present which are seen in the lack of action of the pituitary body, this substance might be used; but unless it can be demonstrated that some one of these is the predominant factor in the patient's condition, the most rational treatment consists in putting the nervous system at rest, so far as we can, and endeavoring to reinforce the immunizing principles in the patient's blood.

The problem of putting the nervous system at rest is often complex and difficult. Freedom from physical disturbance and freedom from mental disturbance are equally important. Trained nursing is exceedingly valuable, not only for the care of the patient, but because the records of the trained nurse furnish the physician material of the greatest importance in estimating whether the patient is gaining or losing. The discipline and facilities in hospital are urgently needed in these cases.

To make these statements more specific, the patient in hospital and in bed should first be deprived of food given by the stomach. A twenty-four hour specimen of urine should be examined by nitrogen partition, the blood urea taken, the pulse tension and examination of the blood made for anemia, and pulse and temperature recorded. Copious lavage of the stomach with warm sodium bicarbonate solution should be given from one to three times in twenty-four hours until vomiting ceases. The intestines should be gently but thoroughly irrigated once or twice in twenty-four hours with warm solution of sodium bicarbonate. The patient's skin should be cleansed with soap and warm water and she should be kept between blankets or thin woolen. Five per cent. glucose and 5 per cent. sodium bicarbonate should be given by bowel, from 4 to 6 ounces, at intervals of from four to six hours. The patient may have as much water as she will drink, without ice, and any form of aerated or saline water acceptable may be used.

These simple measures will often induce sleep and rest. If they do not, codein in half-grain doses may be given hypodermically, sufficiently often to soothe and sustain the nervous system. The quantity of urine passed each twenty-four hours should be measured and recorded, and an accurate record kept of all that happens to the patient. The visits of friends and relatives must be forbidden, and only the husband of the patient should see her for the first few days.

In from thirty-six to forty-eight hours, the violence of the toxemic attack will somewhat abate. Local symptoms, as neuralgic pain, may be relieved by mild counterirritation, and, as soon as vomiting ceases, the effort should be made to nourish the patient. Fruit albumin and strained gruel are best in the beginning. As little as a half ounce is often sufficient at one time, and the interval of feeding may be varied with the behavior of the patient. A vaginal examination should be made to determine the condition of the pelvic organs, and if there is retroversion of the uterus, this must be corrected. It is well to avoid the use of pessaries, if possible, and to retain the uterus in proper position by the assumption of the knee-chest posture. Should anesthesia be necessary for replacement, ether and oxygen are best.

INDICATIONS OF IMPROVEMENT

The interesting question arises: How can the physician know that his patient, in the meantime, is not distinctly losing ground? The toxemia of early pregnancy is usually accompanied by low pulse tension; therefore, a gradual rise in pulse tension is an indication of improvement. The temperature is usually subnormal in these cases, and a rise to normal would naturally be a favorable indication. A rapid and feeble

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Second Annual Session of the American Medical Association, Boston, June, 1921.

pulse would, if the patient gained, be slower and stronger. The power to sleep naturally, instead of remaining wakeful or lying in a stupor, would be an evidence of improvement. The development of hunger would also be a favorable symptom.

But more accurate than these are the laboratory and microscopic findings. The nitrogen partition of the urine would show increased urea and diminished poisonous products, as would the blood urea. Microscopic study of the blood would show that the red cells were not broken down extensively and that the blood picture was becoming more normal. The quantity of urine would increase, and the condition of the patient's skin be more nearly normal. If there was vomiting at all, it would be of brief duration, occurring in the early morning and not returning during the day.

UNFAVORABLE INDICATIONS

On the contrary, if there was no improvement in the nitrogen metabolism, in pulse tension, in blood urea, in the ability to sleep or take food, in the temperature, or in the general condition of the patient, she would obviously be losing. Too much stress cannot be laid on the point that, unless a patient yields promptly to the treatment described, she may readily pass into a condition of extreme danger. Accurate and minute daily records, with repeated laboratory examinations, are necessary if this danger is to be avoided. As soon as the physician is satisfied that no progress is being made and that the patient is slowly losing, pregnancy must be interrupted at once.

NECESSITY FOR CONSULTATION

It has been customary to consider a consultation absolutely necessary before so important a step as this is taken: but it must be remembered that only an obstetrician is competent to recognize the essential points of such a case, and that there is no safe method of knowing whether the patient is gaining or losing if she is not under accurate observation, as indicated. Furthermore, in consultation there may always be the minority report of the physician who is not familiar with the pathology of the condition, and so may be deceived by a slight and temporary improvement in the patient's feelings, although pathologic findings indicate increased danger. It is safer to trust to accurate observation and an accurately obtained record than to trust the judgment of several physicians who may differ in their interpretation of symptoms.

CASES OF FULMINANT TOXEMIA

In cases of fulminant toxemia of early pregnancy, the patient, if possible, should be immediately taken to the hospital. The most vigorous treatment to secure prompt elimination is necessary. Whether pulse tension is high or low, bleeding, followed by intravenous saline transfusion, copious lavage of the stomach and intestine, rousing the action of the skin by dry heat and hypodermic medication to sustain the action of the heart, are all indicated. Unless a prompt improvement follows such treatment, pregnancy must be terminated as soon as possible.

The prognosis for future health for a woman who has once passed through an attack of the toxemia of early pregnancy is not always favorable. Recovery may apparently follow, but later in life the patient may develop nephritis or some other chronic toxic state whose origin can be traced back to a pregnancy. Patients who have the toxemia of early pregnancy should be kept under observation for at least a year after the termination of the pregnancy. Repeated examinations of the urine, and of the blood, and the taking of blood pressure are indicated. In more than one instance a chronic nephritis can be traced to a toxemia of early gestation.

GRADUAL DEVELOPMENT OF TOXEMIA

The prevention of the toxemia of early pregnancy may be difficult because its development is gradual and insidious. The nausea of pregnancy is so often considered an inevitable accompaniment of gestation that the importance of nausea and vomiting in the pregnant woman may not be appreciated. Nothing but the invariable rule that all pregnant patients require observation, and that each should be seen at regular intervals by a physician competent to care for her, can protect the patient against this complication. Each case must be considered on its own merits. Peculiarities of gestation and assimilation, and of the nervous system, and the conditions of life peculiar to each patient must be studied and appreciated.

TOXEMIA OF LATE PREGNANCY

The toxemia of late pregnancy is usually supposed to occur after the formation of the placenta and at least the period of viability. It may or may not be accompanied by convulsions. When these are absent, acute pain in the epigastrium, nausea and vomiting, violent headache, and sometimes disturbance of vision may precede convulsions. In this condition the presence of the fetus may become a complication, if there be a strong desire on the part of the mother to obtain a living child. Sometimes fear that a method of treatment may injure the child is an obstacle in the management of these cases. On the other hand, the statement that treatment will protect the child may assist greatly.

These are emphatically cases for hospital care. Symptoms of toxemia should be recognized, if possible, and alarm be taken before the convulsions begin. On admission to the hospital, unless there is some unusual complication, bleeding and transfusion should immediately be done. Anesthesia is to be avoided, and local anesthesia can readily be employed before opening a vein. This should be followed by irrigation of the stomach and the leaving in the stomach of from 1 to 2½ grains of calomel, with sodium bicarbonate. The bowels should be thoroughly irrigated with hot sodium bicarbonate solution. The patient should be catheterized, and the urine examined. The blood obtained should be examined for blood urea, and a record kept of the findings and of the quantity of urine obtained by catheter. It is well to place the patient between blankets and, if the skin does not act promptly, dry heat may be introduced beneath the blankets. Wet packs should be avoided, as they are depressing and tend to produce pulmonary edema.

The question of the employment of narcotics will at once arise. Their use will depend on the degree of nervous irritation present, and also on the extent to which the patient is unconscious. It is well to begin eliminative treatment first, for very often it will act as a sedative. If, however, there is evidence that the nervous system is suffering from the condition, then morphin, hypodermically, is indicated. If there is a tendency to bronchial catarrh, atropin also should be given, and, if the action of the heart is greatly disturbed, digitalin may be added.

A vaginal examination is unnecessary at first, and is far less important than the treatment to secure elimination. When, however, this has been given, such examination should be made, the condition of the cervix being noted, and also the presentation and the position.

INDICATIONS FOR EMPTYING THE UTERUS

The old discussion as to whether these patients should be treated by the immediate emptying of the uterus still prevails. I do not believe that the immediate emptying of the uterus is indicated. Such a procedure does not invariably cause convulsions to cease, nor does it in the severest cases and in many others materially improve the condition of the patient. There can be no question that labor is an irritation and may increase convulsions, and if the patient is in labor and labor is developing naturally, it should be expedited in the manner which will cause least disturbance and traumatism to the patient. In multiparous women, if the cervix is partially softened and dilated, the membranes may be ruptured. Labor will then proceed more actively, probably accompanied by the development of an increase in convulsions.

There is one exception to be made to the statement that the emptying of the uterus is not indicated in the toxemia of late pregnancy. When, in a primipara, the fetus is in good condition, the cervix unshortened, unsoftened, undilated, convulsions appearing or threatening, and the whole condition has arisen suddenly, immediate delivery by abdominal cesarean section is indicated, provided the fetus is at least viable, and preferably near term.

EFFECT OF CONVULSIONS

Another point of importance is the question of the necessity for absolutely preventing or limiting convulsions. If the convulsions were the important element in the case, then a patient who had the greatest number of convulsions would be most liable to die; but accurate and extensive observation shows that this is not true. A woman may die in the toxemia of late pregnancy without a convulsion, and others may survive from fifty to a hundred. Convulsions sometimes produce a favorable effect on the case; for they are followed by increased secretion, action of the skin and sometimes of the bowels, and in some cases the development of labor during convulsions seems to have favorable influence.

ELIMINATIVE TREATMENT

Four hours after the first eliminative treatment is given, intestinal irrigation should be repeated, and glucose and sodium bicarbonate solution should be left within the bowel for absorption. If there has been vomiting, the stomach should again be irrigated and magnesium sulphate in solution left within. The general condition of the patient as regards excitability and the state of the circulation should be observed, and such medication given hypodermically as seems indicated.

Under such treatment the patient will grow better or worse. The occurrence of labor is also a third possibility. If the patient grows better, the bowels will act freely, the secretion of urine will be increased, and the blood pressure will become less, if it has been excessive, and will become greater if it has been deficient. The disturbance of the nervous system will subside and the patient will usually complain of thirst and sometimes of hunger. Milk and water, equal parts, may be given in small quantities as often as the patient will take it. The use of blankets, to promote the action of the skin, and irrigation of the intestine should be continued, the intervals of intestinal irrigation being gradually lengthened. No solid food should be given until the organs of elimination have acted thoroughly and the patient's general condition indicates the ability to digest food.

POST PARTUM TOXEMIA

Post partum toxemia in late pregnancy requires the same treatment given to a patient before labor. Symptoms are usually less severe and the percentage of recovery greater.

Because the fetus shares in the pathologic condition of the mother, no risk should be thrown against the life of the mother for the sake of the child, nor, on the other hand, should the child's life be deliberately sacrificed to save the mother. Fortunately, what is best for the mother is best for the child; that is, thorough treatment of the toxemia by elimination.

Experience has taught me to avoid anesthetics for the control of convulsions: also hot, wet packs, depressing drugs, rapid emptying of the uterus by rapid dilatation of the cervix and forceps or version, and attempts to save the fetus at the expense of the mother. Experience has also taught me the value of bleeding, followed by transfusion, done, if necessary, under local anesthesia; copious irrigation of the stomach followed by calomel or saline; copious and repeated lavage of the intestine; dry heat; and morphin as needed to control excessive irritability of the nervous system. Labor should be aided when in progress; in exceptional cases prompt delivery should be made by abdominal cesarean section.

Patients passing through the toxemia of pregnancy after delivery are in danger of acute mental disturbance in the form of mania. They are in danger of pulmonary edema also, with minute embolism and thrombosis of the pulmonary capillaries. For mania, restraint and sedatives are indicated, after eliminative treatment has been given. For edema of the lungs, dry cups in abundance, strychnin, digitalin and atropin, hypodermically, a limited quantity of glucose, sodium bicarbonate by bowel, or, if the patient can swallow, milk and water by mouth. The inhalation of oxygen is sometimes useful. In dealing with all toxemic patients, fresh air is demanded and oxygen is valuable.

I know of no way by which one can accurately give a prognosis in such a case. A positive statement that recovery or death will occur should be withheld for at least two weeks after the termination of the attack of toxemia. During this time pulmonary complications may develop, which may prove fatal. A similar precaution should be taken regarding the child, if it is born living. It may develop within two weeks an acute toxemia which may quickly end its life.

CONCLUSIONS

Statistics regarding recovery from the toxemia of pregnancy, whether early or late, are misleading. No one can accurately estimate the resisting power of the patient or the virulence of the toxins. When symptoms have subsided and the patient is apparently safe, complications may develop which may end life. Under any reasonable method of treatment, a series of cases can be conducted with a low mortality, followed by a group of cases in which no method of treatment is of much value and where the mortality becomes excessively high. Practically speaking, the most important points concerning the subject are the familiar facts that preg-

nant patients require special care; that the toxemia of pregnancy, early or late, is serious, demanding hospital service; that in a well appointed hospital, prompt and efficient treatment can be given, guided by clinical observation and laboratory examinations, and that the mother's chance for recovery depends on early diagnosis, prompt and thorough treatment, and the avoidance of whatever may be depressing to the vital forces.

ABSTRACT OF DISCUSSION

DR. GORDON G. COPELAND, Toronto, Canada: I have seen several cases of toxemia coming on within the first two months of pregnancy in which vomiting was excessive and sedative treatment failed. Two cases ran a very fulminating course. One woman, whose uterus was emptied at two months six or seven years ago, went through a successful pregnancy subsequently. She then had influenza. She became pregnant the second time. The second day after I saw her she started vomiting. As she had acetone and diacetic acid in large quantities in the urine, and as stopping all food by mouth and giving morphin and bromids did not control the vomiting, we decided that the best thing to do was to empty the uterus. She was slightly jaundiced. We gave her gas and oxygen and emptied the uterus in fifteen minutes. The patient failed rapidly and died two days afterward. The duration of this fulminating case was only five days. Another case of fulminating toxemia occurring in pregnancy terminated fatally. I saw the patient when she was moribund. I have found that in these desperate cases intravenous or intermuscular injection of corpus luteum, or a 10 per cent. glucose solution under the breast, is of great value.

I would take some exception to Dr. Davis' statement that the operative treatment, or the more radical treatment of convulsions, is not quite as good as more conservative treatment. Among fifty-three consecutive cases, the mortality has been 3.7 per cent. The point I would like to bring out is to treat the individual patient and not to follow routine treatment. If the uterus is easily dilatable, and if the woman can be delivered readily without trauma or injury, and with a minimum of anesthetic, I believe that the patient would do very much better and would have a chance to get a living baby which is not subjected to further toxemia. To let these women go on indefinitely under conservative treatment will frequently place them beyond all hope of getting a living baby. Some day we will want conservative treatment, but in the majority of cases, the rapid emptying of the uterus without trauma and without adding further unnecessary injury is the preferable treatment.

DR. W. M. BROWN, Rochester, N. Y.: I wish to emphasize the great value of careful routine pathologic study of each case rather than to depend on the consultant who sees the case in an emergency. One point not mentioned in the pathologic study is the value of knowing the creatinin content of the blood, as indicative of the ultimate renal efficiency, which may be a very determining factor. We carried along a patient for two or three weeks with apparently great improvement in her condition and yet there was a constant and steady rise in the creatinin content. The patient got along all right after the uterus was emptied. The use of corpus luteum extracts is empiric. I have had one or two cases in which the use of these extracts was attended by apparent success, and I have had a great many cases in which there has been apparently no result. Another point to be considered is the value of the child's life. With the patient in the latter months of pregnancy, and a viable child, I used to feel that the baby has a better chance outside than inside. The baby is going to be killed by the toxemia. If we get it out without too much shock, it would seem we are increasing its chance to live. However, I have seen many of these babies born at that immediate time under a great deal of stress and strain. They were toxic when born. Can we treat them better intra-uterine if we are more conservative with the mother and rid her of her protein overload? Will she do better for that baby than we can extra-uterine? I am hesitaing more now about bringing on labor too quickly in these toxic cases. A profoundly toxic woman is not a good surgical risk. The conditions must be almost ideal before I advise cesarean section in these cases.

DR. CARL B. DAVIS, Milwaukee: Dr. Davis referred to the use of codein. In my experience with the toxemias of early pregnancy, opiates have tended to increase vomiting, and I believe that for the most part they are contraindicated. Sodium bromid in large doses will control the nervousness to which Dr. Davis has referred without increasing the nausea. With glucose and soda solution given by rectum, I give at first 1 gm. sodium bromid with each retention enema. Nothing is given by mouth for twenty-four hours or longer. When the patient comes under the effects of the bromid, her nervous symptoms are controlled, and usually the vomiting stops. Later on, the effervescent triple bromid is administered by mouth to control the nervous irritability. The point of putting the patient in a quiet dark room, away from all disturbance, is very well taken. Dr. Davis did not mention the use of intravenous glucose solution. It is believed that when the patient does not respond readily to the use of glucose, soda and bromid by rectum, the slow administration of a 20 or 25 per cent. glucose solution intravenously will obviate the necessity of terminating the pregnancy in most instances. It is my impression at present that in the uncomplicated cases the nausea can be controlled without termination of pregnancy. If the patient has a severe myocarditis or diabetes, the termination of the pregnancy probably will not save her. The alkali reserve is a better index to the condition of the patient than the tests to which Dr. Davis referred. When the alkali reserve goes as low as 30, the probabilities are that the child will die, and in spite of treatment, the patient will abort. After the nausea is controlled, the use of a dry diet, high in carbohydrates and very low in fat and protein, is indicated until the patient has passed beyond the period of nausea. If it becomes necessary to empty the uterus, morphin-scopolamin anesthesia may be use.

DR. EDWARD P. DAVIS, Philadelphia: From a considerable experience I have selected those measures which in my hands are of proved value. In early pregnancy and in all toxemic cases, I would warn against the use of nitrous oxid as an anesthetic. In my observation it has proved rapidly fatal in some cases in which it was used to interrupt pregnancy. The surgeon did not get to operate because the patient died under the anesthesia. In cases of toxemia nitrogen is a doubtful substance to employ by inhalation, even in the form of gas. The case described by Dr. Copeland was one of profound liver toxemia, which is often fatal. I agree with him that corpus luteum will not always be of value. I recall my experience when a colleague asked me to test pituitary extract as a galactagogue. I selected ten healthy primiparas and gave pituitary extract by hypodermic injection. The result was good. I then selected ten others. I told them I had a foreign substance which must be given hypodermically so as not to waste a drop. I gave them sterile water. The result was greater even than with pituitary extract.

When nature wishes to empty the uterus, she should be aided; but I do not believe in rapid emptying of the uterus unless nature does indicate her desire to empty the uterus. I have seen women pass through eclampsia, go on for three or four weeks afterward and give birth to a living child. If such a uterus had been subjected to rapid emptying, what would have happened to the mother or child? As to the creatinin content of the blood, I recognize the value of this examination. I have yet to see evidence that codein is bad for toxic women. I recognize the value of sodium bromid, and at times use sodium bromid by injection. The alkali reserve is an interesting problem. I trust we may soon resort to metabolism determinations in these cases. Anesthesia by hypodermic injection is always useful, but in most cases ether and oxygen is safest because the toxic woman has a bad heart and ether stimulates heart action. When you see a woman with high blood pressure, urine loaded with albumin and casts, have her eyes examined as soon as possible. I would urge also the value of spinal puncture and the withdrawal of spinal fluid to save vision.

HOMONYMOUS HEMIANOPIA AS AN EARLY SYMPTOM OF BRAIN TUMOR

REPORT OF CASE

TOM BENTLEY THROCKMORTON, B.Sc., M.D.
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This case of brain tumor, reported largely for the scientific interest which centers about the diagnosing and localizing of new growths in the brain, also tends to show, in a way, what is already conceded to be an extremely important factor in neurologic diagnosis, namely, the importance of obtaining a history in which the symptoms, as noticed by the patient or friends, are set down in chronological order.

The localization of a tumor in the cranial cavity antemortem is not always a simple procedure, and in many instances, at the best, is fraught with risk and reservation. All of the cardinal or general symptoms of increased intracranial pressure may be present, yet in the absence of localizing symptoms nothing definite can be ventured, in a surgical way, save a decompression operation in the hope of affording temporary relief from pressure symptoms. On the other hand, localizing symptoms may be the first to appear; but in the absence of headache, vomiting—chiefly of the projectile type—and choked disk, nothing can be asserted with any degree of certainty save that something is producing an irritation or lesion in some portion of the brain, which may or may not be due to the presence of a new growth. With the combination, however, of both general and local symptoms, doubt as to the existence of tumor formation is largely dispelled, and the course to be decided on, as regards the patient's future, will rest largely on the extent and nature of organic changes which have taken place.

In the case cited here, the first symptom pointing to a cerebral involvement was an impairment of the left visual fields, which existed for months as the only symptom until the appearance of others, both local and general in character, which rendered the diagnosis of brain tumor easy, and its localization accurate.

REPORT OF CASE

History.—Mr. O. A. O., aged 56, married, real estate dealer, referred to me, Sept. 17, 1917, by Dr. W. W. Pearson, complained chiefly of interference with vision when looking to the left, a condition which had been distinctly noticeable for at least six months, if not longer, prior to the time he came under my observation. The family history was negative, as regards any material facts bearing on the case, save that his mother died at 73 of malignancy of the liver. He was never well and strong as a boy, but aside from the usual diseases of childhood, had never suffered a serious illness. His eyes began troubling at 19 years of age, making it imperative for him to wear glasses to overcome the visual defect. He was married at 25, but later his wife died of tuberculosis. A son, born to this union, however, grew to young manhood apparently free from any tuberculous taint. The patient was injured when 40 by being thrown from a horse, and the parts about the right eye were lacerated by one of the hoofs of the animal. Although unconscious for a short time, he made a prompt recovery, apparently without residual ill effects.

The hemianopia, for which he sought relief, was first noticed about six months prior to the time he was referred to me, and was manifested by an inability at times to see words when reading to the left of the median line. The defect was further evidenced by the not infrequent failure to see persons to his left, either when walking along the street or when driving his automobile. Some of his friends stated that for a long time they were cognizant that something was wrong with the patient, as often he would carry his head at a peculiar angle as if in an unconscious effort to overcome some visual trouble. He was free from headache and vomiting, the emunctory functions of the body were properly performed, and his habits were exemplary.

Examination.—This failed to reveal any striking phenomenon save the beginning homonymous lateral hemaniopia to the left. There was very little unsteadiness on either leg, except, perhaps, that the equilibrium was not quite so well maintained on the left. His gait was quick and active, and all his muscular movements were performed with agility. The pupils, as reported by Dr. Pearson, were equal and regular in outline and reacted promptly to light and in accommodation and convergence. Under a mydriatic the eye grounds appeared entirely negative, the nerve heads distinct, and no hemaniopia could be elicited by rough finger tests, although the perimeter showed beginning changes in the visual fields. The ocular movements were free and equal in all directions, and there was an absence of nystagmus or diplopia. The masseter groups contracted fairly well, and at times slight tremors of the face and tongue were noticed, tremors not unlike those often observed in beginning paresis. Aside from these changes, no other cranial nerve involvement was found. The pulse rate when sitting was 64; systolic blood pressure, 116 mm.; diastolic, 55 mm. All the deep tendon jerks were present but not active; normal plantar flexion was maintained, sensation preserved and localization accurate. The blood and urine findings were negative, while the spinal fluid was found to be under normal pressure, with an absence of a pleocytosis or a positive Wassermann reaction.

Reexamination, November 11, failed to disclose any marked changes in his condition. All the eye findings were negative save a distinct diminution in seeing objects to the left. The knee and ankle jerks, while sluggish, were readily brought out by the Jendrassik method, and no extension of the toes could be elicited by the Babinski, Chaddock, Oppenheim, Gordon or percussion methods. Roentgenograms of the head were completely negative for osseous changes.

Jan. 1, 1918, while passing through the city, he called at the office for a few moments. He reported the development of no new symptom save that of having a little trembly feeling in the right arm at times. The eye findings remained the same except for slight nystagmoid movements on rotation of the eyes to the left. The right masseter also seemed a little weak in its contraction. Aside from these, no other changes were found.

Apparently his condition remained the same until in March, when he was taken ill with an attack of "the grip," following which an imperfect recovery ensued, associated with the beginning of headache. The cephalagia was largely frontal in character, but radiated backward over the top of the head. Vomiting and dizziness did not accompany the pain, but at times slight nausea was complained of. Between the influenzal infection and the trying circumstances accompanying the sickness and death of a sister, the health of the patient became undermined, and symptoms pointing clearly to a serious brain involvement became quite manifest. Following the introduction of headaches, difficulty in using the left arm and leg became apparent, and not infrequently he would lose his balance and fall.

The final examination in May revealed beyond a question that distinct mental and neurologic changes had taken place. The cephalagia was so intense that a condition, perhaps not wrongly described as "psychic numbness," existed. Occasionally a trace of irritableness could be noticed in his demeanor, while at other times distinct depression of the emotional sphere was evident. The heretofore quick and accurate muscular movements were supplanted by actions now extremely slow in character, and it seemed as if each movement was made only after the maximum effort had been expended. Hand in hand with the slowing down of the volitional movements were noticed, also, a slowness of speech and a marked tendency to forgetfulness. Distinct ataxia and weakness of the muscles of the left arm and leg were also present, associated with a hypesthesia that was more pronounced in these

extremities than of the trunk. Coarse nystagmoid movements were now noticeable when the eyes were rotated to the extreme left, and beginning papilledema was found in each eye on ophthalmoscopic examination. The left homonymous lateral hemianopia, heretofore not pronounced, was now quite distinct. There was weakness of the muscles about the left corner of the mouth, and on protrusion the tip of the tongue curved decidedly to the left. The auditory sense was little, if any, impaired, watch ticks being heard at 24 inches with the right and 20 inches with the left ear; tuning fork tests were normal. The Jones tests were not attempted, owing to severe headaches and extreme weakness. The knee jerks, while apparently equal, were inhibited, but normal plantar flexion was preserved. Alternate pronation-supination tests of the left forearm were awkwardly performed, but weakness of the musculature of the extremity may have been largely, if not entirely, the cause for this.

Diagnosis.—From the history and clinical findings, the diagnosis of a tumor in the posterior portion of the right cerebral hemisphere, involving the right optic radiation and the posterior limb of the internal capsule, was made. The general symptoms of increased intracranial pressure were manifested by headache, slight nausea at times, double choked disk, slowness of pulse—64, 56, 50—and progressive dulling of the mental faculties. The localizing symptoms were evidenced by a left homonymous lateral hemianopia, motor weakness of the muscles of the left tongue, arm and leg, possibly also the lower quadrant of the left face, ataxia of the left arm and leg, and hypesthesia of the left half of the body, most noticeable in the arm and leg.



Horizontal section through right cerebral hemisphere illustrating, schematically, the tumor involving the optic radiation and causing interference with the function of the tracts in the posterior limb of the internal capsule.

It was an interesting fact to note that the interference of function of the tracts near or in the posterior limb of the internal capsule was in direct proportion to their distance from the growth, namely, the optic radiation suffering the severest lesion, then the sensory fibers, then those supplying motion to the leg and arm, the tongue fibers, and lastly and the least involved of all, the fibers of the face. The auditory tract, as judged by ordinary tests, was apparently not involved; but tests with the Jones chair might have shown the presence of a lesion.

Operation and Result.—The patient was referred back to his family physician, Dr. H. R. Irish, who accompanied him to Philadelphia, where he was placed under the care of Dr. Charles H. Frazier in the University Hospital. I am indebted to Dr. Frazier for the notes concerning the ultimate outcome of the case:

"With regard to your patient, Mr. O. A. O., your diagnosis was confirmed and a tumor localized in the right occipital region. At least, a tentative diagnosis of a subcortical endothelioma was made and operation planned accordingly. A considerable portion of the occipital and parietal lobes was uncovered and, after the dura was reflected, certain very definite changes were observed on the cortex, chiefly consisting of a flattening of the convolutions and a pallor of the cortical tissue. In the postero-inferior angle of the opening there was a point of greater resistance, and here an exploratory incision was made in the cortex, through which the tumor was exposed. It was gradually freed from the surrounding tissue with little difficulty, with the exception of its point of attachment to the tentorium cerebelli, from which point, I think, it undoubtedly arose; and when the tumor was delivered and removed, there was a defect in the tentorium about the size of a penny. The operation was unattended with any peculiar difficulty. The finding of the tumor was facilitated by the accurate localization, and its removal required no very great technical skill. A certain amount of hemorrhage, although not very great, followed the removal, especially from the tentorium; and to control this and at the same time repair the defect in the tentorium, the latter was covered with a graft from the temporal muscle and aponeurosis. The wound was closed with drainage, and immediately following the operation the patient was transfused from his son. This was done, not as a matter of necessity, because the patient's condition was not at that time serious, but merely as a precautionary measure and to shorten the convalescence.

"In the course of the afternoon the patient's condition was reported to me as most satisfactory; his pulse was 85 and his condition in other respects all that one could ask for. In the early evening, however, he developed one of those peculiar respiratory attacks so frequently seen, more particularly in posterior fossa lesions, and usually attributed to a foraminal hernia. Appropriate treatment was at once begun by my house officer, and the condition for a few minutes improved; but, as in most of these cases, in fact, in all as far as I am aware, the condition recurred and the patient died of respiratory failure. This was an unlooked for complication and most unfortunate, in that the case lent itself to surgical intervention. However, I know of no way in which this particular accident can be foreseen or prevented. It has happened in my service at all times with relation to the operation, both before and after the operation, while the patient was being anesthetized and during the operation. Fortunately, it does not occur very frequently."

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A CRITICISM OF HOSPITAL LABORATORY EXAMINATIONS*

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With the return of its staff after the war and the consequent rearrangement of its personnel, our laboratory required a complete reorganization. This involved a critical review of all phases of the laboratory situation, not only as to matérial and personnel, but also as to its functions and its relations to the clinical divisons of the hospital, to the clinicians who are more or less in touch with the hospital but who are not members of the staff, to medicine and to the community.

I wish to call attention to but one of the many questions which arose in the course of this review. What should be the attitude of the laboratory toward the requests for examinations made by the clinical divisions? Should it merely perform the examinations requested and say nothing? To follow such a course would require only the installation of sufficient technicians to handle the work, and would relegate the laboratory to a position as an insignificant appendage to the wards. Or should it intrude itself into the wards, urge the dropping of some methods and the institution of others, and generally cooperate in the attempts to solve the clinician's problems? Obviously, the latter position is the only one tenable if the laboratory is to be of the greatest possible service in every respect.

* From the Division of Laboratories, New York Hospital.
* Read before the Society of Internal Medicine, April 27, 1921.

In attempting to determine how it might best cooperate with the clinical divisions, a study was made of the efficiency of the laboratory division. This study necessarily included not only the laboratory, its staff and methods, but also the wards and the attending and house staffs. The study was made, of course, from the standpoint of the laboratory. It was desirable to know, for instance, the percentage of positive results obtained with each method. For if, in 100 consecutive blood cultures, only one was reported positive, it would be evident either that too many requests for blood cultures were being made, or that the method used was faulty or was being badly applied. If, on the other hand, 95 per cent. were reported positive, it would indicate that too few requests were being made or that the members of the attending staff were exceptionally keen. In all but the last instance the efficiency of the laboratory would be rated as low.

A laboratory cannot be hightly efficient if it is spending its time on obsolete methods. Medical history shows that many methods, which eventually have been shown to possess little or no practical value, have rapidly risen to great popularity but that even though generally discredited, their subsidence has been a slow procedure. Witness the opsonins, the Cammidge test and the Abderhalden reaction. Such efficiency studies made at five year intervals would show graphically how the vogue for certain methods changes from time to time. The laboratory should urge the dropping of those methods, which are now or which promise soon to become obsolete. The Esbach test is one of these. The quantitative estimation of urinary sugar in the course of the ordinary treatment of a case of diabetes in a modern hospital is, we believe, another. Such sugar estimations may be of value in carrying out metabolism studies or in the prosecution of some special investigation, and they serve to train students and interns in that chemical procedure. But the present-day hospital clinician controls his treatment rather by blood sugar than by urinary sugar examinations.

The routine order attracted our attention early in the study. It is a firmly established custom, and there are several arguments that can be advanced in favor of its use. It can be thought of as an extension of the routine physical examination, which admittedly should be complete. If it is the custom to order, for every patient who enters the medical wards, urine, sputum and stool examinations, blood pressure, count, culture, chemistry and Wassermann test, the house physician will soon be able to answer most of the questions his attending physician will ask him concerning clinical findings. In addition, the diagnosis may at once be made evident and the patient's stay in the hospital may be shortened. But the influence on the house physician and on the laboratory is demoralizing. The attitude of the house physician comes to resemble that of the house surgeon who sterilizes all of the instruments in the operating room for each operation. It saves him the trouble of thinking about it, avoids delay, and possibly protects him from censure for having omitted some desirable instrument. So the house physician, instead of making a careful clinical study of the patient and then selecting those examinations which are best calculated to throw light on the case, inevitably tends toward a superficial survey of the case and a delay in forming his opinion until the laboratory findings have been reported. The more extreme end-results of this practice are seen in those physicians who are willing to diagnose pulmonary tuberculosis only when the sputum has been reported positive for tubercle bacilli, or typhoid fever only when the Widal reaction or the blood culture are positive and who, moreover, are usually unacquainted with the weaknesses of these methods.

The laboratory suffers to no less an extent. It is overwhelmed with routine examinations which are devoid of that interest which makes a special examination stimulating, and its staff is unable to find time for the study, consultation and research which are such important factors in perfecting the efficiency of an organization. The order "sputum to lab. q. d. for tbc." is an especially vicious one. By it the house physician easily frees himself of responsibility in a suspicious case. But if one considers the time and energy required for a really careful search of the sputum for tubercle bacilli, it may perhaps be possible to estimate the state of mind of the laboratory worker who is greeted in the morning by six or more sputum specimens in addition to his other work, and finds among them several that he has already searched a number of times unsuccessfully. Careful attention directed toward the collection of two or three suitable specimens and a really thorough examination of them would produce better and more reliable results than a dozen routine examinations.

Routine order have a place as prophylactic measures, as instanced by the routine throat cultures and vaginal smears that are made on admission to the children's wards. They may be of importance in investigations. They furnish a safeguard against the carelessness of the staff, and may call attention to diagnostic possibilities that otherwise would have been overlooked. But they should not be instituted in the absence of some definite purpose, or without a realization of the pernicious influence which they exert.

Adherence to routine methods in the laboratory may result in wasted energy. The routine urinalysis includes a test for the presence of sugar, and it was found that no matter what the patient's disease or how many specimens from the patient had reached the laboratory, this test was routinely performed. The amount of time lost in this way may be estimated from the fact that during a period of one quarter of the year there were 2,173 specimens to which this test was applied, when previous specimens from the same patients showed no sugar and there was nothing in the patient's condition which would lead to a suspicion of the presence of sugar.

The evidence on which the foregoing generalizations are based was collected from the records of the wards and the laboratories during a period of three months. The investigation also brought out details of importance in a consideration of the functioning of the various divisions of the hospital. The need for such a critical review was recognized by Dr. William J. Elser, the director of the division of laboratories, who planned the investigation.

8 West Sixteenth Street.

Hospital as an Industry.—Unfortunately success in hospitals is only too often measured by a standard set by the community in which the hospital finds itself. Almost all hospitals, barring those privately owned, are administered by a board of trustees or directors. This group usually feels that its responsibility ends with the employment of a superintendent. Or the members believe that the effort required to penetrate the atmosphere of secrecy that pervades many hospitals is too great and the resulting lack of knowledge of their affairs reacts unfavorably for the hospital's welfare.—M. A. Slocum, *Hospital Progress* **2**:42, 1921.

SYPHILITIC IRITIS

ITS RACIAL INCIDENCE AND ITS ASSOCIATION WITH SECONDARY SYPHILIS AND WITH NEUROSYPHILIS *

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In a comparative study of syphilis in white persons and in negroes,[1] a marked difference was found in the frequency of iritis in the two races. It is my purpose in this paper to discuss iritis in respect to its racial incidence and its association with certain early secondary syphilids and with neurosyphilis.

RACIAL INCIDENCE

Atkinson,[2] in 1882, noted the frequency of syphilitic iritis in negroes. In 100 cases of primary and secondary syphilis in this race he encountered eleven with iritis. Lambkin,[3] in his report on syphilis in Uganda, states that the frequent occurrence of iritis is one of the characteristics of secondary syphilis in the native. Clapp,[4] in a survey of 100 cases of nontraumatic acute iritis, found syphilis to be the etiologic factor in 80 per cent. In comparing this result with that obtained by Irons and Brown (23 per cent.) and by Jennings and Hill (61.4 per cent.), he points out that the large number of negroes in his series (seventy of 100) undoubtedly accounts for the high percentage of syphilitic iritides.

The present series includes eighty-four cases of acute syphilitic iritis observed in the Syphilis Department of the Johns Hopkins Dispensary between 1917 and 1921, and thirty-five cases observed in the Syphilis Clinic of the Baltimore Eye, Ear and Throat Hospital during 1920. These cases were thus divided according to race and sex: thirteen while males, thirteen white females, fifty-five negro males and thirty-eight negro females. In the former clinic, 4,400 syphilitics were examined during the four year period, of whom 2,600 were negroes. There were twenty cases of acute syphilitic iritis among the white patients and sixty-four among the negroes, an incidence of 1.1 per cent. in the former and 3.2 per cent. in the latter. Fournier [5] estimates that from 3 to 4 per cent. of syphilitics develop iritis. Boeck [5] found 139 cases of iritis among 2,344 syphilitics, an incidence of 5.37 per cent. That these results are so much higher than those in the present series is explained by the fact that the modern syphilis clinic, owing to the recent advances in diagnosis and treatment, includes a much greater number of asymptomatic syphilitics.

Among the 228 white patients with early secondary syphilis in the Johns Hopkins Clinic, there were four, or 1.76 per cent., with acute iritis; among the 279 negroes, iritis occurred in thirty-six, or 12.9 per cent.

ASSOCIATION WITH EARLY SECONDARY SYPHILIDS

More than a century ago, Carmichael,[6] who identified four distinct venereal diseases according to the type of chancre and the character of the subsequent rash, stated that with but one exception in his experience iritis was always associated with a papular eruption. Ricord [7] considered each form of eruption to have its prototype on the iris.

In the present series, iritis was associated thirty-seven times with generalized secondary syphilids and was distributed according to race and type of rash as shown in the table. The frequency of iritis in association with follicular syphilids in the negro is striking.

ASSOCIATION OF IRITIS WITH NEUROSYPHILIS

Statements in the literature as to the frequency of neurosyphilis in patients with iritis are discordant. Fuchs,[8] Wernicke [9] and Wintersteiner [10] considered iritis an assurance against the eventual development of tabes and paresis. In an ophthalmoscopic examination of 284 paretics, Wintersteiner found optic atrophy in 28.5 per cent., while choroiditis was encountered in only eleven cases, or 3.86 per cent., and residual changes of an old iritis in five cases, or 1.76 per cent.

Snydacker [11] did not find any changes resulting from a previous uveitis in sixty-one tabetics. Not once, moreover, in seventy-nine cases of syphilitic iritis and forty-two of choroiditis did he observe the eventual development of tabes or paresis.

INCIDENCE OF IRITIS ACCORDING TO RACE AND TYPE OF SYPHILID

Type of Syphilid	White			Negro		
	Total Number of Cases	Cases of Iritis		Total Number of Cases	Cases of Iritis	
		No.	%		No.	%
Macular	89	2	2.2	33	3	9.1
Maculopapular	58	2	3.5	30	4	13.3
Lenticular	28	..	...	25	1	4.0
Follicular papular	14	1	7.1	49	18	36.7
Large flat papular	1	..	...	3	..	....
Follicular pustular	0	..	...	14	3	21.4
Large acuminate pustular	1	..	...	21	3	14.3
Rupia	8	..	...	4	..	....

On the other hand, of forty cases of syphilitic iritis observed by Trousseau,[12] three subsequently developed general paresis, twelve tabes, and eight other forms of neurosyphilis. Mattauschek and Pilcz [12] found that 10.96 per cent. of paretics had at one time suffered from an iritis. Igersheimer [12] found definite changes in the spinal fluid in six of eight cases of acute iritis. Wile and Marshall,[13] in twenty-one cases of secondary syphilis with an associated iritis, found fifteen, or 71.4 per cent., with definite cerebrospinal fluid abnormalities, while in a total of 508 cases of secondary syphilis the abnormality incidence in the fluids was approximately half this percentage.

In none of the patients in my series was a spinal puncture performed until a certain amount of antisyphilitic treatment had been administered, generally one or two courses of arsphenamin and two or three months of mercurial inunctions. Of three white patients in whom iritis was originally associated with secon-

* From the Syphilis Department of the Medical Clinic, Johns Hopkins Hospital.

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12. Quoted by Igersheimer (Footnote 8) p. 295.
13. Wile and Marshall: A Study of the Spinal Fluid in One Thousand Eight Hundred and Sixty-Nine Cases of Syphilis in All Stages, Arch. Dermat. & Syph. **3**: 271 (March) 1921.

dary syphilis, none showed spinal fluid abnormalities; similarly, of thirteen negroes only two were abnormal, and both of these discontinued treatment after a few injections of arsphenamin and later returned with neurorecurrences. Of sixteen white patients in whom iritis occurred alone or in association with tertiary manifestations, two were found to have pathologic fluids on routine examination, and one returned after neglecting treatment for several months with an acute syphilitic meningitis. Similarly, only one of fifteen negroes showed a pathologic fluid on routine puncture. Spinal fluid examinations consisted of Wassermann tests with quantities of fluid up to 1 c.c., colloidal tests, globulin determinations, and cell counts. Of the entire series of forty-seven patients with iritis, only six, or 12.8 per cent., were neurosyphilitic, a result corresponding to that obtained by Moore [14] in this clinic in treated cases of early secondary syphilis and of tertiary syphilis.

CONCLUSIONS

1. Both in early secondary syphilis and subsequently in the course of the disease, the negro is more liable to iritis than is the white man.

2. Iritis occurs in more than 10 per cent. of all cases of early secondary syphilis in the negro, and is most often associated with follicular syphilides.

3. Abnormalities in the cerebrospinal fluid of partially treated syphilitics with iritis occur with no greater frequency than in the fluids of treated patients who have not had iritis.

3 East Center Street.

FASCIOLOPSIS BUSKI INFESTATION

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Fasciolopsis, first reported by Busk in the intestine of a Lascar sailor dying in England in 1843, is a human intestinal parasite of the Trematode class, Distoma group and Fasciolidae family of Platyhelminthes. It is found very commonly in the Shaohsing district, Chekiang Province, China, and has also been reported from other parts of China, India, Siam, Assam, Sumatra and Cochin China. It has been reported as common in pigs in Hongkong and Hanoi.

This fluke is usually described under four species, *buski, rathouisi, goddardi* and *fülleborni.* Goddard [1] thinks, however, that these four are all simple variations due to difference in preservation, age and observation. His description of the average fluke, which he calls *Fasciolopsis buski,* makes it measure 30 by 12 by 2 mm., with a somewhat pointed head end, a poorly defined shoulder, a bluntly rounded tail, and a deep pink color; it has a distinct cuticula, which carries spines on the ventral surface from 30 to 34 microns long, and presents an oral sucker, from 0.3 to 0.4 mm. in diameter at the anterior extremity, and a bell shaped ventral sucker, from 1.2 to 2.5 mm. in measurement.

The ovum of *Fasciolopsis buski* is ellipsoid, from 130 to 140 microns by from 80 to 85 microns, consisting of a large number of yolk cells with a single germinal cell. It is found in the stool of the patient carrying the parasite.

The frequency of the infestation in the Shaohsing district is remarkable. In 732 first examinations of stools from hospital and dispensary patients in one year, 524, or 71.5 per cent., were positive for the *Fasciolopsis* ovum. It is probable that a routine examination of all dispensary patients would show a higher percentage. In 1,143 patients admitted to the Christian Hospital, Shaohsing, from December 31, 1918, to January 1, 1921, 467, or 40.8 per cent., were found to be harboring flukes. Of this number, 274, or 58.7 per cent., had *Fasciolopsis* infestation as a primary diagnosis. Of the 467 positive cases, 311, or 66.6 per cent., had the *Fasciolopsis* ovum alone; the other 156 showed various combinations with *Ascaris, Trichuris, Ancylostoma, Schistosoma, Endameba* and *Trichomonas intestinalis,* in this relative order of frequency.

Of the present series of cases, 275, or 58.8 per cent., of the patients were males, with 31.1 per cent. between the ages of 11 and 20, and 23.4 per cent. between 21 and 30. The youngest found infested was 25 months, and the oldest 73 years.

REVIEW OF OBSERVATIONS

INCIDENCE

	Number	Per Cent.
Total Patients from Dec. 31, 1918, to Jan. 1, 1921	1,143	.....
Patients presenting Fasciolopsis ova in stools	467	40.8
Presenting Fasciolopsis ova alone	311	66.6
Cases with Fasciolopsis infestation as a primary diagnosis	274	58.7

AGE

Age	Number	Per Cent.
From 0 to 10	60	12.8
From 11 to 20	145	31.1
From 21 to 30	109	23.4
From 31 to 40	72	15.5
From 41 to 50	54	11.6
From 51 to 60	20	4.2
From 61 to 75	7	1.4

OCCUPATIONS

	Number	Per Cent.
Housewife	121	34.3
Farmer	66	18.7
Student	60	17.04
Merchant	30	8.05
Clerk	30	8.05
Trade	20	5.6
Soldier	10	2.8
Preacher	5	1.4
Nurse	3	0.80
Slave	3	0.80
Physician	2	0.56
Boatman	2	0.56

SEX

	Number	Per Cent.
Male	275	58.8
Female	192	41.2

Considered as to occupations, 121, or 34.3 per cent., were listed as housewives, sixty-six, or 18.7 per cent. as farmers, and 60, or 17.4 per cent., as students. The high percentage of farmers is of some significance, as the occupations of housewife and student show nothing definite as to life, food, etc.

The infestation results most frequently in no symptoms, 52.4 per cent. of the patients complaining of nothing referable to *Fasciolopsis;* a more perfect system of case histories, however, would probably lower this figure considerably. The most common positive symptom is a diarrhea of from three to eight stools daily, chronic and intermittent in course, and never accompanied with blood in uncomplicated cases; 150, or 32.1 per cent., complained of this type of diarrhea.

Cases of longer standing present an edema of the feet, hands or face in 7.6 per cent. of the cases; enlarged and pendulous abdomen in 6.4 per cent.; epigastric distress of an indeterminate type in 15.1 per cent., and loss of strength. Clinically, the large abdomen, especially in children, is much more common than

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1. Goddard, F. W.: Fasciolopsis Buski, J. Parasitol. **5**: 141 (June) 1919.

these figures would indicate. Twelve patients, 2.5 per cent., complained of constipation, five vomited flukes, and one mentioned only a loss of appetite.

Blood examinations were not made in the majority of cases. In forty-six cases in which a differential count was made, twenty-seven, or 58.7 per cent., showed an eosinophilia of 8 or above; red cell counts gave 8.7 per cent. below 4,500,000, and 6.8 per cent. had a hemoglobin below 85. Leukocyte counts were normal in all uncomplicated cases, with a tendency toward actual leukopenia.

Treatment has been uniform in all cases, with betanaphthol as the drug used and a usual dose of from 10 to 15 grains for adults. The routine treatment calls for a limited soft diet at noon and a half ounce of magnesium sulphate at 6 p. m.; 3 doses of betanaphthol of the specified size are given at 6, 6:30 and 7 the next morning, followed by another half ounce of salts in two hours. The flukes are passed immediately, and continue to be passed for twelve hours and sometimes longer. Two treatments are necessary in the majority of the cases.

The greatest number of flukes recovered in the stool following treatment, in this series, was 1,104. The record patient of the hospital passed 3,328 and some not counted. No necropsies are obtainable in this part of China except in extraordinary circumstances.

SUMMARY

Fasciolopsis is an intestinal parasite of considerable gravity and frequently encountered in the Shaohsing district, Chekiang province, China.

It occurs most frequently in the male sex from 11 to 20 years of age, with no symptoms in slightly more than half of the cases. Positive symptoms are diarrhea, epigastric distress, edema and enlarged abdomen.

Laboratory findings are the ova in the stools, moderate eosinophilia and a secondary anemia.

SEPARATION OF TETANUS ANTITOXIN FROM ASSOCIATED PROTEIN

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A recent paper by Huntoon, Masucci and Hannum,[1] on the chemical nature of antibody, prompts this note. With a view to obtaining some light on the chemical nature of antitoxins, I made a study[2] of the action of pepsin-hydrochloric acid and trypsin-sodium carbonate solutions on tetanus antitoxin. It was hoped to obtain a solution containing the antitoxin, but free from protein. This separation has not yet been accomplished. However, the converse separation was effected, i. e., it was comparatively easy to prepare solutions of antitoxin in 0.5 per cent. sodium carbonate and in 0.2 per cent. hydrochloric acid, which on standing showed complete loss of antitoxic units, although the total coagulable protein content remained unaltered. As the result of chemical analyses and inoculation tests on 440 guinea-pigs by the official method,[3] these conclusions were reached:

1. Tetanus antitoxin in 0.5 per cent. sodium carbonate solution was slowly and completely destroyed. At the same time no significant chemical changes in the proteins were detected.

2. In solutions amphoteric or faintly acid to litmus strips, trypsin destroys the antitoxin, and at the same time the associated proteins are digested. The rates of antitoxin destruction and protein splitting were substantially the same.

3. The results were the same with solutions containing trypsin and 0.5 per cent. sodium carbonate.

4. Tetanus antitoxin in 0.2 per cent. hydrochloric acid was completely destroyed in three or more days. During this time no significant chemical changes in the proteins were detected.

5. In neutral solutions, pepsin did not affect the antitoxin.

6. In pepsin-hydrochloric acid, proteolysis and antitoxin destruction proceed simultaneously.

7. These results tend to indicate that tetanus antitoxin is a substance of nonprotein nature. But the stability of the antitoxin is so dependent on that of the protein to which it is attached that, whenever the protein molecule is split, the antitoxin splits with it.

Granting the correctness of the observation by Huntoon, Masucci and Hannum[4] that trypsin digestion does not destroy pneumococcus antibody, but bearing in mind the foregoing results, I feel justified in taking exception to their apparent generalization that antibodies in general can resist tryptic action.

Because of the quantitative relations between them, tetanus antitoxin and toxin are, perhaps, better adapted to quantitative studies than any other similar substances. But even these require most careful weighing, etc., and rigorous control if definite conclusions are to be obtained. It has been found[5] that the potency of an antitoxic product is not as easy to determine exactly as might be supposed, even when ample time and numerous guinea-pigs are available. Thus, a sample of diphtheria antitoxin stated by the maker to contain "about 800 units per cubic centimeter" was tested five times under uniform conditions, by the official method,[6] using twenty-seven guinea-pigs. Results obtained were 900, 950, 950, 950 and 1,000 units per cubic centimeter, all of which are "correct" and any one of which might have been taken as correct where routine measurements do not permit the use of many animals. It is almost certain that the same product, standardized in different laboratories, would be found to have potencies varying with distressing wideness. The difficulties attending the exact measurement of antibodies are too little appreciated.

1. Huntoon, F. M.; Masucci, P., and Hannum, E.: J. Immunol. **6**: 185-200, 1921.
2. Berg, W. N., and Kelser, R. A.: J. Agric. Res. **13**: 471-495, 1918.
3. Rosenau, H. J., and Anderson, J. F.: Bull. 43, Hyg. Lab., U. S. P. H. S., 1908.
4. Huntoon, Masucci and Hannum: J. Immunol. **6**: 194, 1921.
5. Berg, W. N.: J. Infect. Dis., to be published.
6. Rosenau, M. J.: Bull. 21, Hyg. Lab. U. S. P. H. S., 1905.

Pneumoperitoneum.—H. H. Carelli and F. Canevari of Buenos Aires have been experimenting with pneumoperitoneum, having now 250 radiographs of eighty-three patients. In the *Revista de la Asociación Médica Argentina* they reproduce thirteen radiographs showing the different findings with different abnormal conditions. In the same issue J. Gutiérrez, A. Galindez, R. Novaro and M. Bermúdez Zolezzi report over a year's experience with pneumoperitoneum in animals, in the cadaver, and in persons with various forms of abdominal disease, reproducing fourteen large radiograms. They regard it as preferable to an exploratory laparotomy and say that it usually renders the latter unnecessary.

RADIUM EMANATIONS IN THE TREATMENT OF GOITER

PRELIMINARY NOTE *

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In the treatment of the bad risk cases of exophthalmic goiter, it occurred to me that radium emanations could be introduced into the substance of the thyroid under local anesthesia, and with a minimum of traumatism. Accordingly, Aug. 16, 1920, at the University of California Hospital, I inserted eight tubes of radium emanations, representing 10 millicuries, in the case of a patient with an extreme degree of hyperthyroidism with exophthalmos. Since then I have employed a similar procedure in ten other cases. With the advice of Dr. L. R. Taussig, the dosage of emanation has been reduced to 6 or 7 millicuries and is contained in about six minute capillary tubes.

The technic is simple. Under local anesthesia, a spinal puncture needle of small caliber, with an emanation tube loaded in the hollow needle, is introduced into the thyroid. The tube is pushed out of the needle by an obturator slightly longer than the hollow needle. This procedure is repeated until all the tubes containing radium are deposited in various parts of the thyroid gland. The emanations thus act from within the goiter and tend to inactivate it and prepare the patient for operative treatment should it be deemed advisable.

It is not expected that this form of radium treatment will supplant ligations, but I believe it offers a lessened risk. Of the eleven patients, four were considered sufficiently improved, after the lapse of from four to ten weeks, for partial lobectomies. One patient died of acute hyperthyroidism following a partial bilateral lobectomy. The other seven patients are still under observation and have shown improvement.

A further detailed report will be made when sufficient time has elapsed to justify definite conclusions.

240 Stockton Street.

UNDESCENDED CECUM AND VERMIFORM APPENDIX *

REPORT OF CASES

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OMAHA

CASE 1.—Early in the spring of 1888, I was called to attend a rather corpulent woman, aged 45, who had suffered for three days from a severe pain in the right abdomen, which was ushered in by vomiting, followed by a severe periumbilicar pain which, in the course of five or six hours, shifted to the right abdomen, extending from the groin to the costal arch, when the initial vomiting and nausea subsided. Active attempts at catharsis, both with purgatives and with enemas, had been negative. Hot stupes and other abdominal applications had failed to give relief. As the patient lay in bed she moaned more or less constantly with pain, which she located in the entire right abdomen, chiefly in the right hypochondrium. Her knees were drawn up and her shoulders were bolstered up high with an evident attempt to relax the abdominal muscles. There was shallow breathing, a rapid and hard pulse (130), and a temperature of 103 F. On palpation, the left abdomen, although distended, was not hard or tender; but the right abdominal musculature was hard, stiff and tender, the latter increased in intensity from the right iliac fossa upward and reaching its maximum at the costal margin. The McBurney and Morris points had not, at that time, attained their diagnostic importance, nor did the differential leukocyte count enter into consideration; but the intense muscular rigidity at the extreme point of tenderness definitely located a lesion. This, together with an elevated temperature, increased pulse rate and obstinate obstipation, seemed to point to an acute inflammatory process which was apparently due to an infection of the gallbladder or a duodenal perforation or an acute angulation.

The condition appeared grave and the clinical picture seemed to indicate immediate surgical interference. However, the patient and her husband promptly rejected all operative procedures. The patient grew rapidly worse, and died two days later. Strange as it may seem, the husband, who had become almost abusive when an operation was suggested, readily consented to a postmortem examination.

The necropsy findings were startling in view of our knowledge at that time of acute diseases of the abdomen. After the abdominal viscera had been exposed, the pelvis, particularly on its right side, failed to disclose a definite pathologic condition except a generalized peritonitis. In our search upward, however, we noticed an absence of the cecum in its usual location; as we proceeded upward, very extensive adhesions were encountered in the right hypochondrium; breaking through these, a large, fetid abscess containing 5 or 6 ounces of pus was opened. The cavity extended high up under the liver, which formed its upper and outer wall; on its inner side it was limited by the duodenum, and its base was composed of the cecum and omentum; in the cavity itself, reaching with its tip to the cystic duct, lay concealed the gangrenous appendix.

CASE 2.—In August, 1888, the same year in which the foregoing observation was made, I was called to the bedside of a farmer, aged about 40, who had been ill one week with pain in the right abdomen. He stated that about a week previously he had a sudden attack of vomiting and experienced a severe periumbilicar pain which lasted about twenty-four hours; then a pain developed in the right iliac fossa and extended upward to the right costal margin, where it had become most severe but continued in the entire right side. He had had more or less fever and no bowel movements after the third day from the onset.

The patient was rather fleshy but rugged; the abdomen was distended; his knees were drawn up, and there was rapid, shallow respiration and severe, rightsided abdominal pain. Tenderness in the right iliac fossa was moderate, but most intense in the right hypochondrium, where a decided mass was palpable. There was no marked gastric disturbance. The localized tender mass was thought to be an acutely infected gallbladder. The distress was so great that the patient readily yielded to operation. Accordingly, preparations were made and he was operated on while lying in bed.

A high right rectus incision led into a large abscess containing much fetid pus, which was mopped out with swabs. An exploration with a finger brought to the surface a rather long and partly necrosed and perforated appendix, which was removed, the cecum coming into plain view, and it seemed to form the lower wall of the abscess. The duodenum, liver and omentum made up the lateral walls. A drainage tube and closure of the wound completed the operation. Recovery was somewhat tedious but complete, leaving, however, a postoperative hernia which was repaired later.

COMMENT

These cases are being recorded at this late date in order to present a type of appendicitis that in no way differs, so far as the manner of infection and the pathology of a diseased normally located appendix is concerned, but on account of the unusual seat of the disease. However, later experience has shown that it is so frequent that we must ever bear in mind that every operator may encounter the misplaced appendix.

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* From the Department of Surgery, University of California.
* Read before the Nebraska State Medical Association, May 12, 1921, Lincoln, Neb.

Since the observation of the foregoing cases, others in the same locality, both suppurative and nonsuppurative, have come to operation and often have presented not only difficult diagnostic problems but also severe technical difficulties. However, the chief point of interest rested in the high location of the affected organs. A careful study of the first case demonstrated the fact that there seemed to be an absence of a descending colon. The transverse colon apparently ended in a cecum lying immediately beneath the right lobe of the liver. It immediately became evident that the cecum had ceased to complete its descent by having been arrested in its process of rotation.

We find that, in early intra-uterine life, the small and large intestines are attached to the dorsal abdominal wall by a common mesentery; the coils of the small intestine fall to the right side, while the large intestine lies on the left. The colon then becomes rotated upon itself, so that the large intestine is carried over the front of the small intestine, and the cecum is placed immediately below the liver. At about the sixth month the cecum descends into the right iliac fossa and the large intestine now forms an arch consisting of the ascending, transverse and descending portions of the colon, the transverse portion crossing in front of the duodenum and lying just below the greater curvature of the stomach. It now becomes clear that in our case the process of rotation ceased at the fifth month of embryonic life at a time when the cecum arrived at a point immediately beneath the liver; consequently, the unusual location of the diseased appendix was not a case of an appendix trying to hide itself, like a kicked cur, but we found it an inhabitant of a location not designed for it: it had never reached the site of the residence normally preempted for it. We may designate such a condition as an undescended appendix or an incompletely rotated colon. As an expression of convenience for our purpose, we may use the term undescended vermiform appendix.

Puzzling as these first cases appeared, they became clear when viewed in the light of their arrested embryologic development. I was soon convinced that the cecum and its appendage were not drawn upward when an infection took possession, but the usual pathologic changes ensued in the same manner as when those organs occupied their normal residence.

We must not forget that there are often cases in which we encounter highly located appendical abscesses that bear no relation to the foregoing cases. We may have, with a normally located cecum, abscesses close up under the kidney that have their origin in the appendix that has been turned upward by early adhesive inflammatory action, or cases in which the tip of an appendix may have been arrested in its descent. In other cases an appendix may be retrocecal, with an upwardly burrowing abscess. In such instances there has been no arrest in developement or rotation of the colon and cecum. In my opinion, infected cases of undescended appendix, while rare, are sufficiently frequent to deserve a special subdivision in the general chapter of appendicitis, and I am sure that it will be of interest to cite a few personal experiences that will bear out the aforesaid views relating to cases resting on a congenital defect.

My experience has not shown that an undescended appendix is no more liable to infection than one in its normal location; but there is no doubt that it is relatively just as frequent.

I have not encountered a sufficient number of cases to make a classification of the varieties that may occur, nor can it be stated even approximately how often they are encountered.

My entire service comprises eleven cases, all occurring since the first one in 1888. Four of these belong to the acute suppurative and gangrenous type. The other six cases were of a chronic, nonsuppurative variety. Three of these were found in the gallbladder region and were associated with gallbladder infection. They were embedded in a more or less dense mass of adhesions and, when removed, the cecum formed the lower boundry of the pathologic mass. In two cases the appendix was found in the midline immediately below the border of the stomach where the cecum was isolated. In another case, the appendix and cecum were found under the umbilicus. There was only an indication of a transverse colon. In another case, with all the characteristic subjective symptoms of a chronic recurrent appendicitis, in which the cecum seemed to have an ascending and a short descending colon with a rather acute splenic curve, so that the ascending and descending colon lay side by side like a double barreled shotgun, the small intestines all occupied the right side.

I have encountered appendixes in all localities within a radius between the right kidney and the left ovary, but in all of these, the cecum was found to have descended, in some cases excessively so, and belonged to that class termed by some foreign surgeons cecum mobile. These are not to be considered at this time. In my eleven cases, I was able to demonstrate a congenital defect in an arrest of development. How often this defect occurs is not clear.

As I recall the clinical findings in my cases, a very strange and interesting feature was a point of tenderness in the right iliac fossa in the greater number of them. In my earlier experience, especially the first two, we had not learned about fixed and constant tender points; but in the later cases, a point of tenderness was found near or slightly above the right lumbosacral ganglion, the Morris point, in most instances. Aside from that I usually was able to find more or less definite tenderness over the exact area of the involved parts except in the cases that were found in the upper mid-abdomen. In the latter, the tenderness was only at the right lumbosacral point, and in these instances the usual Kammerer incision was made in the lower right quadrant and extended upward until the appendix was found.

A group of cases perhaps as frequently encountered as those I have considered is that in which, in the presence of an acute cholecystitis, there is associated an acute or chronic appendicitis, the latter process being normally located. The differential diagnostic points may be confusing; often the true condition is not revealed before operation.

On first thought the relation, from a diagnostic point of view, between the seats of referred pain and the usual seat of the disease is difficult to harmonize. But a closer study of the nervous distribution in the abdomen reveals the sympathetic connector fibers of the colon coming through the lower thoracic and upper lumbar segments of the cord. These which supply the cecum, the appendix and the ascending and transverse colon find their motor cells in the superior mesenteric ganglion, while those which supply the descending colon, sigmoid and rectum are in the inferior mesenteric ganglion. Therefore, reflexes from the appendix and

upper part of the colon occur in the intercostal spaces, abdominal region and, at times, the psoas muscles (Pottenger).

Pottenger informs us that "no matter where the appendix lies, whether it be on the left side of the body or in the right side or whether it be high or low in the abdomen, the natural place for the pain is in the right lower quadrant of the abdomen." Experience seems to bear out this view. Right sided muscular rigidity and hyperalgesia through sensory afferent impulses are usually induced in the ganglions that control the cecum when normally located; they may be traced centrally to the lower dorsal segments reflecting efferent stimuli to the abdominal muscles overlying the appendical area, inducing a rigidity in the onset, and depend in their intensity on the severity of the pathologic condition. Aside from the right iliac hyperalgesia, there was a second tender point, in our acute cases, directly over the actual location of the appendix and to a very much lesser degree in the chronic type.

We have learned that when the right subcostal tenderness seems the more severe of the two; the probabilities point to the primary infections being located in the right hypochondrium, which should be the point of operative attack.

512 McCague Building.

THE TOXICITY AND TRYPANOCIDAL ACTIVITY OF SODIUM ARSPHENAMIN *

JAY FRANK SCHAMBERG, M.D.
JOHN A. KOLMER, M.D.
AND
GEORGE W. RAIZISS, PH.D.
PHILADELPHIA

In determining the value of any parasiticidal remedy it is necessary to know the relation of the parasiticide dose to the dose tolerated by the animal. The first requisite of any drug or compound is, of course, that it shall be safe; the second is that it shall accomplish the curative purpose for which it is used, or at any rate approximate such accomplishment.

In parasitic disease in which specific remedies are applied to destroy the micro-organism, the value of the drug is determined by the chemotherapeutic index., i. e., the relation of the curative dose to the maximum tolerated dose. If, for instance, quinin destroyed the malarial parasites only in a dose which would be fatal to the patient, the drug would be useless. It is obvious, too, that if unlimited quantities could be tolerated but were without any effect on the parasites, the drug would likewise possess no value. The greater the latitude between the dosis tolerata and the dosis curativa in favor of the former, the safer and more valuable is the remedy. Arsphenamin and its various substitution products must be examined in this light.

We have recently made studies of sodium arsphenamin, and have compared it with arsphenamin and neo-arsphenamin. We have found that *Trypanosoma equiperdum* (the cause of horse syphilis, or "la dourine") is an admirable test parasite in rats for determining the therapeutic activity.

* From the Dermatological Research Institute.

The toxicity tests were carried out in a series of experiments according to a technic previously described,[1] six rats being used for each compound in each experiment.

In Table 1 it is seen that sodium arsphenamin of Laboratory 1 was on the average tolerated in the dose of 212 mg. per kilogram of body weight, and the sodium arsphenamin of Laboratory 2 in dose 215 mg. The smallest dose capable of sterilizing animals with experimental trypanosomiasis determined by a technic previously described,[2] was on an average of 24 mg. per kilogram for the product of Laboratory 1, and 16 mg. for the product of Laboratory 2.

TABLE 1.—TOXICITY OF SODIUM ARSPHENAMIN

	Experiment								
Laboratory	1	2	3	4	5	6	7	8	Average
1.....	0.250	0.200	0.190	0.210	.....	.....	.....	.....	0.212
2.....	0.230	0.210	0.190	0.200	0.220	0.250	0.220	0.200	0.215

If we divide the tolerated dose by the curative dose, we obtain these therapeutic indexes:

Laboratory 1: Dosis curativa, 24 mg. divided into 212 mg. (tolerated dose)=8.8.

Laboratory 2: Dosis curativa, 16 mg. divided into 215 mg. (tolerated dose)=13.4.

TABLE 2.—TRYPANOCIDAL ACTIVITY OF SODIUM ARSPHENAMIN: SMALLEST AMOUNTS PROVING COMPLETELY TRYPANOCIDAL

			Sodium Arsphenamin			
Test	Arsphenamin	Neo-arsphenamin	Lab. 1	Lab. 1	Lab. 2	Lab. 2
1.....	0.004	0.008	0.020	0.020	0.020	0.010
2.....	0.006	0	0	0.030	0	0
3.....	0.006	0.010	0.030	0.020	0.020	0.015
Average.....	0.0053	0.009	0.025	0.023	0.020	0.013 *

* General average for sodium arsphenamin prepared by Laboratory 1 was 0.024 gm. per kilogram; general average for sodium arsphenamin prepared by Laboratory 2 was 0.016 gm. per kilogram.

At the same time experiments were carried out with arsphenamin and neo-arsphenamin. The tryanocidal values are given in Table 2. It is seen that the average sterilizing dose of arsphenamin was 5.3 mg. per kilogram and the average toxicity in these experiments, 105 milligrams per kilogram.

TABLE 3.—THERAPEUTIC INDEXES

Sodium arsphenamin, Laboratory 1:

$$\frac{\text{Dosis tolerata, 0.212 gm. per kilogram}}{\text{Dosis therapeutica, 0.024 gm. per kilogram}} = 8.8$$

Sodium arsphenamin Laboratory 2:

$$\frac{\text{Dosis tolerata, 0.215 gm. per kilogram}}{\text{Dosis therapeutica, 0.016 gm. per kilogram}} = 13.4$$

Arsphenamin:

$$\frac{\text{Dosis tolerata, 0.105 gm. per kilogram}}{\text{Dosis therapeutica, 0.005 gm. per kilogram}} = 21.0$$

Neo-arsphenamin:

$$\frac{\text{Dosis tolerata, 0.200 gm. per kilogram}}{\text{Dosis therapeutica, 0.009 gm. per kilogram}} = 22.3$$

The average trypanocidal dose of neo-arsphenamin was 9 mg. per kilogram, and the average toxicity was 200 mg. per kilogram.

If we tabulate the therapeutic indexes in their sequential order, we have the therapeutic indexes presented in Table 3.

1. Schamberg, J. F.; Kolmer, J. A., and Raiziss, G. W.: Comparative Studies of the Toxicity of Arsphenamin and Neoarsphenamin, Am. J. M. Sc. **160**: 188 (Aug.) 1920.

2. Schamberg, J. F.; Kolmer, J. A., and Raiziss, G. W.: A Comparative Study of the Trypanocidal Activity of Arsphenamin and Neoarspheramin, Am. J. M. Sc. **160**: 25 (July) 1920.

The significance of these figures cannot be ignored: Sodium arsphenamin is seen to give a therapeutic index considerably inferior to arsphenamin, whereas that of neo-arsphenamin is slightly superior to arsphenamin.

The question might be asked, Why should sodium arsphenamin, which is presumed to be alkalized arsphenamin, be so inferior to the product ordinarily in practice rendered alkaline by the addition of sodium hydroxid solution? As a matter of fact, sodium arsphenamin is not merely an alkalized arsphenamin; in its preparation certain reagents are added which doubtless cause some structural molecular change to the disadvantage of the compound.[3]

The particular arsphenamin and neo-arsphenamin lots used in our experiments did not possess as high a tolerated dose as others with which we have previously experimented. While the toxicity was greater than usual, the trypanocidal or curative dose was likewise so. In this connection, we would say that a just estimate of the value of compounds of this character can be arrived at only by a simultaneous study of the toxic and curative dose. We are convinced that great fluctuations in these figures take place, more particularly with the substitution derivatives, neo-arsphenamin and sodium arsphenamin, than with arsphenamin itself. If space permitted, we could readily indicate the biochemical reasons for these variations, but these will be dealt with in another communication.[4]

It follows from the foregoing that a neo-arsphenamin or sodium arsphenamin of low toxicity may be, taken all in all, inferior in quality and value to a product of higher toxicity. The true gage is the therapeutic index. To be sure, for purposes of governmental supervision, toxicity standards must be adopted; the work done by Dr. George W. McCoy and his associates in the U. S. Public Health Laboratories in this connection is deserving of great praise. It would appear, however, that the whole subject might, with advantage, be restudied in reference to the chemotherapeutic indexes of the various compounds advocated in the treatment of syphilis.

SUMMARY

1. The highest tolerated dose of sodium arsphenamin for white rats by intravenous injection was found to be from 212 to 215 mg. per kilogram of weight. The average tolerated dose of arsphenamin was 105 mg., and of neo-arsphenamin, 200 mg. per kilogram.

2. The smallest trypanocidal doses of sodium arsphenamin varied from 16 to 24 mg. per kilogram of weight; the smallest trypanocidal dose of arsphenamin was 5 mg., and of neo-arsphenamin, 9 mg. per kilogram.

3. The therapeutic dose (dosis curativa) of sodium arsphenamin was from eight to thirteen times less than the highest tolerated dose (dosis tolerata) which expresses the therapeutic index of this compound. The therapeutic dose of arsphenamin was twenty-one times less than the tolerated dose, and the therapeutic dose of neo-arsphenamin was twenty-two times less.

4. Therefore, while sodium arsphenamin possesses the low toxicity of neo-arsphenamin, it is much inferior to both arsphenamin and neo-arsphenamin in trypanocidal or curative activity.

5. The true gage of a remedy is expressed by its chemotherapeutic index, i. e., the relation of the curative to the toxic doses.

3. Arsphenamin is the dihydrochloride of the 3,3¹diamino, 4,4¹-dihydroxy-arsenobenzene, and is of relatively constant, practically theoretical chemical composition. The pure disodium salt should contain 36.6 per cent. arsenic, 6.83 per cent. nitrogen and 11.22 per cent. sodium. A thorough analysis of a sample from Laboratory 1 shows the following results: arsenic, 18.62 per cent.; nitrogen, 3.50 per cent.; sodium, 4.14 per cent.; carbon, 19.0 per cent.; chlorin, 8.82 per cent., and sulphur, 6.59 per cent. These results suggest the presence of about 49.3 per cent. organic arsenical substance, 14.5 per cent. sodium chlorid, 20.9 per cent. sodium sulphate and 7.3 per cent. sodium sulphite. A sample from Laboratory 2 contains sodium chlorid and sodium sulphate in smaller quantities, but in addition, there is present uncombined sodium formaldehyd sulphoxylate.

4. Schamberg, J. F.; Raiziss, G. W., and Kolmer, J. A.: The Significance of the Amino Group in the Chemotherapy of Arsenical Compounds (to be published).

A NONTECHNICAL COURSE IN "ANATOMY AND PHYSIOLOGY OF DISEASE"

FOR UNDERGRADUATE COLLEGE STUDENTS

W. H. MANWARING, M.D.
Professor of Bacteriology and Experimental Pathology, Leland Stanford Junior University School of Medicine
STANFORD UNIVERSITY, CALIF.

To assist in the local educational campaign against Christian scientists, chiropractors and related philosophers, the Department of Bacteriology and Experimental Pathology of Stanford University has recently developed two elementary nontechnical courses for undergraduate college students. The first course, "Hygiene of the Infectious Diseases," deals with the elementary concepts of pathologic bacteriology, with special reference to their application in the prevention and control of infectious diseases. This course is similar to nontechnical courses in elementary hygiene in other universities.

The second course, "Anatomy and Physiology of Disease," is a type of course we believe has not yet been attempted in other colleges. The course aims to give the fundamental concepts of pathologic anatomy and pathologic physiology, in simple terms, easily understood by the average undergraduate college student. The course as at present given consists of twelve lecture-demonstrations, dealing with the following topics:

1. INTRODUCTION.—Nature and object of the course; hygienic importance of adequate popular knowledge of the nature of disease; disease defined.

2. ILLUSTRATIVE TYPES OF DISEASE.—(*a*) *Diseases of the External Surface of the Body.*—(i) Congenital defects, developmental anomalies. (ii) Diseases due to loss, death or destruction of tissue. (iii) Diseases due to shrinkage, atrophy or senile changes in tissues. (iv) Diseases due to overgrowth and hypertrophy of tissues. (v) Diseases due to increased fluid or exudate in tissues. (vi) Diseases due to abnormal functional activity of tissues.

3. (*b*) *Diseases of the Circulatory System.*—Subdivisions as in *a*.

4. (*c*) *Diseases of the Respiratory System.*—Subdivisions as in *a*.

5. (*d*) *Diseases of the Digestive System.*—Subdivisions as in *a*.

6. (*e*) *Diseases of the Nervous System.*—Subdivisions as in *a*.

7. THE DIAGNOSIS OF DISEASE.—(i) Illustrative methods. (ii) Difficulties. (iii) Success and failure in diagnosis as shown by necropsy records. (iv) Accuracy of lay diagnoses.

8. CURATIVE FORCES AND MECHANISM OF THE BODY.—(i) Forces and mechanisms tending to remove, neutralize or otherwise render the injurious agent inoperative. (ii) Forces and mechanisms tending to repair, replace or compensate for

tissue injury. (iii) End-results of curative and reparative processes, percentage of spontaneous cures (statistical), etc.

9. SCIENTIFIC TREATMENT OF DISEASE.—(i) Illustrative physiologic actions of therapeutic agents. (ii) Illustrative applications to treatment of disease. (iii) Results of rational treatment (statistical).

10. POPULAR REMEDIES, "PATENT MEDICINES," ETC.—(i) Illustrative types of popular remedies, dangers from self-treatment, etc. (ii) Illustrative examples of "patent medicines," methods of commercial exploitation, results of treatment, dangers, laws governing, etc.

11. IRREGULAR PRACTITIONERS.—(i) Advertising specialists. (ii) Osteopaths, chiropractors, etc. (iii) Religiotherapy. (iv) Laws governing.

12. MEDICAL EDUCATION, MEDICAL RESEARCH.—(i) Methods, aims, curriculum, etc. (ii) Laws governing. (iii) Unsolved problems in research.

The reception of this course by our students, and the reactions to the course by various members of our community, have led us to believe that popular courses of this particular type would be the most effective means of checking fad movements.

Clinical Notes, Suggestions, and New Instruments

RUPTURE OF THE TENDON OF INSERTION OF THE BICEPS FLEXOR CUBITI *

JOHN JOSEPH NUTT, M.D., NEW YORK

J. T. S., referred to me, March 30, 1920, by Dr. W. D. Robertson of Mount Vernon, N. Y., while exercising at the New York Athletic Club the night before felt something give in the upper arm as he was swinging from ring to ring. He put his hand over the arm, but felt no pain or weakness. On trying other apparatus—wall weights, punching bag, etc.—he felt nothing wrong. He ran around the track, rested and returned home. During the night he felt slight twinges several times, and in the morning noticed that the shape of the right arm was different from that of the left.

Examination revealed the bulging of the biceps, in flexion of the elbow, 1½ inches higher on the right than on the left. The circumference over the greatest enlargement of the arm was: right, 12¾; left, 12⅛ inches. Power of flexion was less in the right than in the left arm. Rupture of the distal tendon of the biceps was diagnosed.

Operation was performed, March 31, with the assistance of Drs. Howard Urquhart and F. J. Matthews. The distal tendon of the biceps was found ruptured close to the bicipital tuberosity. The proximal end lay like a snake, or in the position a taut rope would take if cut under tension, in the upper half of the arm. The distal end of the tendon that could be recovered was a piece about 1½ inches long and only of the size at its thickest portion of number 12 or 14 silk. A small piece of bone on the proximal end of the tendon confirmed a diagnosis of partial evulsion with rupture. This small piece of tendon was wrapped with the proximal end and sutured with chromicized catgut. The arm was put up, with the biceps relaxed, in plaster of Paris.

May 13, the plaster was removed: voluntary contraction of the biceps plainly showed attachment to the radius. A right-angle splint was applied. Great care from now on was taken at the dressings so that no re-rupture should occur.

May 27, the new tendon showed its narrowest part to be at the center. Apparently the growth of tendon was taking place from both the muscle and the bone. From now on the patient was allowed to use the arm without protection, but was instructed against violent exercise for at least a month.

Three months after the operation the tendon had apparently gained its normal dimensions and strength.

A search of the literature discloses sixty-five cases reported of rupture of the biceps: seventeen of the tendon, forty-four of the muscle, and six of the junction of the tendon and muscle. Operation was performed in only six cases, two being of the tendon of insertion.

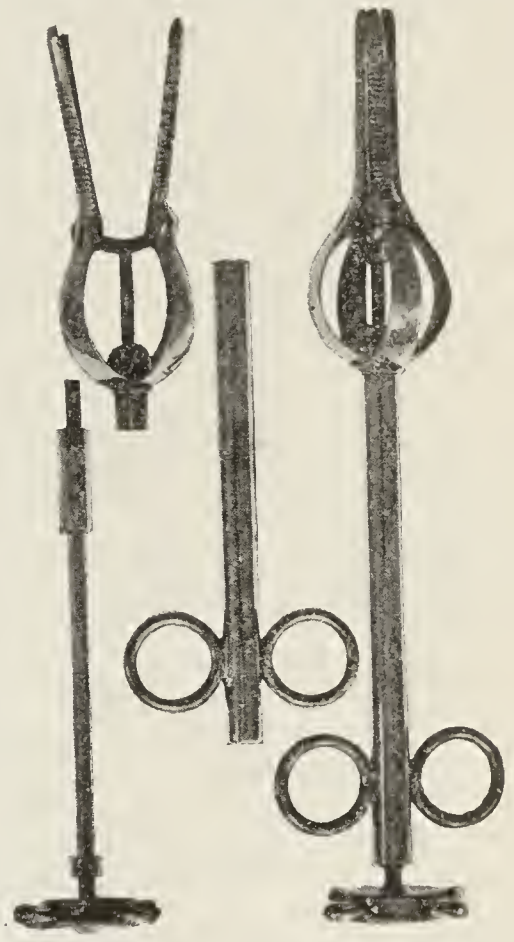
Fifty-Fifth Street and Seventh Avenue.

* Read before the Society of the Alumni of Bellevue Hospital, May 4, 1921, with presentation of the patient.

A NEW MODEL OF THE METRANOIKTER, DESIGNED TO FACILITATE ITS INSERTION AND REMOVAL

JOHN COOKE HIRST, M.D., AND W. W. VAN DOLSEN, M.D.
Associate in Obstetrics, University of Pennsylvania, and Assistant Obstetrician, St. Agnes Hospital, Respectively
PHILADELPHIA

Those who perform the operation of dilatation and curettage for the relief of dysmenorrhea or sterility are familiar with the difficulty in maintaining adequate, permanent dilatation of the cervix. Many appliances have been devised to overcome this difficulty, chief among which is the metranoikter, or spring dilator, devised by Schatz in 1900. This instrument is free from many of the objections to other methods, as it remains in place for only twenty-four hours, during which time the heavy spring maintains a powerful and constant dilating pressure. It is then removed and the uterus washed out, so that the risk of pelvic infection, salpingitis or cellulitis is reduced to a minimum. It has the disadvantage that it is often difficult and very painful to remove, when used in patients in whom the vaginal outlet is very narrow. It is, of course, primarily in these cases that the instrument is most often indicated, and therefore the difficulty of removal becomes a problem in almost every case in which it is used. The original Schatz instrument was modified by Dr. Barton C. Hirst from a two-bladed to the much more efficient four-bladed instrument now in common use, and it is for this modified metranoikter that the improvement here reported was devised.



Component parts of improved metranoikter, and instrument assembled and closed.

The improved handle for introduction and removal was designed by Dr. Van Dolsen, and in a rather extended experience has proved most satisfactory and efficient.

It consists of a central sheath through which runs a shaft with a rapid pitch screw thread on one end and a wheel on the other. The end of the sheath fits tightly on a projecting shank at the junction of the springs of the instrument and the screw end of the shaft into an opening in this projection, threaded to receive it. By simply turning the screw to the right or left the blades of the metranoikter are closed or opened with the utmost ease and dispatch.

After a wide dilatation of the cervix by the ordinary branched dilators, the uterus is thoroughly irrigated with compound solution of cresol, 1 dram to 4 pints, and the metranoikter, with the blades tightly closed, is inserted as far as it will go in the uterine canal, and the whole instrument, spring and all, is pushed into the vagina. The blades are then opened as widely as the constricting ring of cervical muscle will permit, and the double tenaculum in the anterior lip of the cervix is removed. By using the handle of the instrument

as a lever, the insertion of packing under and around the spring is greatly facilitated. This packing prevents bruising of the vaginal walls by the springs, and helps to keep the instrument from slipping out of place. After the packing is satisfactorily placed, the handle is then completely removed. After twenty-four hours the patient is arranged in the dorsal position, and the vaginal packing removed. The sheath of the handle is fitted over the square projection and held in place. The shaft is then inserted and the threaded end engaged. By a few turns of the handle to the right, the blades are rapidly and completely closed and the instrument is removed with the utmost ease, causing the patient no, or at the most a negligible, discomfort. After the metranoikter is removed, the uterus is at once washed out, through a Bozeman or similar intra-uterine douche nozzle, with compound solution of cresol. This precaution should never be neglected.

In our experience, this attachment of a suitable handle has done away with the only valid objection to the metranoikter, that of difficult or painful removal.

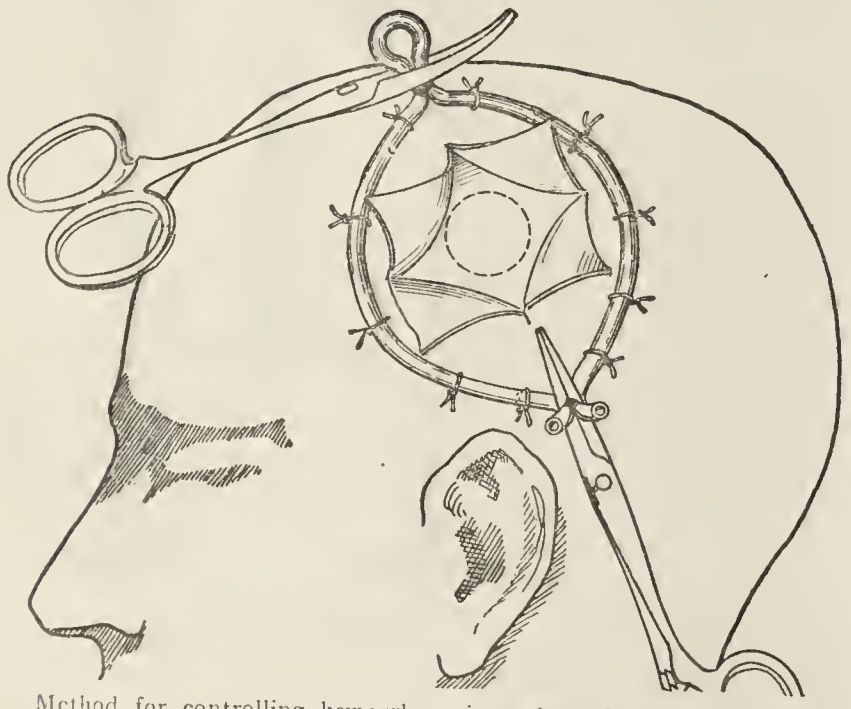
The accompanying illustrations show clearly the construction and operation of the instrument.

1823 Pine Street—7240 Germantown Avenue.

CONTROL OF HEMORRHAGE IN SCALP AND CRANIAL SURGERY

THOMAS E. SOULES, M.D., BUFFALO

The accompanying diagram gives a general idea of the method. Three-eighths inch pure rubber tubing is used. Silkworm-gut sutures on full curved needles are passed down to



Method for controlling hemorrhage in scalp and cranial surgery.

the bone, brought out and tied rather loosely over the tube at from 2 to 2½ inch intervals, as shown. The tubing is then drawn from opposite points in the circle and slipped through all the loops until pressure is sufficient to stop all bleeding. The pressure required can be adjusted after incision has been made and the clamps attached, as shown. The area "blanched" may be made of any desired size and located on any portion of the cranial sphere.

55 Allen Street.

QUICK METHOD OF DRYING PIPETS

HORACE GRAY, M.D., BOSTON

The usual method of drying blood counting (diluting) pipets, and even larger pipets, seems to be by drawing in and expelling in turn water, alcohol and ether, and finally by sucking air through. This method consumes, beside the alcohol and ether, a discouraging amount of effort, patience and time.

The two simple methods which follow have probably been used and possibly published by others. But since no such report was noticed in the course of an extensive study of the literature of blood counting methods,[1] and since these two methods have proved so useful, they seem worth this short note.

METHOD FOR SINGLE PIPET

A rubber bulb of from 60 to 100 c.c. capacity, that is, from 5 to 6 cm. across by 7 to 8 cm. in length, with an automatic inlet valve at one end and at the other a bit of rubber tubing, is obtained, for example, from an atomizer. Into this tubing (lumen about 5 mm. diameter) is inserted the larger end of a tapering glass tube such as that taken from a medicine dropper. Over the other or smaller end is slipped the rubber tubing (about 3 mm. bore) of the blood pipet, or rather more conveniently a 20 cm. length of tubing only 1 to 2 mm. in internal width, which is less likely to be blown off.

The residual blood is emptied with one squeeze of the bulb; then a finger of the free hand is put over the valve, and the pipet is dipped under water and allowed to fill. The finger is removed, thus relieving the suction, just before the water enters the narrow tubing. A second squeeze of the bulb expels the water. Then with one hand passing the pipet to and fro above not too hot a flame (say about a hand's breadth above a Bunsen burner with the sleeve turned to exclude the air draft and make the flame yellow), six more squeezes of the bulb will dry a counting pipet completely, as recognized by watching the vanishing of the wet spots left by the glass fragment as it is tumbled about.

METHOD FOR MULTIPLE PIPETS

George R. Minot has suggested that when air suction is available, twenty or even more pipets may be as rapidly dried as one. To the suction tube is attached a set of branches similar to the multiple teaching stethoscope of R. C. Cabot, and to these are fitted the pipets. They are laid on a piece of asbestos board, the suction pump is started, and the Bunsen burner with the flame made yellow is taken in hand, inverted, and played over the pipets, not too enthusiastically.

32 The Fenway.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

MIXED BACTERIAL VACCINES (See New and Nonofficial Remedies, 1921, p. 314).

The Gilliland Laboratories, Ambler, Pa.

Acne Mixed Vaccine.—A suspension of *B. acni vulgaris, Staphylococcus albus* and *Staphylococcus aureus* in equal proportions, in physiological solution of sodium chloride, preserved with 0.25 per cent. tricresol. Marketed in packages of four 1 Cc. vials containing, respectively, 250, 500, 1,000 and 2,000 million killed bacteria; also in packages of four syringes containing, respectively, 250, 500, 1,000 and 2,000 million killed bacteria.

SUPRARENALIN (See THE JOURNAL, May 14, 1921, p. 1353).

The following dosage forms have been accepted:

Suprarenalin: vials containing suprarenalin, 1 grain.

Suprarenalin Ointment: 0.1 per cent. suprarenalin suspended in a petrolatum base.

CHOLERA VACCINE (See New and Nonofficial Remedies, 1921, p. 299).

Lederle Antitoxin Laboratories, New York.

Cholera Vaccine (Prophylactic).—Marketed in packages of two 1 Cc. vials containing, respectively, 4,000 and 8,000 million killed cholera vibrios; also in packages of two 10 Cc. vials containing, respectively, 4,000 and 8,000 million killed cholera vibrios per Cc.

PLAGUE BACILLUS VACCINE (See New and Nonofficial Remedies, 1921, p. 304).

Lederle Antitoxin Laboratories, New York.

Plague Vaccine (Prophylactic).—Marketed in 1 Cc. vials containing 5,000 million killed plague bacilli; also in 10 Cc. vials containing 5,000 million killed plague bacilli per Cc.

1. Gray, Horace: Cell Counting Technic, Am. J. M. Sc., to be published.

PROCEEDINGS OF THE BOSTON SESSION

MINUTES OF THE SEVENTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT BOSTON, JUNE 6-10, 1921

(Concluded from page 1767)

MINUTES OF THE SECTIONS

SECTION ON PRACTICE OF MEDICINE

WEDNESDAY, JUNE 8—MORNING

The meeting was called to order at 9:10 by the chairman, Dr. Henry S. Plummer, Rochester, Minn.

Dr. David Bovaird, New York, read a paper on "Tropical Sprue." Discussed by Drs. Joseph H. Pratt, Boston; Thomas R. Brown, Baltimore; Frederick S. De Lue, Boston, and David Bovaird, New York.

Drs. Joseph E. Moore and Albert Keidel, Baltimore, presented a paper on "Studies in Familial Neurosyphilis." Discussed by Drs. Harry C. Solomon, Boston; John H. Stokes, Rochester, Minn., and Wade H. Brown, New York.

Dr. H. Rawle Geyelin, New York, read a paper on "Fasting as a Method for Treating Epilepsy." Discussed by Drs. Stanley Cobb, Boston; Tom A. Williams, Washington, D. C.; Frederick S. De Lue, Boston, and H. Rawle Geyelin, New York.

Dr. Philip H. Pierson, San Francisco, read a paper on "Sulphur Dioxid in the Treatment of Experimental Tuberculosis." Discussed by Drs. Magnus B. Halldorson, Winnipeg, Manitoba; L. F. Kebler, Washington, D. C., and Philip H. Pierson, San Francisco.

Dr. Francis M. Pottenger, Monrovia, Calif., read a paper on "The Importance of the Study of Symptoms, with a Discussion of Mackenzie's Law Governing Their Causation." No discussion.

Dr. Marion A. Blankenhorn, Cleveland, read a paper on "An Automatic Method for Serial Blood Pressure Observations in Man." Discussed by Drs. Paul D. White, Boston, and Henry S. Plummer, Rochester, Minn.

THURSDAY, JUNE 9—MORNING

A joint meeting was held with the Sections on Pharmacology and Therapeutics and on Pathology and Physiology.

The meeting was called to order at 9:15 o'clock by the chairman of the Section on Practice of Medicine, Dr. Henry S. Plummer, Rochester, Minn.

Dr. Henry S. Plummer, Rochester, Minn., read the address of the chairman of the Section on Practice of Medicine.

The following papers were read as a symposium on "Basal Metabolism in Clinical Medicine":

Dr. Graham Lusk, New York: "Fundamental Ideas Regarding Basal Metabolism."

Dr. Francis G. Benedict, Boston: "The Measurement and Standards of Basal Metabolism."

Dr. Walter M. Boothby, Rochester, Minn.: "The Basal Metabolic Rates in Hyperthyroidism."

Dr. James H. Means, Boston: "The Determination of the Basal Metabolism as an Aid to Diagnosis and as a Guide to Treatment in Various Diseases."

Dr. Eugene F. Du Bois, New York: "The Basal Metabolism of Fever."

These five papers were discussed by Drs. George W. Crile, Cleveland; Charles H. Mayo, Rochester, Minn.; Joseph C. Aub, Boston; Fritz Talbot, Boston; Graham Lusk, New York; Francis G. Benedict, Boston; Walter M. Boothby, Rochester, Minn.; James H. Means, Boston; Eugene F. Du Bois, New York; J. Earl Else, Portland, Ore.; Albert E. Roussel, Philadelphia, and Henry S. Plummer, Rochester, Minn.

FRIDAY, JUNE 10—MORNING

The meeting was called to order at 9:10 by the chairman.

The following officers were elected: chairman, Dr. Lewellys F. Barker, Baltimore; vice chairman, Dr. Willard J. Stone, Pasadena, Calif.; secretary, Dr. Nellis B. Foster, New York; delegate, Dr. Walter L. Bierring, Des Moines, Iowa; alternate, Dr. Bryce W. Fontaine, Memphis, Tenn.

Dr. Henry I. Wiel, San Francisco, read a paper on "Truer Standards in the Diagnosis of Heart Failure: A Hitherto Unemphasized Form of Arrhythmia." Discussed by Drs. Paul D. White, Boston; William D. Reid, Boston; Henry S. Plummer, Rochester, Minn., and Henry I. Wiel, San Francisco.

Dr. S. Calvin Smith, Philadelphia, read a paper on "Observations on the heart in Diphtheria." Discussed by Drs. Edwin H. Place, Boston; Alexander Lambert, New York; M. H. Fussell, Philadelphia; Paul D. White, Boston; John H. Blodgett, Bellows Falls, Vt.; Leon Bloch, Chicago, and S. Calvin Smith, Philadelphia.

Dr. Theodore B. Barringer, New York, read a paper on "Principles Underlying Treatment of Heart Disease by Exercise." Discussed by Drs. Alexander Lambert, New York; M. H. Fussell, Philadelphia; William D. Reid, Boston; R. H. Babcock, Chicago; Paul D. White, Boston; Philip Marvel, Atlantic City, N. J.; C. E. Edson, Denver; J. G. Smith, New York, and Theodore B. Barringer, New York.

Dr. Walter L. Bierring, Des Moines, Iowa, read a paper on "Intermittent Hydrarthrosis." Discussed by Drs. Ralph Pemberton, Philadelphia; E. C. Rosenow, Rochester, Minn.; Joseph Rosenthal, Brooklyn, and Walter L. Bierring, Des Moines, Iowa.

Dr. Charles P. Emerson, Indianapolis, read a paper on "The Acute Element in Chronic Nephropathies." Discussed by Drs. Channing Frothingham, Boston; E. C. Rosenow, Rochester, Minn., and Charles P. Emerson, Indianapolis.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. George P. Muller, Philadelphia.

Dr. John F. Connors, New York, read a paper on "The Treatment of Arteriovenous Aneurysm."

Dr. J. Shelton Horsley, Richmond, Va., read a paper on "Notes on Suturing Blood Vessels, with Report of a Sutured Brachial Artery."

These two papers were discussed by Drs. Rudolph Matas, New Orleans; Henry O. Marcy, Boston; Willy Meyer, New York; Harry G. Sloan, Cleveland; John F. Connors, New York, and J. Shelton Horsley, Richmond, Va.

Dr. Bertram M. Bernheim, Baltimore, read a paper on "Possible Differentiation of Cases for Whole Blood Transfusion and Citrated Blood Transfusion." Discussed by Drs. Harry G. Sloan, Cleveland; Beth Vincent, Boston; George P. Muller, Philadelphia; Richard Lewisohn, New York; Arthur R. Kimpton, Boston; J. Shelton Horsley, Richmond, Va., and Bertram M. Bernheim, Baltimore.

Drs. Walter H. Taylor and Norman B. Taylor, Toronto, presented a paper on "Tidal Irrigation of Wounds by Means of Liquid Tight Closure, with Special Reference to the Treatment of Empyema of the Thorax."

Dr. Walter Griess, Cincinnati, read a paper on "Some of the Effects of Solutions on Wounds and Their Practical Applications."

These two papers were discussed by Drs. Gordon G. Copeland; Toronto; Walter H. Taylor, Toronto, and Walter Griess, Cincinnati.

Dr. J. Earl Else, Portland, Ore., read a paper on "The Value to the Surgeon of the Basal Metabolic Rate in Toxic Goiter." Discussed by Drs. Frank H. Lahey, Boston; Emil Goetsch, Brooklyn; Walter M. Boothby, Rochester, Minn., and J. Earl Else, Portland, Ore.

Dr. William J. Cassidy, Detroit, read a paper on "Observations On and Indications For the Treatment of Cranial Injuries." Discussed by Drs. Ernest Sachs, St. Louis; John O. Bower, Philadelphia; Cassius C. Rogers, Chicago, and William J. Cassidy, Detroit.

Dr. Charles H. Mayo, Rochester, Minn., read a paper on "Carcinoma Developing on Gastric Ulcer." No discussion.

THURSDAY, JUNE 9—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

Dr. George P. Muller, Philadelphia, read the chairman's address.

Dr. Artemas I. MacKinnon, Lincoln, Neb., read a paper on "High Jejunostomy as a Preventive of Postoperative, and in the Treatment of Acute Ileus." Discussed by Drs. Angus McLean, Detroit, and Artemas I. MacKinnon, Lincoln, Neb.

Dr. John B. Deaver, Philadelphia, read a paper on "Prepancreatic and Peripancreatic Disease."

Dr. E. Starr Judd, Rochester, Minn., read a paper on "The Relation of the Liver and Pancreas to Gallbladder Infections."

These two papers were discussed by Dr. A. J. Ochsner, Chicago.

Dr. Ross G. Loop, Elmira, N. Y., read a paper on "Mesenteric Vascular Occlusion." Discussed by Drs. George M. Sheahan, Quincy, Mass.; W. D. Johnson, Batavia, N. Y.; J. L. Bliss, Holyoke, Mass., and Ross G. Loop, Elmira, N. Y.

Dr. E. Wyllys Andrews, Chicago, read a paper on "Diverticula of the Duodenum." Discussed by Drs. Harry P. Ritchie, St. Paul; J. T. Case, Battle Creek, Mich., and J. J. Gilbride, Philadelphia.

Dr. Emil Novak, Baltimore, read a paper on "Acute Postoperative Dilatation of the Stomach." Discussed by Drs. Fenton B. Turck, New York; A. J. Ochsner, Chicago; P. B. Salatich, New Orleans, and Emil Novak, Baltimore.

Dr. Richard Lewisohn, New York, read a paper on "Gastrojejunal Ulcers." Discussed by Drs. Eugene H. Pool, New York; J. Shelton Horsley, Richmond, Va.; M. Behrend, Philadelphia, Pa., and F. B. Turck, New York.

FRIDAY, JUNE 10—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

The following officers were elected: chairman, Wallace I. Terry, San Francisco; vice chairman, Daniel F. Jones, Boston; secretary, Urban Maes, New Orleans; delegate, Hugh H. Trout, Roanoke, Va.; alternate, Fred W. Bailey, St. Louis; nominees for board of governors of the American College of Surgeons, A. C. Scott, Temple, Texas; A. W. Elting, Albany, N. Y., and R. E. Smith, Los Angeles.

Dr. Edward W. Peterson, New York, read a paper on "Intussusception." Discussed by Drs. Charles Gordon Heyd, New York; T. J. Sullivan, Chicago, and Edward W. Peterson, New York.

Dr. Charles H. Frazier, Philadelphia, read a paper on "The Surgery of the Trigeminal Nerve." Discussed by Dr. Gilbert Horrax, Boston.

Dr. Jacob R. Buchbinder, Chicago, read a paper on "The Omission of Drainage Following Cholecystectomy." Discussed by Drs. John L. Yates, Milwaukee; John T. Bottomley, Boston; Edwin Beer, New York; J. C. Bloodgood, Baltimore, and Jacob R. Buchbinder, Chicago.

Dr. Vilray Papin Blair, St. Louis, read a paper on "Nose Plastics." Discussed by Drs. Ferris N. Smith, Grand Rapids, Mich.; Robert H. Ivy, Philadelphia; J. Shelton Horsley, Richmond, Va., and Vilray Papin Blair, St. Louis.

Dr. Douglas Quick, New York, read a paper on "Certain Conservative Considerations in the Treatment of Cervical Lymphatic Metastases of Epidermoid Carcinoma." Discussed by Drs. Robert B. Greenough, Boston; V. P. Blair, St. Louis; J. C. Bloodgood, Baltimore, and Douglas Quick, New York.

Dr. Alson R. Kilgore, San Francisco, read a paper on "Incidence of Cancer in the Remaining Breast After Radical Operation on One Breast." Discussed by Drs. J. C. Bloodgood, Baltimore; Robert H. Greenough, Boston; M. Ruben, Stockholm, Sweden, and Alson R. Kilgore, San Francisco.

Dr. Charles D. Lockwood, Pasadena, Calif., read a paper on "Tumors of the Pancreas." Discussed by Dr. John J. Gilbride, Philadelphia, and Charles D. Lockwood, Pasadena, Calif.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

WEDNESDAY, JUNE 8.—MORNING

The section was called to order at 9 o'clock by the chairman, Dr. John O. Polak, Brooklyn.

Dr. J. Wesley Bovée, Washington, D. C., was appointed by the chairman to take the place of Dr. Reuben Peterson, Ann Arbor, Mich., on the Executive Committee.

The following papers were read as a symposium on "Cancer of the Uterus":

Dr. Henry Schmitz, Chicago: "The Treatment of Cancer of the Uterus."

John G. Clark and Dr. Floyd E. Keene, Philadelphia: "Ultimate Results of Radium Treatment in Three Hundred Cases of Cancer of the Uterus."

Dr. Rex Duncan, Los Angeles: "Radium Treatment of Cancer of the Uterus."

These three papers were discussed by Drs. William P. Graves, Boston; A. J. Ochsner, Chicago; Fred T. Taussig, St. Louis; Henry O. Marcy, Boston; Henry Schmitz, Chicago; Floyd E. Keene, Philadelphia, and Dr. Rex D. Duncan, Los Angeles.

Dr. William J. Mayo, Rochester, Minn., read a paper on "The Relation of the Spleen to the Anemias." Discussed by Drs. A. J. Ochsner, Chicago, and William J. Mayo, Rochester, Minn.

Dr. Frederick J. Taussig, St. Louis, read a paper entitled "In What Cases do Uterine Fibroids still Require Operative Removal?" Discussed by Drs. George G. Ward, Jr., New York; William J. Mayo, Rochester, Minn.; Henry O. Marcy, Boston, and Frederick J. Taussig, St. Louis.

Dr. George G. Ward, Jr., New York, moved that the section recommend to the Association the election of Dr. W. Blair Bell of Liverpool, England, to honorary fellowship. Motion seconded by Dr. Frederick J. Taussig, St. Louis, and unanimously carried.

Dr. Edward P. Davis, Philadelphia, read a paper on "Treatment of the Early and Late Toxemia of Pregnancy." Discussed by Drs. G. G. Copeland, Toronto, Canada; W. M. Brown, Rochester, N. Y.; Carl H. Davis, Milwaukee, and Edward P. Davis, Philadelphia.

Dr. Thomas J. Watkins, Chicago, read a paper on "The Treatment of Suppurative Abdominal Wounds by the Closed Method." Discussed by Drs. Richard R. Smith, Grand Rapids, Mich.; Charles T. Souther, Cincinnati; Hugo Ehrenfest, St. Louis; George E. Shoemaker, Philadelphia; W. M. Brown, Rochester, N. Y., and Thomas J. Watkins, Chicago.

Dr. Robert E. Farr, Minneapolis, read a paper on "Similarity of the Demands of Local Anesthesia and the Patient's Best Interests." Discussed by Drs. Charles T. Souther, Cincinnati, and H. P. Newman, San Diego, Calif.

THURSDAY, JUNE 9—MORNING

Dr. John O. Polak, Brooklyn, read the chairman's address, entitled "Our Defects in Obstetric Teaching."

Dr. W. Blair Bell, Liverpool, England, read a paper on "The Surgical Treatment of Lesions in the Internal Genital Organs Associated with Chronic Infections." Discussed by Drs. C.

Jeff Miller, New Orleans; Arthur H. Curtis, Chicago; Sidney A. Chalfant, Pittsburgh; Gordon G. Copeland, Toronto, Canada; Henry Schmitz, Chicago, and W. Blair Bell, Liverpool, England.

Drs. Edward Reynolds and Donald Macomber, Boston, presented a paper on "Defective Diet as a Cause of Sterility—A Study Based on Feeding Experiments with Rats." Discussed by Drs. Edward Reynolds, Boston; W. Blair Bell, Liverpool, England; Albert J. Ochsner, Chicago; Emil Novak, Baltimore, and Donald Macomber, Boston.

Dr. Charles G. Heyd, New York, read paper on "Cholecystogastrostomy and the Courvoisier Gallbladder." Discussed by Drs. John B. Deaver, Philadelphia; E. Starr Judd, Rochester, Minn.; Moses Behrend, Philadelphia; John J. Gilbride, Philadelphia, and Charles G. Heyd, New York.

Dr. Alexius McGlannan, Baltimore, read a paper on "Blood Pressure Changes During Abdominal Operation." Discussed by Dr. Bertram M. Bernheim, Baltimore.

Dr. Addison G. Brenizer, Charlotte, N. C., read a paper on "The Relation Between the Thyroid Gland and the Female Generative Organs: Specifically the Ovaries." Discussed by Drs. E. Starr Judd, Rochester, Minn., and Emil Novak, Baltimore.

Dr. Carey Cubertson, Chicago, read a paper on "The Use of the Sigmoid Flexure and Cecum in Pelvic Peritonization." Discussed by Drs. Carl B. Davis, Chicago, and Carey Culbertson, Chicago.

FRIDAY, JUNE 10—MORNING

The following officers were elected: chairman, Dr. Sidney A. Chalfant, Pittsburgh; vice chairman, Dr. Gordon K. Dickinson, Jersey City, N. J.; secretary, Dr. Carl H. Davis, Milwaukee; nominees for board of governors of the American College of Surgeons, Drs. Floyd E. Keene, Philadelphia; Robert E. Farr, Minneapolis, and Carey Culbertson, Chicago; delegate, Dr. George G. Ward, Jr., New York; alternate, Dr. Frederick J. Taussig, St. Louis.

Dr. Alfred C. Beck, Brooklyn, read a paper on "End-Results of Prenatal Care." Discussed by Drs. Joseph B. De Lee, Chicago; Edward A. Schumann, Philadelphia; Hugo Ehrenfest, St. Louis, and Alfred C. Beck, Brooklyn..

Dr. Edward A. Schumann, Philadelphia, read a paper on "Observations on the Differential Diagnosis of Extra-Uterine Pregnancy with a Special Reference to Ovarian and Tubal Hemorrhage Not Associated with Pregnancy." Discussed by Drs. Emil Novak, Baltimore; Albert Goldspohn, Chicago, and Edward A. Schumann, Philadelphia.

Dr. Gordon G. Copeland, Toronto, Canada, read a paper on "Transperitoneal Cesarean Section: Copeland Technic." Discussed by Drs. Wilber Ward, New York; W. M. Brown, Rochester, N. Y.; P. B. Salatich, New Orleans; Joseph B. De Lee, Chicago, and Gordon G. Copeland, Toronto, Canada.

Dr. Hugo Ehrenfest, St. Louis, read a paper on "The Problem of Intracranial Hemorrhage of the New-Born from the Standpoint of the Obstetrician." Discussed by Drs. Isaac A. Abt, Chicago; H. Schwartz, New York; W. M. Brown, Rochester, N. Y.; Joseph B. De Lee, Chicago; Gordon G. Copeland, Toronto, Canada, and Hugo Ehrenfest, St. Louis.

Dr. Harvey B. Matthews, Brooklyn, read a paper on "Pregnancy After Nephrectomy." Discussed by Drs. John P. Polak, Brooklyn; Gordon G. Copeland, Toronto, Canada, and Harvey B. Matthews, Brooklyn.

Dr. Franklin A. Dorman, New York, read a paper on "Puerperal Breast Infections." Discussed by Dr. Howard T. Swain, Boston, and Franklin A. Dorman, New York.

Dr. Walter W. Manton, Detroit, read a paper on "Puerperal Anemia." Discussed by Drs. George R. Minot, Boston, and Walter W. Manton, Detroit.

SECTION ON OPHTHALMOLOGY

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. James Bordley, Jr., Baltimore.

Dr. James Bordley, Jr., Baltimore, read the chairman's address.

The following papers were read as a symposium on "Focal Infection":

Dr. Frank Billings, Chicago: "Focal Infection in Its Relation to Diseases of the Eye."

Dr. J. Parsons Schaeffer, Philadelphia: "The Paranasal (Accessory) Sinuses in Relation to the Optic Nerve and the Optic Commissure."

Dr. Lucien Brun, Baltimore: "Diseased Teeth as Foci of Infection."

These three papers were discussed by Drs. George E. de Schweinitz, Philadelphia; William H. Wilmer, Washington, D. C.; Edward V. L. Brown, Chicago; Luther Peter, Philadelphia; Walter L. Lyle, Philadelphia, and S. Lewis Ziegler, Philadelphia.

Dr. Edward Jackson, Denver, read a paper on "The Position of the Eyeball in the Orbit." Discussed by Drs. Lucien Howe, Buffalo, and Alexander Duane, New York.

Dr. S. Lewis Ziegler, Philadelphia, read a paper on "Complete Discission of the Lens by the V-Shaped Method." Discussed by Drs. George H. Bell, New York, and S. Lewis Ziegler, Philadelphia.

Dr. Aaron S. Green and Louis D. Green, San Francisco, presented a paper on "Squint: When Shall We Operate?" Discussed by Drs. Alexander Duane, New York; Oscar Wilkinson, Washington, D. C.; A. E. Davis, New York; David W. Well, Boston, and Aaron S. Green, San Francisco.

THURSDAY, JUNE 9—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

Dr. Harris P. Mosher, Boston, demonstrated a lacrimal operation.

Dr. Lucien Howe, Buffalo, gave a demonstration of the dissected extra-ocular muscles in sixty-eight orbits, with a preliminary note concerning their differences; he exhibited the Tscherning Ophthalmophakometer, and described the method of experimentally producing cataract in rabbits.

Dr. Arthur S. Tenner, New York, exhibited instruments primarily designed for performing tarsal excision, but also useful in many other lid operations:

Manual U. Troncoso, New York, exhibited a new schematic eye for skiascopy.

Dr. H. W. Woodruff, Joliet, Ill., demonstrated the use of a tendon-tucker and a nasal duct curet.

Dr. Edward Jackson, Denver, exhibited instruments for measuring the orbit.

Dr. Edward C. Ellett, Memphis, Tenn., exhibited a tonometer chart for recording variations in tension in cases under observation for a length of time.

Dr. F. Park Lewis, Buffalo, exhibited specimens showing the anatomy of the vitreous body.

Following announcement by the chairman that Dr. George E. de Schweinitz of Philadelphia had been elected to the presidency of the American Medical Association, the members of the section arose and expressed their approval by prolonged applause. Dr. de Schweinitz responded by expressing his appreciation of the honor conferred on him by his being elected to the presidency of the Association and requesting the cooperation of those interested in this section.

Lieut.-Col. Henry Smith, London, England, read a paper on "Observation on Night Blindness." Discussed by Drs. George S. Derby, Boston; T. B. Holloway, Philadelphia; Allen Greenwood, Boston; George E de Schweinitz, Philadelphia, and Lieut.-Col. Henry Smith, London, England.

Dr. Alan C. Woods, Baltimore, read a paper on "Immune Reactions Following Injuries to the Uveal Tract." Discussed by Drs. James G. Dwyer, New York; Harry S. Gradle, Chicago, and Alan C. Woods, Baltimore.

Dr. William Campbell Posey, Philadelphia, read a paper on "Myasthenia Gravis: Report of Three Cases." Discussed by Drs. E. Wyllys Taylor, Boston, and William T. Davis, Washington, D. C.

Dr. Frederick H. Verhoeff, Boston, read a paper on "Primary Intraneural Tumors (Gliomas) of the Optic Nerve." Discussed by Dr. Marcus Feingold, New Orleans.

Dr. John M. Wheeler, New York, read a paper on "The Correction of Cicatricial Ectropion by the use of True Skin of the Upper Lid." Discussed by Dr. Walter B. Lancaster, Boston.

Dr. George H. Cross, Chester, Pa., read a paper on "Plastic Repair of the Eyelids by Pedunculated Skin Grafts." Discussed by Drs. Vilray P. Blair, St. Louis, and George H. Cross, Chester, Pa.

Dr. Lawrence Post, St. Louis, read a paper on "Quantitative Determination of Aqueous Humor Absorption of Cocain and Atropin." Discussed by Drs. William F. Hardy, St. Louis; Walter B. Lancaster, Boston, and Lawrence Post, St. Louis.

FRIDAY, JUNE 10—AFTERNOON

The meeting was called to order by the chairman.

Dr. Harry S. Gradle, Chicago, presented the report of the Committee on Estimating Compensation for Eye Injuries.

Dr. Allen Greenwood, Boston, moved that the report be accepted and placed on file, and that the committee be continued. Motion seconded and carried.

Dr. Lucien Howe, Buffalo, chairman, presented the report of the Committee on Collective Investigation Concerning the Ocular Muscles, and moved its adoption.

Dr. Arthur J. Bedell, Albany, N. Y., moved as an amendment that the committee be continued. Motion as amended was seconded and carried.

Dr. Lucien Howe, Buffalo, chairman, presented the report of the Committee on the Prevention of Hereditary Blindness, and moved its acceptance. Motion seconded, and carried.

Dr. William Zentmayer, Philadelphia, presented the report of the Committee on Local Anesthetics in Ophthalmic Work.

Dr. Allen Greenwood, Boston, moved that the report be accepted and the committee continued. Motion seconded and carried.

On suggestion of the chairman that the report of the Committee on the Knapp Testimonial Fund probably needed no further elucidation, since it had been published in the presession volume, Dr. Arthur J. Bedell, Albany, moved that the report be accepted. Motion seconded and carried.

Dr. Walter R. Parker, Detroit, in presenting the report of the Committee on Award of the Knapp Medal, stated that in the judgment of the committee no communication presented was worthy of this recognition. Upon motion, the report was accepted.

Dr. W. H. Wilder, Chicago, presented a preliminary report on behalf of the American Board for Ophthalmic Examinations.

Dr. George E. de Schweinitz, Philadelphia, presented the report of the activities of the committee in charge of arrangements for the International Congress. It was moved by Dr. W. H. Wilder that the report be accepted. Motion seconded and carried.

Dr. Edward Jackson, Denver, chairman, then reported further in regard to the work of the American Board for Exophthalmic Examinations.

Dr. Allen Greenwood, Boston, moved that the report be accepted, with thanks to those Fellows of the section who are on the board of examiners. Motion seconded and carried.

The chairman stated that, inasmuch as the report of the Committee on the Ultraviolet and Visible Transmission of Eye Protective Glasses was adopted last year and the committee continued, in accordance with a motion by Dr. W. B. Lancaster, Boston, that the committee be requested to give additional information, such explanatory data have been added and the report printed in this year's presession volume; and it therefore requires no further action on the part of the section.

Dr. H. Dickson Bruns, New Orleans, chairman, summarized the report of the Committee on Trachoma.

Dr. E. H. Cary, Dallas, Texas, moved that the report be accepted and that the committee be discharged; and that a committee of three from this section be appointed to carry out the recommendations made in the report; that the said committee be instructed to urge upon its co-members that it is the sense of the section that all members of the various state reference boards contemplated in the report shall possess the qualifications necessary to acquire a certificate of the American Board of Ophthalmic Examinations; and further, that said committee be authorized and empowered to name one ophthalmologist in each state to represent this section on said state reference boards, and that hereafter appointments shall be made for terms to be agreed upon by the executive committee of this section.

The motion was seconded.

Dr. Myles Standish, Boston, moved as an amendment to the motion that the summary of the report, which reads: "The disease is conveyed to a healthy eye from a diseased eye by means of the morbid secretions," be modified by some such words as "It is believed that the disease is conveyed," etc.; and that that portion of item No. 8 of said summary which reads, "Experimental inoculation is difficult, but has been successfully done on blind eyes," be omitted.

Dr. Brun stated that the committee would have no objection to introducing the words, "it is believed," but that the committee would not think it proper to omit the whole sentence referring to experiments on blind eyes, but that it would be better to precede the sentence referred to by some such words as "it is reported," or, "reports have been made," and that in this sense the committee would accept the amendment. Dr. Standish accepted Dr. Brun's statement that the committee would alter its report in accordance with this understanding.

The motion was carried.

The following resolution was introduced by Dr. George E. de Schweinitz:

The members of the Section on Ophthalmology of the American Medical Association, having learned with the most profound regret of the death of their colleague, Dr. Samuel Doty Risley, desire to give expression to the following minute:

During Dr. Risley's long membership in this section, his ripe experience as diagnostician, operator and teacher found expression in many notable contributions to American ophthalmology.

Genial and discriminating as a critic, exacting in his conception of the rôle a physician should fill, distinguished as an expert in his chosen specialty, he greatly aided in placing our science upon an exalted level.

His lucid English, clarity of style, keenness and accuracy in description, made literary association with him a rare privilege.

With his scholastic attainment he combined a most sympathetic nature, which impressed and inspired both as friend and as colleague.

He will be sadly missed, and to the members of his family we extend our sincere sympathy.

Dr. Allen Greenwood moved that the report be accepted and placed on the records, and that a copy be sent to the family.

Motion seconded and carried.

Nominations for the Committee on Award of the Knapp Medal being called for, the following members were nominated: Dr. T. B. Holloway, Philadelphia; Dr. Walter B. Lancaster, Boston, and Dr. William H. Wilmer, Washington, D. C.

The following officers were elected: chairman, Dr. Nelson Miles Black, Milwaukee; vice chairman, Dr. A. E. Ewing, St. Louis; delegate, Dr. C. D. Wescott, Chicago; alternate, Dr. Harry S. Gradle, Chicago; member of the Board on Ophthalmic Examinations, Dr. Walter B. Lancaster, Boston.

Dr. Lucien Howe, Buffalo, introduced and moved the adoption of the following resolution:

WHEREAS It is evident that if some systematic arrangement and digest of the literature of ophthalmology were published each year it would greatly facilitate our studies and proportionately advance our science; and

WHEREAS, It is possible that the cooperation of students in different parts of the world might ultimately be obtained in a plan to edit an international year book of ophthalmology published in English, perhaps as an enlargement of our present year book, but much more complete; therefore be it

Resolved, That a committee of five be appointed with power to increase their number, in order that they may ascertain which students of ophthalmology in which countries might be ready to cooperate in such an undertaking, how that cooperation might be made most efficient, what the annual expense of such a volume would be, how that expense could be met, and other details concerning the plan; it being understood that this committee shall not commit the section to any action nor incur any expense, but simply ascertain facts and report conclusions at a subsequent meeting of this section.

Motion seconded and carried.

The chairman thanked the secretary Dr. Derby, for his devotion and untiring work to make this meeting a success, and asked that the section pass a motion thanking Dr. Derby for his kindness and consideration in handling the affairs of the section.

Dr. George E. de Schweinitz moved a vote of thanks to Dr. Derby, which was carried by rising vote.

Dr. Walter R. Parker, Detroit, read a paper on "Senile Cataract Extraction." Discussed by Lieut.-Col. Henry Smith, London, England; Drs. Vard H. Hulen, San Francisco; Lucien Howe, Buffalo; Allen Greenwood, Boston; Walter E. Lambert, New York; Aaron S. Green, San Francisco; Walter B. Lancaster, Boston; W. H. Wilder, Chicago; Frederick H. Verhoeff, Boston, and Walter R. Parker, Detroit.

Dr. George H. Bell, New York, read a paper on "The Prevention of Postoperative Intra-Ocular Infections." Discussed by Dr. Walter E. Lambert, New York; Frederick H. Verhoeff, Boston, and George H. Bell, New York.

Drs. James M. Patton and Sanford R. Gifford, Omaha, presented a paper on "Agricultural Conjunctivitis." Discussed by Drs. Edwin N. Robertson, Concordia, Kan., and E. A. Ewing, St. Louis.

Dr. Harry S. Gradle, Chicago, read a paper on "The Relation of the Blind Spot to Medullated Nerve-Fibers in the Retina." Discussed by Drs. William Zentmayer, Philadelphia, and Harry S. Gradle, Chicago.

Dr. Lee Masten Francis, Buffalo, read a paper on "The Repair of Scleral Wounds Including Scleral Rupture, Near the Limbus." Discussed by Dr. C. D. Wescott, Chicago, and Fred Fernald, Nottingham, N. H.

Dr. Arthur S. Tenner, New York, read a paper on "An Operation for the Relief of Anterior Staphyloma, Partial or Complete." No discussion.

Dr. W. H. Wilder, Chicago, moved that the section express its appreciation to the officers for preparing the splendid program presented at this meeting. Motion seconded and carried.

The retiring chairman, Dr. James Bordley, Jr., thanked all who had contributed to the success of the meeting.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

WEDNESDAY, JUNE 8.—MORNING

The meeting was called to order at 2 o'clock by the chairman. Dr. Ross H. Skillern, Philadelphia.

The chairman's address, entitled "Postgraduate Work in Laryngology," was read.

In the absence of Dr. Lee Wallace Dean, Iowa City, Dr. Emil Mayer, New York, was appointed to serve on the Executive Committee.

Dr. Harry H. Stark, El Paso, Texas, read a paper on "Retrobulbar Neuritis, Secondary to Diseases of the Nasal Sinuses." Discussed by Drs. Leon E. White, Boston; George Huston Bell, New York; E. S. Thomson, New York; Joseph C. Beck, Chicago, and Harry H. Stark, El Paso.

Drs. Lewis Fisher and Abraham J. Cohen, Philadelphia, presented a paper on "Pulmonary Abscess in Adults Following Tonsillectomy Under General Anesthesia." Discussed by Drs. Charles W. Richardson, Washington, D. C.; Thomas E. Carmody, Denver; George L. Richards, Fall River, Mass.; George F. Keiper, Lafayette, Ind.; Cullen F. Welty, San Francisco Henry L. Lynah, New York; Margaret F. Butler, Philadelphia; A. A. Hayden, Chicago; Roy P. Scholz, St. Louis; Albert H. Herr, Cleveland, and Lewis Fisher, Philadelphia.

Dr. Thomas J. Harris, New York, read a paper on "Causes of Failure in the Frontal Sinus Operation." Discussed by Drs. Joseph A. Stucky, Lexington, Ky.; Joseph C. Beck, Chicago; Lee M. Hurd, New York; Cullen F. Welty, San Francisco; John A. Pratt, Minneapolis; G. Henry Mundt, Chicago; Howard A. Lothrop, Boston; Howard V. Dutrow, Dayton; William Mithoefer, Cincinnati, and Thomas J. Harris, New York.

Dr. Greenfield Sluder, St. Louis, read a paper on "The Borderland of Rhinology, Neurology and Ophthalmology." No discussion.

Dr. Lee M. Hurd, New York, read a paper on "Scopolamin and Morphin as an Advantageous Preliminary to Local Anesthesia." Discussed by Drs. Joseph A. Stucky, Lexington, Ky.; J. A. Donovan, Butte, Mont.; Harold M. Hays, New York; Emil Mayer, New York; E. L. Myers, St. Louis; Henry Keller, New York, and Lee M. Hurd, New York.

Dr. Walter E. Brown, Pittsburgh, read a paper on "The Ear and Sinus Complications of Influenza." Discussed by Drs. Charles F. Adams, Trenton, N. J.; John J. Hurley, Boston; C. Norman Howard, Warsaw, Ind.; Robert Beattie, Detroit; Cullen F. Welty, San Francisco; Joseph C. Beck, Chicago, and Walter E. Brown, Pittsburgh.

THURSDAY, JUNE 9—MORNING

Drs. John A. Pratt and Frederick J. Pratt, Minneapolis, presented a paper on "Intranasal Reconstruction." Discussed by Drs. Edwin McGinnis, Chicago; A. A. Hayden, Chicago; William Mithoefer, Cincinnati; Cullen F. Welty, San Francisco; George L. Richards, Fall River, Mass., and Frederick J. Pratt, Minneapolis.

Dr. Charles H. Baker, Bay City, Mich., read a paper on "Removal of a Vocal Cord for the Prevention of Asphyxiation from Permanent Abductor Paralysis." Discussed by Drs. George L. Richards, Fall River, Mass.; Chevalier Jackson, Philadelphia; Thomas E. Carmody, Denver; Justin M. Waugh, Cleveland; Henry W. Frauenthal, New York; Joseph C. Beck, Chicago; Joseph A. Stucky, Lexington, Ky., and Charles H. Baker, Bay City, Mich.

Dr. H. Marshall Taylor, Jacksonville, Fla., read a paper on "Endoscopic Removal of Sand Burrs from the Larynx and Tracheobronchial Tree." Discussed by Drs. Richard McKinney, Memphis, Tenn.; Chevalier Jackson, Philadelphia; L. C. Ingram, Orlando, Fla.; E. G. Gill, Roanoke, Va.; Henry L. Lynah New York; J. B. Potts, Omaha; Joseph W. Taylor, Tampa, Fla., and H. Marshall Taylor, Jacksonville, Fla.

Dr. Chevalier Jackson, Philadelphia, read a paper on "Prognosis of Foreign Bodies in the Lung." Discussed by Drs. Henry L. Lynah, New York; D. Crosby Greene, Boston; Roy P. Scholz, St. Louis, and Chevalier Jackson, Philadelphia.

Dr. Henry L. Lynah, New York, read a paper on "Bronchoscopic Studies of Pulmonary Abscess." Discussed by Drs. Willy Meyer, New York; Chevalier Jackson, Philadelphia, and Henry L. Lynah, New York.

Dr. Mark J. Gottlieb, New York, read a paper on "The Endobronchial Treatment of Bronchial Asthma and Asthmatic Bronchitis," Discussed by Drs. Wolff Freudenthal, New York; George F. Keiper, Lafayette, Ind.; George Piness, Los Angeles and Mark J. Gottlieb, New York.

FRIDAY, JUNE 10—MORNING

The following officers were elected: chairman, Dr. Joseph A. Stucky, Lexington, Ky.; vice chairman, Dr. Thomas E. Carmody, Denver; delegate, Dr. Emil Mayer, New York; alternate, Robert C. Lynch, New Orleans.

New instruments and appliances were exhibited by Drs. Max Unger, New York; George D. Wolff, New York; Israel Grushlaw, New York; Harry Myersburg, Brooklyn; Horace Newhart, Minneapolis; William Perry Reaves, Greensboro, N. C., and D. L. Flanary, St. Louis.

Dr. Charles W. Richardson, Washington, D. C., chairman, read the report of the Committee on Education of the Deaf Child. Moved by Dr. John McCoy, New York, seconded by Dr. Emil Mayer, New York, that the report be accepted and the committee continued. Motion carried.

Dr. Harris P. Mosher, Boston, chairman, read the report of the Committee on Postgraduate Teaching.

It was moved by Dr. Emil Mayer, New York, that the report be adopted, and that the sincere thanks of the Section be extended to the members of the committee and that it be continued. Motion seconded by Dr. D. J. McDonald, New York. Carried.

The acting chairman, Dr. William B. Chamberlin, announced that it was authorized by the chair that the Committee on

Postgraduate Teaching of this section be made a part of the Advisory Committee of the American Medical Association on Postgraduate Instruction.

Dr. Emil Mayer, chairman, read the report of the Committee on Necrology.

On motion, the report was accepted and the committee continued.

In the absence of the members of the Committee on the Use of Caustic Alkalis, the secretary read the report.

On motion, carried, the report of the committee was accepted.

Dr. Emil Mayer, chairman, presented a special report on local anesthesia by the Committee on Therapeutic Research. Discussed by Dr. Robert A. Hatcher, New York.

Dr. George M. Coates, Philadelphia, moved that the Section on Laryngology, Otology and Rhinology endorse the action of its committee on the effects of local anesthesia, in sending its report to the chairman of the Council on Pharmacy and Chemistry of the American Medical Association, and approve of its recommendation that the subject of fatalities following local anesthesia be referred to a commission for further action, and, finally, that this committee be discharged, with the thanks of the section.

The motion was seconded, and carried.

The following members were appointed to act as a Committee on the Use of Caustic Alkalis: Dr. Chevalier Jackson, chairman; Drs. George W. Mackenzie, and Fielding O. Lewis, all of Philadelphia.

Dr. Ira Frank, Chicago, read a paper on "Acute Retropharyngeal Abscess. Discussed by Drs. Robert Sonnenschein, Chicago; Cullen F. Welty, San Francisco; H. W. Lyman, St. Louis; John A. Pratt, Minneapolis; E. L. Myers, St. Louis; Joseph C. Beck, Chicago, and Ira Frank, Chicago.

Dr. Joseph C. Beck, Chicago, read a paper on "Microscopic Proof of Malignant Disease of the Head and Neck, Treated by Combination of Surgery and Radium." Discussed by Drs. D. Crosby Greene, Boston, and Joseph C. Beck, Chicago.

Dr. Emil Mayer presented a report as representative of the section in the House of Delegates.

Dr. John McCoy, New York, read a paper on "A Case of Cerebellar Abscess with Very Unusual Features; Operation; Recovery." Discussed by Drs. Marcus Neustaedter, New York; John B. Potts, Omaha; George W. MacKenzie, Philadelphia; William B. Chamberlin, Cleveland, and John McCoy, New York.

Dr. Harold Hays, New York, read a paper on "Needed Measures for the Prevention of Deafness During Early Life."

Miss Annette W. Peck, New York, read a paper on "Social Alleviations of Adventitious Deafness."

These two papers were discussed by Drs. Wendell C. Phillips, New York; Francis P. Emerson, Boston; Cullen F. Welty, San Francisco; T. R. Chambers, Jersey City, N. J.; D. J. McDonald, New York, and Harold Hays, New York. York.

SECTION ON DISEASES OF CHILDREN

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Frank C. Neff, Kansas City, Mo.

Dr. Frank C. Neff, Kansas City, Mo., read the chairman's address, entitled "The Section on Diseases of Children." No discussion.

Dr. Frank D. Dickson, Kansas City, Mo., read a paper on "Relation of Posture to the Health of the Child."

Dr. Borden S. Veeder, St. Louis, read a paper on "The Rôle of Fatigue in Malnutrition of Children."

These two papers were discussed by Drs. Fritz B. Talbot, Boston; Charles F. Wahrer, Fort Madison, Iowa; John A. Foote, Washington, D. C.; Collins H. Johnston, Grand Rapids, Mich.; Florence B. Sherbon, Topeka, Kan.; E. J. Huenekens, Minneapolis; Frank D. Dickson, Kansas City, Mo., and Borden S. Veeder, St. Louis.

Dr. Robert H. Halsey, New York, read a paper on "Heart Disease in Children of School Age." Discussed by Drs. William P. St. Lawrence, New York; Haven Emerson, New York; George D. Scott, New York; Charles F. Wahrer, Fort Madison, Iowa; Herman Schwartz, New York, and Robert H. Halsey, New York.

Drs. Clifford G. Grulee and Cassie Belle Rose, Chicago, presented a paper on "The Treatment of Furunculosis in Infants." Discussed by Drs. Frank C. Neff, Kansas City, Mo.; Myer Solis Cohen, Philadelphia, and Clifford G. Grulee, Chicago.

Dr. Albert H. Byfield, Iowa City, read a paper on "The Beneficial Effects of Tonsillectomy on Cyclic Vomiting and Allied Affections." Discussed by Drs. John Zahorsky, St. Louis, and Franklin P. Gengenbach, Denver.

Dr. William Palmer Lucas, San Francisco, read a paper on "The Physiology of the Blood in Infancy and Childhood." Discussed by Drs. Herman N. Appel, New York; Frank C. Neff, Kansas City, Mo., and William Palmer Lucas, San Francisco.

THURSDAY, JUNE 9—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

Dr. Dennett L. Richardson, Providence, R. I., read a paper on "Diagnosis and Transmission of Infectious Diseases." Discussed by Drs. Edwin H. Place, Boston; Henry W. Berg, New York; Charles F. Wahrer, Fort Madison, Iowa; Albert W. Plummer, Lisbon Falls, Maine, and Dennett L. Richardson, Providence, R. I.

Drs. Harold R. Mixsell and Emanuel Giddings, New York, presented a paper on "Certain Aspects of Postdiphtheritic Diaphragmatic Paralysis." Discussed by Drs. Robert J. Wilson, New York; Henry W. Berg, New York; Borden S. Veeder, St. Louis; Edwin H. Place, Boston; Charles A. Faber, Milwaukee; E. C. Fleischner, San Francisco; Alberta F. M. Greene, Fergus Falls, Minn., and Harold R. Mixsell, New York.

Drs. John Howland and Hugh Josephs, Baltimore, presented a paper on "Studies on Diphtheria." Discussed by Dr. Dennett L. Richardson, Providence, R. I.

Dr. Francis G. Blake, New York, read a paper on "Experimental Measles." Discussed by Drs. John F. Anderson, New Brunswick, N. J.; Charles Herrman, New York; Henry F. Helmholz, Rochester, Minn.; Dennett L. Richardson, Providence, R. I., and Francis G. Blake, New York.

Dr. Abraham Zingher, New York, read a paper on "Preventive Diphtheria Work in the Public Schools of New York City." Discussed by Drs. Charles Herrman, New York; Everett W. Gould, New York; John M. Dodson, Chicago; Edward L. Bauer, Philadelphia; Edwin H. Place, Boston, and Abraham Zingher, New York.

Dr. Josephine B. Neal, New York, read a paper on "Experience with More Than a Hundred Cases of Epidemic Encephalitis in Children." Discussed by Drs. Frank C. Neff, Kansas City, Mo.; George W. Hall, Chicago, and Josephine B. Neal, New York.

Dr. Peter D. McCornack, Spokane, Wash., read a paper on "Paralysis in Children Due to the Bite of Wood-Ticks." Discussed by Drs. E. J. Huenekens, Minneapolis; Franklin P. Gengenbach, Denver; Joseph Brennemann, Chicago, and Peter D. McCornack, Spokane, Wash.

FRIDAY, JUNE 10—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

The Executive Committee of the section made the following report:

The Executive Committee of the Section on Diseases of Children of the American Medical Association respectfully recommends that the chairman of the section be empowered to appoint a committee to consider the suggestions made in the chairman's address, and report to the section at its next annual meeting.

F. P. GENGENBACH, M.D., Chairman,
F. B. TALBOT, M.D.
F. C. NEFF, M.D.

The Executive Committee offers the following resolution:

WHEREAS, It is with the deepest regret that the Executive Committee of the Section on Diseases of Children records the death of Dr. Godfrey R. Pisek of New York, your committee recommends that it be empowered to transmit to his family the estimation of esteem of the section.

The following officers were elected for the ensuing year: chairman, E. C. Fleischner, San Francisco; vice chairman, W. A. Mulherin, Augusta, Ga.; secretary, E. J. Huenekens, Minneapolis; delegate, Isaac A. Abt, Chicago; alternate delegate, John A. Foote, Washington, D. C.

Dr. Charles E. Carter, Los Angeles, read a paper on "Visualizing the Child's Physical Condition: A Method Especially Adapted to Preventive Work." Discussed by Drs. C. L. Lowman, Los Angeles; Fritz B. Talbot, Boston; George E. Baxter, Chicago, and Charles E. Carter, Los Angeles.

Dr. Harold K. Faber, San Francisco, read a paper on "The Food Requirements of the New-Born Infant." Discussed by Drs. Fritz B. Talbot, Boston; Bertha Van Hoosen, Chicago; Harry Lowenburg, Philadelphia; Lewis Webb Hill, Boston; Jay I. Durand, Seattle; Roger H. Dennett, New York, and Harold K. Faber, San Francisco.

Dr. Frank H. Richardson, Brooklyn, read a paper on "The Breast and the Nursing Child." Discussed by Drs. Isaac A. Abt, Chicago; Charles F. Wahrer, Fort Madison, Iowa; W. A. Mulherin, Augusta, Ga., and Frank H. Richardson, Brooklyn.

Dr. Joseph Brennemann, Chicago, read a paper on "Some Neglected Practical Points in the Technic of Infant Feeding." Discussed by Drs. Borden S. Veeder, St. Louis; Mary T. Moore, Boston; Hermann N. Appel, New York; E. J. Huenekens, Minneapolis; M. L. Turner, DesMoines, Iowa, and Joseph S. Brennemann, Chicago.

Dr. Frank Van Der Bogert, Schenectady, N. Y., read a paper on "Diet as a Factor in the Etiology of Adenoids." No discussion.

Dr. Louis W. Sauer, Evanston, Ill., read a paper on "Regional Sensitivity of the Skin of Normal Infants." Discussed by Drs. Franklin P. Gengenbach, Denver; Fritz B. Talbot, Boston, and Louis W. Sauer, Evanston, Ill.

Dr. Henry F. Stoll, Hartford, Conn., read a paper on "The Clinical Diagnosis of Heredosyphilis." Discussed by Drs. Roger H. Dennett, New York; Joseph I. Grover, Boston; Fritz B. Talbot, Boston; E. C. Fleischner, San Francisco; Louis W. Sauer, Evanston, Ill.; Borden S. Veeder, St. Louis, and Henry F. Stoll, Hartford, Conn.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Leonard G. Rowntree, Rochester, Minn.

Dr. Rowntree read the chairman's address, entitled "The Rôle and Development of Drug Therapy."

Dr. Lewellys F. Barker, Baltimore, read a paper on "The Value of Drugs in Internal Medicine." Discussed by Drs. Henry A. Christian, Boston, and Francis H. McCrudden, Boston.

Dr. George W. Crile, Cleveland, read a paper on "The Value of Drugs in Surgery." Discussed by Dr. John J. Gilbride, Philadelphia.

Dr. Henry F. Helmholz, Rochester, Minn., read a paper on "The Value of Drugs in Pediatrics." Discussed by Drs. F. Paul Gegenbach, Denver; Richard M .Smith, Boston, and J. I. Durand, Seattle.

The following papers were read as a symposium on "The Value of Drugs":

Dr. William H. Wilmer, Washington, D. C.: "The Value of Drugs in Ophthalmology."

Dr. C. Macfie Campbell, Boston: "The Value of Drugs in Neurology." Discussed by Dr. Foster Kennedy, New York.

These two papers were discussed by Dr. Alexander Lambert, New York.

Dr. Reid Hunt, Boston, moved that the application of Prof. Albert Henry Clark, Chicago, for associate fellowship in the Scientific Assembly be approved. Seconded by Dr. Robert A. Hatcher, New York. Carried.

The chairman appointed as a nominating committee: Drs. Robert A. Hatcher, New York, Reid Hunt, Boston, and W. A. Bastedo, New York.

Dr. Robert A. Hatcher, New York, moved that the chairman appoint a committee to arrive at ideas as authentic as possible in regard to dosage in children. Seconded by Dr. Cary Eggleston, New York. Carried.

THURSDAY, JUNE 9—MORNING

A joint meeting was held with the Sections on Practice of Medicine and on Pathology and Physiology. For a report of the proceedings, see the minutes of the Section on Practice of Medicine.

FRIDAY, JUNE 10—AFTERNOON

The following officers were elected: chairman, Carl Voegtlin, Washington, D. C.; vice chairman, Cary Eggleston, New York; secretary, Paul D. White, Boston; delegate, Leonard G. Rowntree, Rochester, Minn.; alternate, George W. McCoy, Washington, D. C.

The following committee was appointed to investigate dosage in the treatment of children: Drs. Henry F. Helmholz, Rochester, Minn., chairman; Robert A. Hatcher, New York; Oscar M. Schloss, New York; William McKim Marriott, St. Louis, and A. D. Hirschfelder, Minneapolis.

Dr. Thomas F. Reilly, New York, read a paper on "Flatulence in the Decompensation of Cardiac Disease: Etiology and Treatment." Discussed by Drs. Frank Smithies, Chicago; Francis H. McCrudden, Boston; Anthony Bassler, New York, and Thomas F. Reilly, New York.

Dr. Benjamin H. Schlomovitz, Milwaukee, read a paper on "The Effect of Digitalis on the Response of the Cardiac Pacemaker." No discussion.

Dr. Paul D. White, Boston, read a paper on "Drugs of the Digitalis Group with Special Reference to the Action of Apocynum and Convallaria." Discussed by Drs. Robert A. Hatcher, New York; Cary Eggleston, New York, and Paul D. White, Boston.

Drs. Yandell Henderson and Howard W. Haggard, New Haven, Conn., presented a paper on "The Treatment of Carbon Monoxid Poisoning." Discussed by Drs. Royd A. Sayers, Washington, D. C., Dr. C. A. Willis, Waltham, Mass., and Yandell Henderson, New Haven, Conn.

Drs. David Marine, New York, and Oliver P. Kimball, Youngstown, Ohio, presented a paper on "The Prevention of Simple Goiter in Man." Discussed by Dr. Milton J. Rosenau, Boston.

On motion of Dr. Robert A. Hatcher, New York, a rising vote of thanks was extended to the retiring officers.

Dr. Robert A. Cooke, New York, read a paper on "The Treatment of Bronchial Asthma." Discussed by Drs. I. Chandler Walker, Boston, and Robert A. Cooke, New York.

Drs. Carl Voegtlin, M. I. Smith and James M. Johnson, Washington, D. C., presented a paper on "Therapeutic Value of Chaulmoogra Oil and Derivatives in Experimental Tuberculosis." No discussion.

SECTION ON PATHOLOGY AND PHYSIOLOGY

WEDNESDAY, JUNE 8—MORNING

The meeting was called to order at 9:12 by the chairman, Dr. Edwin R. Le Count, Chicago.

Dr. Isaac Levin, New York, read a paper on "The Action of Radium and Roentgen Rays on Normal and Diseased Lymphoid Tissue." Discussed by Drs. Eden V. Delphey, New York; Walter G. Bain, Springfield, Ill.; Edwin R. Le Count, Chicago, and Isaac Levin, New York.

Drs. William F. Petersen and Clarence Saelhof, Chicago, presented a paper on "Organ Stimulation by Roentgen Rays." Discussed by Drs. Isaac Levin, New York; Arthur H. Curtis, Chicago, and William F. Petersen, Chicago.

Drs. Howard T. Karsner and T. Shen, Cleveland, presented a paper on "The Influence of Light on Uranium Poisoning." Discussed by Drs. William F. Petersen, Chicago; Edwin R. Le Count, Chicago, and Howard T. Karsner, Cleveland.

Drs. Frank C. Mann and Thomas B. Magath, Rochester, Minn., presented a paper on "The Removal of the Liver." Discussed by Drs. H. T. Karsner, Cleveland; Hilding Berghard, Boston; Bernard Raymond, Columbus, Ohio, and Frank C. Mann, Rochester, Minn.

Dr. W. H. Manwaring, Stanford University, Calif., read a paper on "Intestinal and Hepatic Reactions in Anaphylaxis." Discussed by Drs. H. T. Karsner, Cleveland; Edwin R. Le Count, Chicago, and W. H. Manwaring, Stanford University, Calif.

Dr. John A. Kolmer, Philadelphia, read a paper on "Standardization of the Wassermann Reaction." Discussed by Drs. John M. Blackford, Seattle, Wash.; Archibald McNeil, New York; A. I. Rubenstone, Philadelphia; A. J. Casselman, Camden, N. J., and John A. Kolmer, Philadelphia.

Dr. Myer Solis Cohen, Philadelphia, read a paper on "Hypersensitiveness in Pulmonary Tuberculosis to Both Exotoxins and Endotoxins of the Tubercle Bacillus." Discussed by Drs. John A. Kolmer, Philadelphia; Mary D. Rose, New York, and Myer Solis Cohen, Philadelphia.

Thursday, June 9—Morning

A joint meeting was held with the Sections on Practice of Medicine and on Pharmacology and Therapeutics. For a report of the proceedings, see the minutes of the Section on Practice of Medicine.

Friday, June 10—Morning

The meeting was called to order at 9 o'clock by the chairman.

The following officers were elected: chairman, John A. Kolmer, Philadelphia; secretary, Joseph J. Moore, Chicago; delegate, D. J. Davis, Chicago; alternate, W. B. Cannon, Boston.

The chairman stated that in the absence of members of the Executive Committee he had appointed Dr. William F. Petersen, Chicago, to act, and in the absence of both the regular delegate and the alternate delegate the Executive Committee had delegated Dr. Edwin R. Le Count, Chicago, to serve as delegate.

On motion, duly seconded and carried, the above appointments were approved by the section.

Dr. Eli Moschcowitz, New York, read a paper on "Minimal Renal Lesions Associated with Hypertension." Discussed by Drs. O. H. Perry Pepper, Philadelphia; Edwin R. Le Count, Chicago, and Eli Moschcowitz, New York.

Drs. Frederick M. Allen and James W. Sherrill, Morristown, N. J., presented a paper on "Symptoms Referable to the Etiologic Pathology in Diabetes." Discussed by Drs. A. Joslyn, New York; Reginald Fitz, Rochester, Minn.; R. Carrasco Tormiquera, Barcelona, Spain; Hilding Berghard, Boston, and Frederick M. Allen, Morristown, N. J.

Drs. Baldwin H. Lucke and Marion H. Rea, Philadelphia, presented a paper on "A Statistical Study of 321 Aneurysms." No discussion.

Dr. Kenneth M. Lynch, Charleston, S. C., read a paper on "Granuloma Inguinale." Discussed by Drs. Baldwin Lucke, Philadelphia, and Kenneth M. Lynch, Charleston, S. C.

Dr. B. S. Kline, New York, read a paper on "Spirochetal Pulmonary Gangrene." Discussed by Drs. O. H. Perry Pepper, Philadelphia; Jane F. Kennedy, Minneapolis, and B. S. Kline, New York.

Drs. Moses Behrend and Ammon G. Kershner, Philadelphia, presented a paper on "Comparative Results of the Ligation of the Hepatic Artery in Animals: Its Application to Man." Discussed by Drs. H. T. Karsner, Cleveland, and Baldwin Lucke, Philadelphia.

Dr. Albert C. Broders, Rochester, Minn., read a paper on "Epithelioma of the Genito-Urinary Organs." Discussed by Drs. Moses Behrend, Philadelphia; J. Shelton Horsley, Richmon, Va., and Albert C. Broders, Rochester, Minn.

SECTION ON STOMATOLOGY

Wednesday, June 8—Morning

The meeting was called to order at 9:30 o'clock by the chairman, Dr. Henry S. Dunning, New York.

Owing to the absence of the secretary, Dr. A. D. Black, Chicago, Dr. H. A. Potts, Chicago, was appointed secretary pro tem.

It was moved by Dr. E. S. Talbot, Chicago, that the secretary be instructed to send Dr. A. D. Black a night letter conveying to him the sympathy of the section on the illness in his family. Seconded and carried.

Dr. Henry S. Dunning, New York, read the chairman's address, entitled "What Do We Mean by Oral Surgery?"

Dr. Charles R. Turner, Philadelphia, read a paper entitled "Is There an Educational Program in Dentistry?"

Dr. William C. Fisher, New York, read a paper on "Postgraduate Instruction in the Several Specialties."

These three papers were discussed by Drs. E. S. Talbot, Chicago; V. P. Blair, St. Louis; L. M. S. Miner, Boston; Robert H. Ivy, Philadelphia; M. I. Schamberg, New York; C. A. DeLand, Warren, Mass.; F. B. Moorehead, Chicago; G. V. I. Brown, Milwaukee; B. C. Darling, New York, and Theodor Blum, New York.

Dr. Edward H. Hatton, Chicago, read a paper on "Histopathology of the Apical Region of Teeth with Partially Flled Root Canals."

Dr. Edward C. Rosenow, Rochester, Minn., read a paper on "Further Studies on Focal Infection and Elective Localization."

Dr. Charles A. Teifer, Muskegon, Mich., read a paper on "The Relation of Edentulous Jaws to Systemic Diseases."

These three papers were discussed by Drs. F. B. Noyes, Chicago; E. L. Fiske, New York; C. A. De Land, Warren, Mass.; M. I. Schamberg, New York; G. V. Satterly, New York; J. A. Pettit, Portland, Ore.; C. W. Crankshaw, East Orange, N. J.; E. S. Talbot, Chicago; E. C. Rosenow, Rochester, Minn.; F. S. De Lue, Boston, and Charles A. Teifer, Muskegon, Mich.

Thursday, June 9—Morning

The meeting was called to order at 9:30 o'clock by the chairman.

The nominating committee was appointed, consisting of Drs. M. I. Schamberg, New York; L. M. S. Miner, Boston, and F. B. Moorehead, Chicago.

The following applicants were approved for Associate Fellowship: Drs. Bissell B. Palmer, Jr., New York; E. H. Raymond, Jr., New York, and Henry Baer, Richmond, Va.

Dr. Frederick B. Moorehead, Chicago, read a paper on "The Principles Involved in the Surgical Correction of Cleft Palate and Harelip." Discussed by Drs. V. P. Blair, St. Louis; T. Brophy, Chicago, and W. L. Shearer, Omaha.

Dr. Raymond J. Wenker, Milwaukee, read a paper on "Dentigerous or Follicular Cyst."

Dr. George M. Dorrance, Philadelphia, read a paper on "Etiology and Pathology of Cysts of the Upper Jaw."

Dr. Joseph A. Pettit, Portland, Ore., read a paper on "Mandibular Tumors."

Dr. Joseph C. Bloodgood, Baltimore, read a paper on "Central Tumors of the Lower Jar."

Dr. Herbert A. Potts, Chicago, read a paper on "Report of a Case of Cephalic Chancroid and a Case of Bacteremia with Encephalitis."

These five papers were discussed by Drs. Robert H. Ivy, Philadelphia; Theodor Blum, New York; Thomas L. Gilmer, Chicago; M. I. Schamberg, New York; H. A. Potts, Chicago; V. P. Blair, St. Louis; L. T. LeWald, New York; G. V. I. Brown, Milwaukee; F. B. Moorehead, Chicago, and G. M. Dorrance, Philadelphia.

FRIDAY, JUNE 10—MORNING

The meeting was called to order by the vice chairman, Dr. H. A. Potts, Chicago.

Dr. E. S. Talbot, Chicago, was asked to act as secretary.

Dr. V. H. Kazanjian, Boston, read a paper on "Notes on Plastic Surgery of the Lips."

Dr. G. V. I. Brown, Milwaukee, read a paper on "The Nasal Relation of Harelip Operations."

These two papers were discussed by Drs. V. P. Blair, St. Louis; M. I. Schamberg, New York; A. J. Ochsner, Chicago; Ferris N. Smith, Grand Rapids, Mich.; W. E. Ladd, Boston; J. R. Eastman, Indianapolis; V. H. Kazanjian, Boston, and G. V. I. Brown, Milwaukee.

Dr. Joseph D. Eby, New York, read a paper on "The Epidermic Inlay." Discussed by Drs. Ferris N. Smith, Grand Rapids, Mich.; V. H. Kazanjian, Boston; V. P. Blair, St. Louis, and J. D. Eby, New York.

Dr. William I. Jones, Columbus, Ohio, read a paper on "The Determination of the Oxygen Need in Anesthesia." Discussed by Dr. G. V. I. Brown, Milwaukee.

Dr. S. L. Silverman, Atlanta, Ga., read a paper on "Trigeminal Neuralgia." Discussed by Drs. V. P. Blair, St. Louis; G. V. I. Brown, Milwaukee; H. A. Potts, Chicago, and S. L. Silverman, Atlanta, Ga.

Dr. Martin Dewey, New York, stated that it was unconstitutional for a section to appoint a nominating committee and that the Executive Committee should act as nominating committee. It was moved, seconded and carried that the Executive Committee act as nominating committee.

The following officers were elected: chairman, Dr. Herbert A. Potts, Chicago; vice chairman, Dr. Robert H. Ivy, Philadelphia; secretary, Dr. G. V. I. Brown, Milwaukee; delegate, Dr. E. S. Talbot, Chicago; alternate, Dr. A. D. Black, Chicago.

SECTION OF NERVOUS AND MENTAL DISEASES

WEDNESDAY, JUNE 8—MORNING

The meeting was called to order at 9:30 by the chairman, Dr. Arthur S. Hamilton, Minneapolis.

On account of the absence of Drs. Charles Eugene Riggs, St. Paul, and Archibald Church, Chicago, members of the Executive Committee, the chairman appointed Drs. Charles R. Ball, St. Paul, and Walter Schaller, San Francisco, as members to serve with Dr. Arthur S. Hamilton, Minneapolis, as an Executive Committee.

The chairman appointed Drs. E. W. Taylor, Boston; H. G. Brainerd, Los Angeles, and Dr. Lesser Kauffman, Buffalo, as a Nominating Committee.

Dr. Arthur S. Hamilton, Minneapolis, read the chairman's address, entitled "Postgraduate Training in Neuropsychiatry." No discussion.

Dr. Edward A. Tracy, Boston, read a paper on "Incipient Epilepsy, Its Diagnosis and Treatment." Discussed by Drs. Walter Timme, New York; Pierre Janet, Paris, France, and Edward A. Tracy, Boston.

Dr. Edmund Jacobson, Chicago, read a paper on "The Use of Experimental Psychology in the Practice of Medicine." Discussed by Drs. I. H. Coriat, Boston; Ella G. Stone, Boston; Charles R. Ball, St. Paul; C. R. Woodson, St. Joseph, Mo.; Henry Keller, New York; Walter F. Robie, Baldwinsville, Mass.; Miner Harlow Amos Evans, Boston, and Edmund Jacobson, Chicago.

Dr. Israel Bram, Philadelphia, read a paper on "The Psychic Factor in Exophthalmic Goiter." Discussed by Drs. Tom Williams, Washington, D. C.; Charles H. Mayo, Rochester, Minn., and Israel Bram, Philadelphia.

Dr. Isador H. Coriat, Boston, read a paper on "Some Personal Experiences with Cases of Myasthenia Gravis." Discussed by Drs. W. F. Schaller, San Francisco; Walter Timme, New York; G. H. Hoxie, Kansas City, Mo., and Isador H. Coriat, Boston.

THURSDAY, JUNE 9—MORNING

The meeting was called to order at 9:15 by the chairman, Dr. Arthur S. Hamilton, Minneapolis.

Dr. Smiley Blanton, Madison, Wis., read a paper on "The Medical Significance of the Disorders of Speech." Discussed by Drs. Walter Timme, New York; Walter B. Swift, Boston; Marcus Neustaedter, New York; Charles R. Ball, St. Paul, and Smiley Blanton, Madison, Wis.

Drs. Peter Bassoe and George B. Hassin, Chicago, presented a paper on "Calcification of the Cerebral Vessels Producing Clinical Syndrome Mistaken for Brain Tumor." Discussed by Drs. Percival Bailey, Boston; Walter Timme, New York, and Peter Bassoe, Chicago.

Dr. Karl A. Menninger, Topeka, Kan., read a paper on "Clinical Types of Congenital Neurosyphilis." Discussed by Drs. Sanger Brown, Chicago; Charles R. Ball, St. Paul; H. C. Solomon, Boston; Walter B. Swift, Boston, and Karl A. Menninger, Topeka, Kan.

Dr. Richard G. Rows, London, England, read a paper on "A Case Showing an Extraordinary Combination of Psychic, Neurologic and Anatomic Symptoms."

Dr. Pierre Janet, Paris, France, read a paper on "Alcoholism and Mental Depression."

These two papers were discussed by Drs. Tom Williams, Washington, D. C., and Morton Prince, Boston.

Dr. Charles R. Ball, St. Paul, read a paper on "Psychotherapy." Discussed by Dr. J. Mortimer Bessey, Toledo.

Dr. Tom Williams, Washington, read a paper on "Subjective Signs in Diagnosis." No discussion.

FRIDAY, JUNE 10—MORNING

The meeting was called to order at 9:25 by the chairman.

The following officers were elected: chairman, Dr. Peter Bassoe, Chicago; vice chairman, Dr. W. F. Schaller, San Francisco; secretary, Dr. J. B. Ayer, Boston; delegate, Dr. Walter Timme, New York; alternate, Dr. C. R. Ball, St. Paul.

Dr. George H. Benton, Waukesha, Wis., read a paper on "War Neuroses and Allied Conditions Manifest in Ex-Service Men as Observed in U. S. P. H. S. Hospitals for Psychoneurotics." Discussed by Drs. William House, Portland, Ore.; Edwin W. Hirsch, Chicago; Frank R. Starkey, Detroit; Charles R. Ball, St. Paul; C. R. Woodson, St. Joseph, Mo.; John F. Herrick, Ottumwa, Iowa, and George H. Benton, Waukesha, Wis.

Dr. Marcus Neustaedter, New York, read a paper on "The Report of a Case of Family Periodic Paralysis." Discussed by Drs. E. W. Taylor, Boston, and J. Mortimer Bessey, Toledo, Ohio.

Drs. David J. Kaliski and Israel Strauss, New York, presented a paper on "The Developments in the Treatment of Syphilis of the Central Nervous System." Discussed by Drs. W. F. Schaller, San Francisco; Harry C. Solomon, Boston; H. E. Foster, Boston; Henry F. Stoll, Hartford, Conn., and David J. Kaliski, New York.

Drs. Harold E. Foster and James B. Ayer, Boston, presented a paper on "Quantitative Estimation of Cerebrospinal Fluid Protein." Discussed by Drs. David J. Kaliski, New York; James B. Ayer, Boston; Josephine B. Neal, New York, and Harold E. Foster, Boston.

Dr. Walter D. Shelden, Rochester, Minn., read a paper on "Tumors of the Gasserian Ganglion: Report of Cases." Discussed by Drs. Peter Bassoe, Chicago; Foster Kennedy, New York; Percival Bailey, Boston; G. W. Hall, Chicago; Charles R. Ball, St. Paul, and Walter D. Shelden, Rochester, Minn.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Walter J. Highman, New York.

Dr. Walter J. Highman, New York, read the chairman's address, entitled "Syphilis as a Rural Problem."

The following papers were read as a symposium on "Syphilis":

Dr. Arthur William Stillians, Chicago: "Sarcoid and Syphilis."

Drs. Wade H. Brown and Louise Pearce, New York: "Clinical Manifestation of Disease as an Index to the Defensive Reaction of Animals Infected with Spirochaeta Pallida."

Dr. Harry G. Irvine, Minneapolis: "Three Hundred Cases of Syphilis After Five Years."

Dr. J. Frank Fraser, New York: "The Visceral Changes in Congenital Syphilis."

Drs. John A. Fordyce, Isadore Rosen and Elizabeth C. Jagle, New York: "An Analysis of One Thousand Cases of Syphilis in which Lumbar Puncture was Performed."

Drs. Harry C. Solomon, Boston, and Joseph V. Klauder, Philadelphia: "Neurosyphilis with Particular Reference to Cases Having Negative Spinal Fluid—The Question of Spontaneous Cure or Abortion of Neurosyphilis."

Dr. Mihran B. Parounagian, New York: "A Study of Silver Arsphenamin in the Treatment of Syphilis, Based on Three Thousand Injections."

These seven papers were discussed by Drs. Udo J. Wile, Ann Arbor, Mich.; John H. Stokes, Rochester, Minn.; Henry Honeyman Hazen, Washington, D. C.; Irving Simons, Nashville, Tenn.; Joseph Earle Moore, Baltimore; August Ravogli, Cincinnati; John E. Lane, New Haven, Conn.; Richard L. Sutton, Kansas City, Mo.; William H. Guy, Pittsburgh; Paul E. Pechet, New York; I. L. McGlasson, San Antonio, Texas; G. M. Katsainos, Boston; Herman Goodman, New York; Isadore Rosen, New York; J. V. Klauder, Philadelphia; Arthur W. Stillians, Chicago; J. Frank Fraser, New York; John A. Fordyce, New York, and Mihran B. Parounagian, New York.

THURSDAY, JUNE 9—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

The chairman appointed Dr. Henry H. Hazen, Washington, D. C., to serve on the Executive Committee in the place of Dr. Oliver S. Ormsby, Chicago, who was absent.

The secretary of the section, Dr. Harold N. Cole, Cleveland, having been called home on account of serious illness in his family, the chairman requested Dr. Henry H. Hazen, Washington, D. C., to act as secretary for the afternoon.

Dr. J. Frank Wallis, Washington, D. C., read a paper on "The Moulage Clinic." Discussed by Drs. Fred Wise, New York; Charles W. Bethune, Buffalo, and J. Frank Wallis, Washington, D. C.

Dr. Ernest Dwight Chipman, San Francisco, read a paper on "Streptococcic Dermatoses." Discussed by Drs. August Ravogli, Cincinnati; Charles J. White, Boston; Douglass W. Montgomery, San Francisco; Frank C. Knowles, Philadelphia; Charles M. Williams, New York; Richard L. Sutton, Kansas City, Mo., and Ernest Dwight Chipman, San Francisco.

Dr. Paul E. Bechet, New York, read a paper on "The Dermatologic Symptoms of Endocrine Dysfunction." Discussed by Drs. Udo J. Wile, Ann Arbor, Mich.; Lester Hollander, Pittsburgh; E. L. McEwen, Chicago; Fred Wise, New York, and Paul E. Bechet, New York.

Dr. Carroll S. Wright, Ann Arbor, Mich., read a paper on "Porokeratosis, with Report of a Case." Discussed by Drs. Walter J. Highman, New York; Udo J. Wile, Ann Arbor, Mich.; August Ravogli, Cincinnati; Fred Wise, New York, and Carroll S. Wright, Ann Arbor, Mich.

Drs. Henry H. Hazen and Frank J. Eichenlaub, Washington, D. C., presented a paper on "The Roentgen-Ray Treatment of Acne Vulgaris." Discussed by Drs. Richard L. Sutton, Kansas City, Mo.; Everett S. Lain, Oklahoma City; Fred Wise, New York; William H. Guy, Pittsburgh; William Allen Pusey, Chicago; Howard Fox, New York; Ernest L. McEwen, Chicago; L. B. Kline, New Haven, Conn.; Walter J. Highman, New York; I. L. McGlasson, San Antonio, Texas, and Henry H. Hazen, Washington, D. C.

Drs. Fred Wise and Howard J. Parkhurst, New York, presented a paper on "A Rare Form of Suppurating and Cicatrizing Disease of the Scalp (Perifolliculitis capitis abscedens et suffodiens)." Discussed by Drs. William Allen Pusey, Chicago; Frank Wallis, Washington, D. C., and Fred Wise, New York.

Drs. Frank Crozer Knowles and Henry M. Fisher, Philadelphia, presented a paper on "Xanthoma Tuberosum Multiplex in Childhood with Visceral Involvement." Discussed by Drs. William Allen Pusey, Chicago; Fred Wise, New York; Walter J. Highman, New York, and Frank Crozer Knowles, Philadelphia.

Dr. Albert Strickler, Philadelphia, read a paper on "The Toxin Treatment of Dermatitis Venenata." Discussed by Drs. Everett S. Lain, Oklahoma City; William Allen Pusey, Chicago; Henry H. Hazen, Washington, D. C., and Albert Strickler, Philadelphia.

FRIDAY, JUNE 10—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

The chairman requested Dr. C. Guy Lane, Boston, to serve as secretary for the afternoon.

The following officers were elected: chairman, Dr. Ernest Dwight Chipman, San Francisco; vice chairman, Dr. Harry G. Irvine, Minneapolis; secretary, Dr. Harold Newton Cole, Cleveland; delegate, Dr. Howard Fox, New York; alternate, Dr. Richard L. Sutton, Kansas City, Mo.

The following papers were read as a symposium on "Malignancies":

Dr. Albert Soiland, Los Angeles: "The Therapeutic Aspect of Radiation in Superficial Malignancies."

Dr. Richard L. Sutton, Kansas City, Mo.: "A Clinical Study of Carcinoma of the Nose."

Drs. Samuel E. Sweitzer and Henry E. Michelson, Minneapolis: "Primary Sarcoma of the Lip."

These three papers were discussed by Drs. Ernest Dwight, Chipman, San Francisco; Everett S. Lain, Oklahoma City; C. J. Broeman, Cincinnati; Albert Soiland, Los Angeles; Richard L. Sutton, Kansas City, Mo., and Samuel E. Sweitzer, Minneapolis.

The following papers were read as a symposium on "Dermatophytes":

Drs. Charles J. White and Arthur M. Greenwood, Boston: "Epidermophytosis."

Drs. Fred D. Weidman and Thomas M. McMillan, Philadelphia: "Studies on the Culture of Cutaneous Fungi."

Drs. Howard Fox and Thomas B. H. Anderson, New York: "Treatment of Ringworm of the Scalp with the Roentgen-Ray."

These three papers were discussed by Drs. James Herbert Mitchell, Chicago; Richard L. Sutton, Kansas City, Mo.; Charles M. Williams, New York; Clara Fitzgerald, Worcester, Mass.; John E. Lane, New Haven, Conn.; Fred Wise, New York; Ernest Dwight Chipman, San Francisco; Everett S. Lain, Oklahoma City; Walter J. Highman, New York; Charles J. White, Boston; Fred D. Weidman, Philadelphia, and Howard Fox, New York.

Drs. Oscar L. Levin and Max Kahn, New York, presented a paper on "Biochemical Studies in the Diseases of the Skin, II, Acne Vulgaris." Discussed by Dr. Fred Wise, New York, and Oscar L. Levin, New York.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

WEDNESDAY, JUNE 8.—MORNING

The meeting was called to order at 9:05 by the chairman, Dr. John D. McLean, Philadelphia.

Dr. John D. McLean, Philadelphia, read the chairman's address, entitled "Union of Medical Profession and Health Authorities Imperative."

A paper was presented from Dr. Livingston Farrand, Washington, D. C., on the topic "The Health Work of the American Red Cross." Discussed by Drs. Haven Emerson, New York; Charles J. Hatfield, Philadelphia, and E. A. Peterson, Washington, D. C.

Dr. Augustus B. Wadsworth, Albany, N. Y., read a paper on "Cooperation Between a Central State Laboratory and Local Municipal and County Laboratories." No discussion.

Dr. John A. Ferrell, New York, read a paper on "Measures for Increasing the Supply of Competent Health Officers." Discussed by Drs. Milton J. Rosenau, Boston; David L. Edsall, Boston; John A. Watkins, Cincinnati, and John A. Ferrell, New York.

Dr. Harold B. Wood, New York, read the following resolution and moved that it be accepted and presented to the House of Delegates:

WHEREAS, Civil service has been established for the purpose of benefiting the public by securing public employees of the highest qualifications, and,

WHEREAS, It is the intent of the civil service to obtain the services of those who are best qualified for the particular work to be done, and,

WHEREAS, The requirement of eligibility to civil service examination usually includes local residentship within the district, city or state in which employment is sought, or, in the case of the United States civil service, a residentship of one year, within the district in which the applicant files his application, and,

WHEREAS, The best qualified persons obtainable rarely live within the district in which they are examined or in which they are to serve, and men and women of the highest qualifications, including those of training and experience, are frequently debarred from the civil service examination for the sole reason of not being a legal resident in the district at the time, because of attendance at an educational institution in order to become perfected in the work which comes under civil service status, because of absences in other or similar public employment or occupation, or because the very nature of their employment prevents their maintaining a local registered address or prevents their making sworn application for a civil service examination from a bona fide resident; therefore, be it

Resolved, That the American Medical Association deprecates the discretionary requirements of city, district or state residentship as an essential qualification for determining standards of merit or admission to civil service examinations, and that the American Medical Association encourages the waiving of the city, district or state residentship clause from civil service examinations, and for the benefit of the public health requests and entreats the various municipal and state civil service commissions to omit all requirements of local residentship from civil service qualifications, particularly from those pertaining to public health employment, and that the American Medical Association requests and prays the United States Civil Service Commission to omit from its requirements the clause which requires the residentship of one year in the district from which the applicant files his application.

(Not transmitted to the House of Delegates.)

The motion not having been seconded, the chairman announced that in the absence of objection the resolution would be referred to the Executive Committee with full power to act. No objection was made.

Dr. Leslie L. Lumsden, Washington, D. C., read a paper on "Public Health and Private Practice." Discussed by Drs. Frank Billings, Chicago; Julius Levy, Newark, N. J.; John P. Davin, New York; E. H. Bigelow, Framingham, Mass., and Leslie L. Lumsden, Washington, D. C

Dr. Leslie L. Lumsden, Washington, D. C., read the following resolution, which Dr. E. H. Bigelow of Framingham, Mass., moved be accepted and presented to the House of Delegates:

Resolved, That the Section on Preventive Medicine and Public Health of the American Medical Association recommends to the House of Delegates that it ask the constituent associations to consider the advisability of such amendments to their by-laws and to those of this Association as will eliminate from membership any officer who wilfully fails or refuses to comply with local or state health laws for the prevention of disease, including especially the provisions in such laws requiring the reporting of communicable diseases.

(See minutes of the House of Delegates.)

The motion having been seconded by several members, the question was put and the motion prevailed without dissent.

Dr. Henry Dwight Chapin, New York, read a paper entitled "The Relation of the Child to Hospital Social Service." Discussed by Drs. Henry I. Bowditch, Boston; Fritz B. Talbot, Boston; William A. Evans, Chicago; Rachelle S. Yarros, Chicago; Charles Herrman, New York, and Henry Dwight Chapin, New York.

Dr. Otto P. Geier, Cincinnati, offered the following resolution and moved that it be accepted.

WHEREAS, The extension of preventive medical work in industry included in the new specialty of industrial medicine has made such rapid growth with definite contribution to the science of preventive medicine, and,

WHEREAS, The problems of the industrial health physician closely parallels the work of the public health officer, and,

WHEREAS, The Association of Industrial Physicians and Surgeons, an organized body of some 500 industrial physicians, has presented to the Committee on Scientific Assembly the advisability of establishing a section on Industrial Medicine, or that provision be made for a fusion of name and interest between itself and the Section on Preventive Medicine and Public Health, and,

WHEREAS, The hopes and purposes for medical, social and economic progress in these two groups are so closely allied; therefore, be it

Resolved, That the Section on Preventive Medicine and Public Health expresses to the Committee on Scientific Assembly its most sympathetic attitude toward the fusion of these two working groups, and hereby authorizes them to arrange for a conference between the officers of this section and those of the industrial physicians for the purpose of establishing a section on . . .

And the section may be called whatsoever you please, "Section on Preventive and Industrial Medicine and Public Health" or whatever you like.

The motion having been duly seconded, the question was put, and the motion prevailed unanimously.

THURSDAY, JUNE 9—MORNING

The Executive Committee presented the following resolution, read by the Secretary, the adoption of which was moved by Dr. W. S. Leathers, University, Mass.:

The committee recommends that the name of the Section on Preventive Medicine and Public Health be changed to section on Preventive and Industrial Medicine and Public Health.

(See minutes of the House of Delegates.)

Dr. Harold B. Wood, New York, presented and moved an amendment to the foregoing resolution, that the name of the section be changed to "Section on Public Health." After discussion by Drs. Otto P. Geier, Cincinnati; A. W. Colcord, Clairton, Pa.; William C. Woodward, Boston, and John D. McLean, Harrisburg, Pa., the amendment was defeated and the resolution presented by the committee, having been duly moved and seconded, was adopted.

Dr. Harold B. Wood, New York, offered the following resolution, which by unanimous consent was substituted for the resolution presented by him on the preceding day:

WHEREAS, Civil service has been established for the purpose of securing public employees of the highest qualifications, and legal residentship is usually required of applicants taking civil service examinations; and

WHEREAS, The best qualified persons are frequently debarred from civil service examinations for the sole reason of not being a legal resident in the district to be served or from which the application is to be filed; be it

Resolved, That the American Medical Association deprecates the discretionary requirements of city, district or state residentship as a requirement of civil service, and requests various municipal and state civil service commissions and the United States Civil Service Commission to waive and omit from their requirements that qualification of residentship.

(Not transmitted to the House of Delegates.)

Dr. Harold B. Wood, New York, read the foregoing resolution and moved that it be accepted and submitted to the House of Delegates, and the motion having been seconded by Dr. Otto P. Geier, Cincinnati, the question was put and the motion prevailed without dissent.

Dr. Oscar Dowling, New Orleans, read the following resolution, and moved that it be accepted and submitted to the House of Delegates:

WHEREAS, National health is a foundation of national prosperity and happiness, and

WHEREAS, The most important function of government is the protection and promotion of public health; now, therefore, be it

Resolved, By the House of Delegates of the American Medical Association, that the protection of the public health should not be submerged in a proposed department of public welfare; but that a Department of Health, with a secretary in the President's cabinet, be created.

(See minutes of the House of Delegates.)

The question was put, and the motion prevailed without dissent.

The chairman reported the following resolution on behalf of the Executive Committee:

It is recommended that the Executive Secretary of the American Medical Association be directed to follow closely all legislation, both state and national, through an organization to be formed throughout each state.

(See minutes of the House of Delegates.)

The resolution was moved by Dr. Harold B. Wood, New York, and seconded by Dr. Otto P. Geier, Cincinnati, and the question was put and unanimously adopted.

Dr. Edith B. Lowry, St. Charles, Ill., read a paper on "The State's Standard of Child Health." Discussed by Drs. Merrill E. Champion, Boston; C. B. Wood, Monongahela, Pa., and Edith B. Lowry, St. Charles, Ill.

Dr. Allan J. McLaughlin, Washington, D. C., read a paper on "The Control of Communicable Diseases: Federal, Municipal and State." Discussed by Drs. B. Franklin Royer, Philadelphia; Rachelle S. Yarros, Chicago; A. W. Colcord, Clairton, Pa.; J. W. Loughlin, Damariscotta, Maine, and Allan J. McLaughlin, Washington, D. C.

Dr. Hugh O. Jones, Chicago, read a paper on "Communicable Diseases of Childhood and Their Control." Discussed by Drs. Eugene Kelly, Boston; John F. Hogan, Baltimore; Charles Herrman, New York; C. B. Wood, Monongahela, Pa.; John D. McLean, Harrisburg, Pa., and Hugh O. Jones, Chicago.

Dr. Isaac A. Abt, Chicago, read a paper on "Sequelae of Communicable Diseases of Childhood." Discussed by Dr. B. Franklin Royer, Philadelphia.

FRIDAY, JUNE 10—MORNING

The following officers were elected: chairman, Dr. S. W. Welch, Montgomery, Ala.; vice chairman, Bernard W. Carey, Boston; delegate, John D. McLean, Harrisburg, Pa.; alternate, James A. Hayne, Columbia, S. C.

Dr. Bernard W. Carey, Boston, read a paper on "Diphtheria Control." Discussed by Drs. John T. Black, Hartford, Conn.; Edward L. Bauer, Philadelphia; C. A. Earle, Desplaines, Ill.; Abraham Zingher, New York; Benjamin T. Loring, Watertown, Mass.; Benjamin White, Boston, Mass.; John D. McLean, Harrisburg, Pa.; F. G. Curtis, Newton, Mass., and Bernard W. Carey, Boston, Mass.

Dr. John F. Hogan, Baltimore, read a paper on "Laryngeal Diphtheria." Discussed by Drs. S. W. Welch, Montgomery, Ala.; W. W. Tompkins, Charleston, W. Va.; H. J. Cartin, Johnstown, Pa.; James A. Hayne, Columbia, S. C.; Charles B. Stevens, Worcester, Mass.; C. C. Hudson, Richmond, Va., and John F. Hogan, Baltimore.

Dr. Henry Boswell, Sanatorium, Miss., read a paper on "Fundamental Factors in the Control of Tuberculosis, with Special Reference to the Sanatorium." Discussed by Drs. T. R. Love, Denver; Edward O. Otis, Boston; C. B. Wood, Monongahela, Pa., and Henry Boswell, Sanatorium, Miss.

Dr. Charles F. Craig, Washington, D. C., read a paper on "The Relation of Unrecognized Infections to the Production of 'Carriers' of Pathogenic Organisms." No discussion.

Drs. Philip C. Bartlett and Donald B. Armstrong, Framingham, Mass., presented a paper on "Medical Results of the Framingham County Health and Tuberculosis Demonstration." Discussed by Drs. Roger I. Lee, Boston; Edward O. Otis, Boston, and Philip C. Bartlett, Framingham, Mass.

Dr. John F. Hogan, Baltimore, read the following resolution and moved that it be adopted:

WHEREAS, Back in the dark ages of public health when health officers were looked on as sanitary inspectors, all types of quarantine were almost identical, the word taken from the Italian word "Quanto," meaning forty, probably forty days, and then later was introduced from the termination of all quarantines a method which was thought very effective for cleaning and ridding places and objects of germs, a gas—formaldahyd, and,

WHEREAS, We have known for years from investigation by many that such disinfection is valueless, as has been proved repeatedly by experimentation, by subjecting cultures and organisms on cotton, gauze and other similar objects saturated with these various etiologic factors of disease, to formaldehyd gas of various strengths, and for various lengths of time, without destroying these organisms;

Therefore, As health officers it is our duty to instruct the public as to correct methods and not to allow the public to place faith in a remedy that we know to be ineffective.

After discussion by Drs. M. J. Rosenau, Boston; James A. Hayne, Columbia, S. C., and Eugene Kelly, Boston, on motion of Dr. Hayne, seconded by Dr. Kelly, it was voted to refer the resolution to the Executive Committee for their investigation and report to the section next year.

SECTION ON UROLOGY

WEDNESDAY, JUNE 8—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr. Richard F. O'Neil, Boston.

Dr. E. Otis Smith, Cincinnati, read a paper on "Urology and the General Practitioner." Discussed by Drs. W. C. Quinby, Boston; A. E. Goldstein, Baltimore, and E. Otis Smith, Cincinnati.

Dr. LeRoy Sante, St. Louis, read a paper on "Pneumoperitoneum as an Aid in the Roentgenologic Diagnosis of Lesions of the Urinary Tract." Discussed by Drs. Louis LeFrak, New York; Abraham Hyman, New York; Benjamin S. Barringer, New York; Herman L. Kretschmer, Chicago, and Le Roy Sante, St. Louis.

Drs. Abraham Hyman and Lewis T. Mann, New York, presented a paper on "The Value and Reliability of Guinea-Pig Inoculations in Renal Tuberculosis." Discussed by Drs. James D. Barney, Boston; Edward L. Keyes, Jr., New York, and Abraham Hyman, New York.

Dr. William E. Stevens, San Francisco, read a paper on "Modern Methods of Diagnosis and Treatment of Pathologic Conditions of the Urinary Tract in Children." Discussed by Drs. Herman L. Kretschmer, Chicago; Bransford Lewis, St. Louis; John R. Caulk, St. Louis; Alexander R. Stevens, New York; Abraham Hyman, New York; F. P. Gengenbach, Denver; Charles M. Harpster, Toledo, Ohio; Frank Hinman, San Francisco; George R. Livermore, Memphis, Tenn., and William E. Stevens, San Francisco.

Dr. John R. Caulk, St. Louis, read a paper on "Factors which Influence the Results and Mortality of Kidney Surgery." Discussed by Drs. Edward L. Keyes, Jr., New York; James D. Barney, Boston; Benjamin S. Barringer, New York; E. G. Crabtree, Boston; Abraham Hyman, New York, and John R. Caulk, St. Louis.

Drs. Edward L. Keyes, Jr., and Herbert Mohan, New York, presented a paper on "A Study of the Phenolsulphonephthalein Concentration in Urine After Intravenous Injection, with Special Reference to Urines Obtained by Ureter Catheter." Discussed by Drs. John T. Geraghty, Baltimore; William E. Stevens, San Francisco, and E. L. Keyes, Jr., New York.

Drs. Herman C. Bumpus and J. C. Meisser, Rochester, Minn., presented a paper on "The Rôle of Foci Infection in Cases of Pyelonephritis." Discussed by Drs. E. G. Crabtree, Boston; George R. Livermore, Memphis, and Herman C. Bumpus, Rochester, Minn.

Dr. Vincent J. O'Conor, Chicago, read a paper on "Lavage of the Renal Pelvis: An Experimental Study." Discussed by Drs. William C. Quinby, Boston; Herman L. Kretschmer, Chicago; A. E. Goldstein, Baltimore; Victor D. Lespinasse, Chicago; John R. Caulk, St. Louis; John T. Geraghty, Baltimore; Homer G. Hamer, Indianapolis; A. J. Crowell, Charlotte, N. C.; E. J. Ballenger, Atlanta, Ga.; Richard F. O'Neil, Boston; Joseph Hume, New Orleans; Francis R. Hagner, Washington, D. C., and Vincent J. O'Conor, Chicago.

In the absence of Drs. William F. Braasch, Rochester, Minn., and William E. Lower, Cleveland, the chairman appointed Drs. John R. Caulk, St. Louis, and A. L. Chute, Boston, to serve on the Executive Committee.

THURSDAY, JUNE 9—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr. Richard F. O'Neil, Boston.

Dr. Richard F. O'Neil, Boston, read the chairman's address, entitled "A Plea for the Early Recognition of the Symptoms of Urologic Lesions."

Dr. Frank Hinman, San Francisco, read a paper on "Structural Results with Prostatectomy with Reference to Methods of Enucleation, Based on a Study of 136 Cases." Discussed by Drs. A. L. Chute, Boston; B. A. Thomas, Philadelphia; Leo Buerger, New York; A. J. Crowell, Charlotte, N. C., and Frank Hinman, San Francisco.

Drs. Homer G. Hamer and Henry O. Mertz, Indianapolis, presented a paper on "The Clinical Expression of Internal Secretion of the Prostate in Prostatic Hypertrophy." Discussed by Dr. Edward L. Keyes, Jr., New York.

Dr. Henry G. Bugbee, New York, read a paper on "Prostatectomy in Bad Surgical Risks." Discussed by Drs. Herman L. Kretschmer, Chicago; Bransford Lewis, St. Louis; Robert H. Herbst, Chicago; Herman C. Bumpus, Rochester, Minn.; A. M. Wose, Syracuse, N. Y.; A. L. Chute, Boston; Joseph Hume, New Orleans; George R. Livermore, Memphis, Tenn.; Leo Buerger, New York; F. R. Hagner, Washington, D. C.; V. J. O'Conor, Chicago, and Henry G. Bugbee, New York.

Drs. Robert H. Herbst and Alvin Thompson, Chicago, presented a paper on "Adenocarcinoma of the Bladder with Report of a Case." Discussed by Drs. Benjamin S. Barringer, New York; Charles M. Harpster, Toledo, Ohio; A. J. Scholl, Jr., Rochester, Minn.; Herman L. Kretschmer, Chicago, and Robert H. Herbst, Chicago.

Drs. Benjamin A. Thomas and George E. Pfahler, Philadelphia, presented a paper on: "The Technical Treatment of Carcinoma of the Bladder and Prostate by Electrocoagulation and Radium Implantation." Discussed by Drs. Robert H. Herbst, Chicago; George G. Smith, Boston; Bransford Lewis, St. Louis; Benjamin S. Barringer, New York; A. B. Cecil, Los Angeles; Herman C. Bumpus, Rochester, Minn.; Edward L. Keyes, Jr., New York, and Benjamin A. Thomas, Philadelphia.

Drs. Benjamin S. Barringer and Archie L. Dean, Jr., New York, presented a paper on "The Radium Therapy of Teratoid Tumors of the Testis." Discussed by Drs. Edward L. Keyes, Jr., New York; Frank Hinman, San Francisco; James D. Barney, Boston, and Archie L. Dean, Jr., New York.

FRIDAY, JUNE 10—MORNING

The meeting was called to order at 9 o'clock by the chairman.

The following officers were elected for the ensuing year: chairman, James A. Gardner, Buffalo; vice chairman, A. J. Crowell, Charlotte, N. C.; secretary, Herman L. Kretschmer, Chicago; delegate, Carl L. Wheeler, Lexington, Ky.; alternate, Oliver Lyons, Denver.

Dr. Ernest M. Watson, Buffalo, read a paper on "The Structural Basis for Congenital Valve in the Posterior Urethra: An Etiologic Study." Discussed by Drs. William C. Quinby, Boston; Leo Buerger, New York; Edwin Beer, New York, and E. M. Watson, Buffalo.

Dr. Abraham L. Wolbarst, New York, read a paper on "Urethroscopic Findings in Functional Disorders of Genito-Urinary Tract."

Drs. Edward W. White, Chicago, and Rutherford B. H. Gradwohl, St. Louis, presented a paper on "Seminal Vesiculitis. Symptomatology, Differential Diagnosis, Treatment and Bacteriologic Studies."

These two papers were discussed by Drs. Charles M. Harpster, Toledo, Ohio; George R. Livermore, Memphis, Tenn.; H. M. Young, St. Louis; Victor D. Lespinasse, Chicago; William E. Stevens, San Francisco; A. L. Wolbarst, New York, and Rutherford B. H. Gradwohl, St. Louis.

Dr. John T. Geraghty, Baltimore, read a paper on "Study of Cases of Bilateral Renal Calculi: Indications and Contraindications for Operation." Discussed by Drs. Francis R. Hagner, Washington, D. C.; John H. Cunningham, Boston; Frank Hinman, San Francisco; Edward L. Keyes, Jr., New York; A. J. Crowell, Charlotte, N. C.; Edwin Beer, New York; John R. Caulk, St. Louis; Richard F. O'Neil, Boston, and John T. Geraghty, Baltimore.

Dr. Edwin Beer, New York, read a paper on "The Technic of Aseptic Nephro-Ureterectomy and Its Indications." Discussed by Drs. John R. Caulk, St. Louis; Richard F. O'Neil, Boston, and Edwin Beer, New York.

Dr. John L. Crenshaw, Rochester, Minn., read a paper on "Vesical Calculi." Discussed by Dr. James D. Barney, Boston, and John L. Crenshaw, Rochester Minn.

Dr. Phillips A. Jacobs, Cleveland, read a paper on "A New Nonoperative Procedure for the Removal of Impacted Calculus in the Urethra." Discussed by Drs. Edwin Beer, New York; A. L. Wolbarst, New York; A. J. Crowell, Charlotte, N. C., and Phillips A. Jacobs, Cleveland.

SECTION ON ORTHOPEDIC SURGERY

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Melvin S. Henderson, Rochester, Minn.

On account of the absence of Dr. George W. Hawley, New York, the chairman appointed Dr. Willis C. Campbell, Memphis, Tenn., as a member of the Executive Committee.

Dr. George I. Bauman, Cleveland, read a paper on "Report of Two Cases of Kohler's Disease." Discussed by Drs. Henry W. Frauenthal, New York; Edwin W. Ryerson, Chicago; Willis C. Campbell, Memphis, Tenn., and George I. Bauman, Cleveland.

Dr. Emil S. Geist, Minneapolis, read a paper on "Osteomyelitis of the Pelvis." No discussion.

The following papers were read as a symposium on "Fractures of the Hip":

Dr. Charles E. Ruth, Des Moines, Iowa: "Anatomic Treatment of Fractures Through the Trochanter and Neck of Femur."

Dr. Royal Whitman, New York: "Demonstration of the Abduction Method as Exponent of Radical Reform in Treatment of Fracture of Neck of Femur."

Dr. John Ridlon, Chicago: "Results of Fracture of the Neck of the Femur Without Treatment."

These three papers were discussed by Drs. Charles E. Thomson, Scranton, Pa.; A. J. Ochsner, Chicago; Willis C. Campbell, Memphis, Tenn.; Edwin W. Ryerson, Chicago; E. H. Bradford, Boston; L. S. Kemp, Boston; Walter G. Stern, Cleveland; Fred H. Albee, New York; George B. Packard, Denver; Horace R. Allen, Indianapolis; Frederic J. Cotton, Boston; C. V. Zwalenburg, Riverside, Calif.; Charles E. Ruth, Des Moines, Iowa; Royal Whitman, New York, and John Ridlon, Chicago.

Dr. Armitage Whitman, New York, read a paper on "The End-Results of the Whitman Operation for Ununited Fracture of the Neck of the Femur."

Dr. Charles Davison, Chicago, read a paper on "Bone Transplant in the Treatment of Ununited Fractures of the Neck of the Femur."

These two papers were discussed by Drs. Elliott G. Brackett, Boston; Frederic J. Cotton, Boston; Melvin S. Henderson, Rochester, Minn.; Hubley R. Owen, Philadelphia; John Ridlon, Chicago; Fred H. Albee, New York; Edwin W. Ryerson, Chicago; Willis C. Campbell, Memphis, and Armitage Whitman, New York.

Dr. James Archer O'Reilly, St. Louis, read a paper on "The Lumbosacral Spine." Discussed by Dr. Jefferson D. Griffith, Kansas City, Mo.

THURSDAY, JUNE 9—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

Dr. Robert E. Humphries, New York, read a paper on "The Operative Treatment of Scoliosis, with Report of Cases." Discussed by Drs. Z. B. Adams, Boston; Samuel Kleinberg, New York, and Robert E. Humphries, New York.

Dr. Melvin S. Henderson, Rochester, Minn., read the chairman's address, entitled "Bone Transplantation: Its Use and Value." No discussion.

Dr. Vittorio Putti, Bologna, Italy, read a paper on "The Operative Lengthening of the Femur." Discussed by Drs. Philip D. Wilson, Boston, and Paul B. Magnuson, Chicago.

Dr. Jacques Calvé, Berck, Plage, France, read a paper on "The Treatment of High Dorsal Scoliosis with Its Accompanying Serious Deformity." Discussed by Dr. Samuel Kleinberg, New York.

Dr. Walter I. Baldwin, San Francisco, read a paper on "Some Principles of Arthroplastic Operations." Discussed by Drs. Arthur Steindler, Iowa City; Andrew R. MacAusland, Boston; Willis C. Campbell, Memphis, Tenn.; Edwin W. Ryerson, Chicago; Walter G. Stern, Cleveland; Henry Keller, New York, and Walter I. Baldwin, San Francisco.

Dr. Frederick J. Gaenslen, Milwaukee, read a paper on "The Treatment of Tuberculosis of the Ankle." Discussed by Sir Robert Jones, Liverpool, England.

Dr. Horace R. Allen, Indianapolis, read a paper on "The Iliosacral Joints." Discussed by Drs. Joel E. Goldthwaite, Boston; R. W. Knox, Houston, Texas; C. L. Lowman, Los Angeles, and Horace R. Allen, Indianapolis.

Dr. Samuel Kleinberg, New York, read a paper on "Whitman's Loop Operation." Discussed by Dr. Walter G. Stern, Cleveland.

FRIDAY, JUNE 10—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

A resolution was passed asking the Committee on Medical Education of the American Medical Association to continue the committee it appointed on Graduate Education in Orthopedic Surgery.

The following officers were elected: chairman, Dr. H. Winnett Orr, Lincoln, Neb.; vice chairman, Dr. W. C. Campbell, Memphis, Tenn.; secretary, Dr. H. B. Thomas, Chicago; delegate, Dr. John Ridlon, Chicago; alternate, Dr. Frank R. Ober, Boston.

Dr. S. Fosdick Jones, Denver, read a paper on "Sclerosing, Nonsuppurative Osteomyelitis as Described by Garrè, with Roentgenographic and Pathologic Findings." Discussed by Drs. Edwin W. Ryerson, Chicago; Frederick J. Gaenslen, Milwaukee; Sir Robert Jones, Liverpool, England, and S. Fosdick Jones, Denver.

Dr. Willis C. Campbell, Memphis, Tenn., read a paper on "Operative Treatment of Old Fractures and Dislocations of the Elbow." Discussed by Drs. H. Winnett Orr, Lincoln, Neb.; Sir Robert Jones, Liverpool, England; T. L. Deavor, Syracuse, N. Y., and Willis C. Campbell, Memphis, Tenn.

Dr. Robert E. Soule, Newark, N. J., read a paper on "The Value of Bone Pin Arthrodesis in the Treatment of Flat Foot." Discussed by Drs. H. Winnett Orr, Lincoln, Neb.; Edwin W. Ryerson, Chicago, and Robert E. Soule, Newark, N. J.

Dr. Joseph J. Kurlander, Cleveland, read a paper on "Fractures of the Spine of the Tibia." Discussed by Drs. Roland Hammond, Providence, R. I.; Sir Robert Jones, Liverpool, England; Charles F. Painter, Boston; Horace R. Allen, Indianapolis, and Joseph J. Kurlander, Cleveland.

Dr. Charles E. Thomson, Scranton, Pa., read a paper on "Fractures of the Vertebrae and Their Treatment." Discussed by Drs. Charles F. Painter, Boston; Edgar Sturge, Scranton, Pa.; Zabdiel B. Adams, Boston; Frederick J. Gaenslen, Milwaukee; Horace R. Allen, Indianapolis, and Charles E. Thomson, Scranton, Pa.

Dr. Arthur Steindler, Iowa City, read a paper on "Muscle Educational Treatment and Results of Orthopedic Work on the Upper Extremity." Discussed by Drs. Mark H. Rogers, Boston; Frank R. Ober, Boston, and Arthur Steindler, Iowa City.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2:10 by the chairman, Dr. Louis J. Hirschman, Detroit.

Dr. Louis J. Hirschman, Detroit, read the chairman's address, entitled, "The Teaching of Gastro-Enterology and Proctology."

Drs. Charles W. McClure and A. S. Wetmore, Boston, presented a paper on "Enzymatic Activity of Duodenal Contents in Normal Men."

Drs. Julius Friedenwald and Joseph Sindler, Baltimore, presented a paper on "Some Observations on the Fractional Analysis of the Duodenal Contents in Normal Individuals."

Dr. Max Einhorn, New York, read a paper on "Experience with the Fractional Examination of the Duodenal Contents in Peptic Ulcer."

These three papers were discussed by Drs. I. O. Palefski, New York; Clement R. Jones, Pittsburgh; J. D. Dunham, Columbus, Ohio; Anthony Bassler, New York; F. W. White, Boston; M. E. Rehfuss, Philadelphia; C. W. McClure, Boston, and Max Einhorn, New York.

Dr. Martin E. Rehfuss and Prof. Philip B. Hawk, Philadelphia, presented a paper on "A Study of the Gastric Digestion of Foods in the Normal Individual." Discussed by Drs. David Riesman, Philadelphia; Anthony Bassler, New York; Edmund Jacobson, Chicago, and Martin E. Rehfuss, Philadelphia.

Dr. Ernest Gaither, Baltimore, read a paper on "The Interpretation of Digestive Symptomatology."

Dr. John M. Blackford, Seattle, read a paper on "Subjective Gastric Indigestion."

These two papers were discussesd by Drs. C. G. Stockton, Buffalo; Robert Pollock, San Diego, Calif.; Joseph Sailer, Philadelphia; L. H. Levy, New Haven, Conn.; T. R. Love, Denver; Ernest H. Gaither, Baltimore, and John M. Blackford, Seattle.

Dr. Thomas R. Brown, Baltimore, read a paper on "The Dietetic Treatment of Headache." Discussed by Drs. W. A. Bastedo, New York, and Thomas R. Brown, Baltimore.

THURSDAY, JUNE 9—AFTERNOON

The meeting was called to order at 2:10 by the chairman.

Dr. Collier F. Martin, Philadelphia, was appointed a member of the Executive Committee in the absence of Dr. William M. Beach, Pittsburgh.

Dr. Burrill B. Crohn, New York, read a paper on "Association of Gastric and Duodenal Ulcer with the Tabetic Crises of Syphilis." Discussed by Drs. Anthony Bassler, New York; J. D. Dunham, Columbus, Ohio; Logan Clendening, Kansas City, Mo.; Emanuel Libman, New York; G. B. Eusterman, Rochester, Minn.; B. B. Vincent Lyon, Philadelphia, and Burrill B. Crohn, New York.

Dr. Lewis Gregory Cole, New York, read a paper on "The Malignancy or Nonmalignancy of Gastric Ulcer." Discussed by Drs. J. T. Case, Battle Creek, Mich.; J. C. Johnson, Atlanta, Ga.; Louis Lefrak, New York; P. E. Truesdale, Fall River, Mass., and Lewis Gregory Cole, New York.

Dr. Logan Clendening, Kansas City, Mo., read a paper on "The Causes of Unfavorable Symptoms After Gastro-Enterostomy and Their Treatment."

Dr. George B. Eusterman, Rochester, Minn., read a paper on "Diagnostic and Therapeutic Aspects of Late Sequelae of Gastric Surgery."

These two papers were discussed by Drs. B. W. Sippy, Chicago; J. Shelton Horsley, Richmond, Va., and George B. Eusterman, Rochester, Minn.

Dr. Abraham H. Aaron, Buffalo, read a paper on "The Phenoltetrachlorphthalein Test of Liver Functions."

Dr. Charles G. Stockton, Buffalo, read a paper on "The Meaning of Jaundice."

These two papers were discussed by Drs. G. B. Eusterman, Rochester, Minn., and Abraham H. Aaron, Buffalo.

Drs. Frank Smithies, Clyde F. Karshner and Richard Bartlett Oleson, Chicago, presented a paper on "Nonsurgical Drainage of the Biliary Tract: Its Usefulness Diagnostically and Therapeutically."

Drs. B. B. Vincent Lyon and Henry J. Bartle, Philadelphia, presented a paper on "Biliary Tract Disease—Some Lessons Learned from Duodenobiliary Drainage—Future Problems."

These two papers were discussed by Drs. S. R. Miller, Baltimore; S. K. Simon, New Orleans; James B. Luckie, Pasadena, Calif.; F. W. White, Boston, and B. B. Vincent Lyon, Philadelphia.

FRIDAY, JUNE 10—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

The following officers were elected: chairman, H. W. Soper, St. Louis; vice chairman, J. Rawson Pennington, Chicago; secretary, Franklin W. White, Boston; delegate, Alois B. Graham, Indianapolis; alternate, Sidney K. Simon, New Orleans.

Dr. P. E. Truesdale, Fall River, Mass., read a paper on "Diaphragmatic Hernia of the Stomach." Discussed by Drs. D. F. Jones, Boston; F. W. White, Boston; L. T. LeWald, New York, and P. M. Truesdale, Fall River, Mass.

Dr. John Bryant, Boston, read a paper on "The Normal Incidence of Visceroptosis, as Determined by 1,966 Observations on 290 Postmortem Sections of All Ages and Both Sexes." Discussed by Drs. L. B. Morrison, Boston; J. L. Kantor, New York; Frank Smithies, Chicago, and John Bryant, Boston.

Dr. Sidney K. Simon, New Orleans, read a paper on "A Case of Giardia Intestinalis Infestation Successfully Treated by Transduodenal Lavage." Discussed by Drs. H. J. Bartle, Philadelphia; J. L. Kantor, New York; Frank Smithies, Chicago, and Sidney K. Simon, New Orleans.

Dr. Frank C. Yeomans, New York, read a paper on "Chronic Ulcerative Colitis." Discussed by Drs. H. W. Soper, St. Louis; R. W. Jackson, Fall River, Mass.; S. G. Gant, New York; J. M. Lynch, New York; J. B. Luckie, Pasadena, Calif.; C. D. Spivak, Denver, and Frank C. Yeomans, New York.

Dr. Samuel G. Gant, New York, read a paper on "Rectocolonic Diverticula, Diverticulitis and Peridiverticulitis." Discussed by Drs. A. W. George, Boston; H. W. Soper, St. Louis; J. R. Pennington, Chicago; F. C. Yeomans, New York and Samuel G. Gant, New York.

Dr. Jerome M. Lynch, New York, read a paper on "The Surgical Therapy of Cancer of the Rectum." Discussed by Drs. Collier F. Martin, Philadelphia; A. J. Ochsner, Chicago; P. E. Truesdale, Fall River, Mass.; S. G. Gant, New York; F. C. Yeomans, New York, and Jerome M. Lynch, New York.

SECTION ON MISCELLANEOUS TOPICS

MEETING ON ANESTHESIA

WEDNESDAY, JUNE 8—AFTERNOON

The meeting was called to order at 2:10 by the chairman, Dr. James T. Gwathmey, New York.

Dr. James T. Gwathmey, New York, read the chairman's address, entitled "Current Progress in the Science and the Practice of Anesthesia."

Dr. Raymond C. Coburn, New York, read a paper on "The Acapnia Theory, Now." Discussed by Prof. Yandell Henderson, New Haven, Conn., and Drs. John J. Buettner, Syracuse, N. Y.; Isabella C. Herb, Chicago; J. McK. Cattell, Garrison, N. Y., and Raymond C. Coburn, New York.

Dr. Arthur E. Guedel, Minneapolis, read a paper on "A Classification of Anesthetic Signs and Effects on Cardiovascular System of Ethyl Chlorid in Anesthetic Dosage in Man." Discussed by Drs. F. Hoeffer McMechan, Avon Lake, Ohio; Lincoln F. Sise, Boston; H. E. G. Boyle, London, England; James T. Gwathmey, New York, and Arthur E. Guedel, Minneapolis.

Dr. Elmer I. McKesson, Toledo, Ohio, read a paper on "Some Anesthetic Aids in Surgery." Discussed by Drs. Isabella C. Herb, Chicago; Frank L. Richardson, Boston; Henry I. Dorr, Winchester, Mass.; S. E. Sawyer, Lewiston, Maine; Cline N. Chipman, Washington, D. C.; H. E. G. Boyle, London, England; Raymond C. Coburn, New York, and Elmer I. McKesson, Toledo, Ohio.

Dr. H. E. G. Boyle, London, England, read a paper on "Anesthesia for Nose, Throat and Abdominal Surgery by the Nitrous Oxid-Oxygen Chloroform Ether Combination." Discussed by Drs. Charles H. Sanford, New York; Elmer I. McKesson, Toledo, Ohio; James T. Gwathmey, New York, and H. E. G. Boyle, London, England.

Dr. F. Hoeffer McMechan, Avon Lake, Ohio, offered the following resolution and moved its acceptance; and on the question being put, the motion unanimously prevailed:

Resolved, That the thanks of those in attendance at this meeting be extended to the Royal Society of Medicine, of England, for having sent to this meeting an official representative in the person of Dr. H. E. G. Boyle.

Dr. Albert H. Miller, Providence, R. I., read a paper on "Anesthetic Units of Measurement." Discussed by Drs. Lincoln F. Sise, Boston; Boris Rapoport, Boston, and Albert H. Miller, Providence, R. I.

Dr. F. Hoeffer McMechan, Avon Lake, Ohio, offered the following resolution and moved its adoption:

Resolved, That we extend to the American Medical Association our very sincere thanks for the courtesy that they have shown us, and the hope that a meeting in the Section on Miscellaneous Topics may be continued for Anesthesia until such time as a Section on Anesthesia shall be created.

The motion was duly seconded by Dr. C. J. Wells, Syracuse, N. Y., and on a rising vote being taken, the motion prevailed unanimously.

PHYSICIANS FROM FOREIGN COUNTRIES

There were a large number of physicians from foreign countries in attendance at the annual session of the Association which was held in Boston, June 6-10. The following registered:

Aikins, W. H. B., Toronto, Canada
Armstrong, Melbourne E., Bridgetown, Canada
Arrell, William, Hamilton, Canada
Bagshaw, Elizabeth, Hamilton, Canada
Baragar, Charles Arthur, Brandon, Canada
Bauer, J. A., Hamilton, Canada
Bell, W. Blair, Liverpool, England
Berglund, Hilding, Stockholm, Sweden
Berven, Elis, Stockholm, Sweden
Boyle, H. E. G., London, England
Bridges, E. Stanley, St. John, Canada
Calvé, Jacques, Plage, France
Carrasco, Rosendo, Barcelona, Spain
Chagas, Carlos, Rio de Janeiro, Brazil
Chang, S. B., Hangchow, China
Chen, Kuengfuh, Peking, China
Chipman, Walter W., Montreal, Canada
Clarke, Harold S., St. John, Canada
Dickson, E. J. M., Canton, China
Fuller, Carl L., Windsor, Canada
Gardiner, John N., Toronto, Canada
Gardiner, William Tyler, Edinburgh, Scotland
Gibson, Alexander, Winnipeg, Canada
Goiner, Joaquin Saucher, Madrid, Spain
Gurd, Fraser B., Montreal, Canada
Hamilton, W. F., Montreal, Canada
Hardisty, R. H. M., Montreal Canada
Harvey, Joseph L., Canton, China
Hebert, A. J. Barlow, Grand 'Mere, Canada
Henderson, A. T., Montreal, Canada
Hodgson, E. G., Toronto, Canada
Janet, Pierre, Paris, France
Jones, Sir Robert, Liverpool, England
Kelly, Carlisle, Glasgow, Scotland
Kottmann, Kurt, Berne, Switzerland
Laing, George F., Windsor, Canada
Lanatta, Eladio A., Lima, Peru
Langfeldt, Einar, Christiania, Norway
Li, T. Y., Tientsin, China
Macdonald, M. L., Lake Saskatoon, Canada
MacLennon, F., Windsor, Canada
McGaffin, W. Herbert, Calgary, Canada
McKechnie, David W., Montreal, Canada
McLarty, G. A., Toronto, Canada
McVean, Sarah, Hamilton, Canada
Mei, Chenk-Shang, Peking, China
Moller, Ph. F. de Haseth, Killenstad, Dutch West Indies
Moyle, H. B., Mimico, Canada
Muro, Felipe, Lima, Peru
Neal, Frank C., Peterborough, Canada
Netusil, Francis J., Prague, Czechoslovakia
Netusil, Zdenka, Prague, Czechoslovakia
Nilsson, Hjördis, Falun, Sweden
Parker, Harriet E., Madura, India
Parry, John R., Hamilton, Canada
Peters, C. A., Montreal, Canada
Pilcher, Colonel E. M., London, England
Putti, Prof. V., Bologna, Italy
Rows, Richard G., London, England
Ruben, Moritz, Stockholm, Sweden
Scott, Mary M., Ceylon, India
Scott, Thomas D., Ceylon, India
Sieniewicz, T. M., Kentville, Canada
Sjollema, Prof. B., Utrecht, Holland
Smith, Lieut.-Col. Henry, London, England
Smith, I. Ruebert, Toronto, Canada.
Stone, John R., Montreal, Canada
Tanney, A. M. J., Montreal, Canada
Taylor, Walter H., Toronto, Canada
Thomson, J. Oscar, Canton, China
Thornton, A. W., Montreal, Canada
Tomanck, Ferdinand, Prague, Czechoslovakia
Tooke, Fred T., Montreal, Canada
Tsiang, Sze Dan, Nankin, China
Turin, M., Territet, Switzerland
Vesely, Joseph F., Prague-Smichov, Czechoslovakia
Widmer, A., Territet, Switzerland
Williamson, N. T., Montreal, Canada
Williamson, Samuel W., Yarmouth, Canada
Wilson, Omar, Ottawa, Canada
Wright, Henry P., Montreal, Canada
Young, James M., Walkerville, Canada

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SATURDAY, JUNE 25, 1921

REGULATION OF BLOOD FLOW IN THE CAPILLARIES

Until recently the idea prevailed that the capillaries, so far as the circulation of the blood through them is concerned, are entirely passive structures. Their distention or collapse was believed to depend on the amount of blood passed to them by the arteries, in which alone was supposed to lie the power of regulating the blood supply. Physiologists, of late years, have discerned that the venous channels may function independently of the arteries, and that the capillaries themselves may also take an active part in regulating their own diameter; but it is doubtful whether this changed point of view, which has certainly important bearings on many medical problems, has become generally appreciated. The new *Physiological Reviews,* launched by the American Physiological Society in order to furnish critical reviews of the progress in physiology and related fundamental medical sciences, presents an account of the evidence on which the functional activity of the capillaries has been established, prepared by one of the active investigators in this field, Dr. D. R. Hooker [1] of Baltimore.

Although capillaries have no muscular coats, this fact is no bar to their exhibiting active movement, since many nonmuscular cells are well known to exhibit capacity for active motion, as the leukocytes, ciliated epithelium and spermatozoa. Furthermore, the histologists have shown that capillaries and venules are supplied with nerve fibers; and since these do not end in sensory end-plates, it is a fair assumption that they have a motor function. By direct electrical stimulation of isolated tissues under the microscope, or of the nerves supplying the tissues, Steinach and Kahn caused the capillaries to contract markedly and repeatedly. Other experimenters have found that numerous chemical stimulants may cause either contraction or dilatation of capillaries, and it has long been known that carbon dioxid, as well as other weak acids, causes a relaxation of the capillaries, which presumably is of much importance in regulating the oxygen supply of tissues in active metabolism. Especially suggestive, since they concern human subjects, are the observations of Cotton, Slade and Lewis on soldiers with dermatographia. Even after the blood supply to the arm is shut off by circular constriction, the stroke of a blunt instrument causes the typical white line to appear, which change must have been caused by capillary constriction, since under these conditions arterial contraction could not have reduced the amount of blood in the capillaries. Also, under the same conditions, cutaneous injection of epinephrin causes a local blanching, indicating that it may affect the capillaries as well as the arteries.

Krogh [2] found that many capillaries are empty in tissues at rest, so that the visible number of capillaries becomes greatly increased during activity, and it is probable that any given capillary may open or close to regulate the supply of blood to its territory according to the needs of the tissues. The flow of blood is readily seen to vary in groups of capillaries which are apparently supplied by the same artery and hence must be under the influence of the same blood pressure (Danzer and Hooker). Krogh observed that when a capillary dilates because of slight mechanical stimulation, the dilatation starts at the venous end, so that the entering blood fills up in a direction toward the heart, thus showing the independence of the process on arterial changes. Hooker found that even when the arterial pressure of a part is reduced to zero, appropriate stimulation may cause the venous pressure to rise, presumably because of capillary contraction; furthermore, in the recently killed animal the capillaries may be seen to contract and dilate when there is no arterial circulation whatever. Many chemical agents have been observed to cause capillary contraction or dilatation, but gold salts and histamin cause such conspicuous dilatation that they are looked on as specific capillary poisons. Both cause rapid, often fatal, fall of blood pressure; though widespread capillary dilatation, and stimulation of the arteries by epinephrin with the resulting rise of blood pressure will not relieve the capillary engorgement, showing again the independence of arterial and capillary contraction and relaxation. From all these and many other observations, we obtain a new picture of circulation within the capillaries, where alone the functions of the blood are accomplished. We see the capillary channels closing or opening up in response to the metabolic state of the tissues immediately about them, to furnish oxygen when asphyxia threatens and to divert the supply of corpuscles to some other needy place when the local demands are satisfied. Many of the capillaries in inactive tissues are constricted to such a degree that they contain no corpuscles, and hence are invisible to the

1. Hooker, D. R.: Evidence of Functional Activity on the Part of the Capillaries and Venules, Physiol. Rev. **1**: 112, 1921.

2. Krogh, A.: The Number and Distribution of the Capillaries in Muscles, J. Physiol. **52**: 409 (May) 1919; The Supply of Oxygen to the Tissues and the Regulation of the Capillary Circulation, ibid. **52**: 457 (May) 1919.

observer; yet possibly they still permit some circulation of plasma through the part.

In one of the current conceptions of clinical shock, responsibility for the failing circulation and the characteristic exemia is placed, on the one hand, on the capillary structures and, on the other, on the genesis of some compound capable of profoundly affecting them. For the validity of this theory, Rich [3] has furnished further substantial evidence by direct microscopic examination of the effect of histamin on the capillary circulation in vivo. This substance, a derivative of the amino-acid histidin, exerts an unmistakable local effect on capillaries and on the smallest arterioles and venules which border the capillary system. A large number of capillaries previously unseen may also become opened up, producing a widespread peripheral vascular dilatation of such a degree that it can easily accommodate an amount of blood large enough seriously to impair the circulation. If histamin is thought of as merely the prototype of such capillary poisons, and if the newer findings regarding the dilator function of visible and previously occult capillaries are accepted, it becomes easier to understand how the circulatory failure characteristic of certain forms of shock results from the dilatation of the vascular bed. As has repeatedly been pointed out, the heart is not primarily at fault. The fall in blood pressure cannot be attributed to cardiac failure. The vasomotor center, likewise, long remains capable of sending out impulses. The center of interest for the moment has become shifted to the capillaries.

Apparently, most of the ordinary chemical factors induce dilatation of the capillaries, while constriction usually results from nervous stimulation. Both these factors have long been recognized as participating in vascular reactions, but only in recent times have they come to be specifically located in their effects on the capillary and venule, that is, on that section of the vascular bed which is composed of bare endothelium. We may believe that the chemical regulation is usually local in character, producing changes in accordance with the passing needs of particular tissues, and that only in special or pathologic conditions does the reaction extend to the body as a whole. In accordance with this view we might regard the nervous control as a force tending to restrict the capillary beds over the body as a whole, thus maintaining a tone to be played upon by chemical factors. But the story is far from complete, and much remains to be done. This much, however, appears true, that we must reorganize our conception of the peripheral resistance. Heretofore the functional peripheral resistance has been limited to the arteriole, the caliber of which is controlled by a muscular coat subject to nervous and chemical influences. The resistance to the flow of blood by the capillary and venule has been regarded as essentially fixed. Now we know that beyond the arteriole the capillary and venule function actively and must therefore participate directly in vascular reactions. Whether it will be shown that these several areas of the peripheral vascular bed function independently of one another is an interesting question for the future.

3. Rich, A. R.: Condition of the Capillaries in Histamin Shock, J. Exper. Med. **33**: 287 (Feb.) 1921.

THE SEROLOGIC GROUPING OF HEMOLYTIC STREPTOCOCCI

The classification of hemolytic streptococci, a subject to which reference has previously been made [1] in THE JOURNAL, is a problem that has commanded the most serious attention of bacteriologists. Variations in cultural and biochemical reactions have not proved sufficient to permit satisfactory separation into distinct groups. However, recent improvements in serologic technic have made it possible to demonstrate specific differences among these organisms, considered alike with respect to their growth and to their fermentation reactions. Dochez, Avery and Lancefield, by means of agglutination and protection experiments, were able to demonstrate at least six groups of hemolytic streptococci. Tunnicliff showed that hemolytic streptococci from the throat early in scarlet fever gave definite opsonic, protective and agglutinative reactions which differed from those obtained with hemolytic streptococci from other sources, and she believes that these scarlatinal streptococci form a distinct biologic group, closely associated with scarlet fever. Bliss also found that 80 per cent. of hemolytic streptococci from scarlatinal throats were agglutinated by corresponding immune serum, and were not agglutinated by serums produced by the injection of other types of streptococci. More recently, Tunnicliff [2] has determined by opsonification and agglutination that hemolytic streptococci from erysipelas also appear to belong to a separate immunologic group. And now Gordon [3] publishes the results of his long continued investigations of the serologic grouping of hemolytic streptococci. His results largely confirm those previously reported. Since much of the difficulty thus far experienced in the agglutination of hemolytic streptococci has been due to the tendency of the suspensions to undergo spontaneous clumping, Gordon made use of the principle of absorption of agglutinin, and found by this method that nearly all hemolytic streptococci examined could be placed in one of three groups.

The first group, designated Type I, includes by far the majority of strains. Of sixty-eight strains of hemolytic streptococci isolated from cases of erysipelas, meningitis, arthritis, cellulitis, otitis media and other infections commonly encountered in hospitals, sixty-six absorbed the agglutinin of Type I serum. Hemolytic

1. The Specificity of Hemolytic Streptococci, editorial, J. A. M. A. **75**: 879 (Sept. 25) 1920.
2. Tunnicliff, Ruth: Further Studies on the Specificity of Streptococci, J. A. M. A. **75**: 1339 (Nov. 13) 1920.
3. Gordon, M. H.: Brit. M. J. **1**: 632 (April 30) 1921.

streptococci from ten cases of puerperal sepsis were all found to belong in this group, as were thirty-one of thirty-six strains obtained from various respiratory infections. Gordon believes that the members of this first group represent the hemolytic streptococci commonly found in infections, and that they conform to the characteristics of the organisms generally known as *Streptococcus pyogenes*.

Only two strains were found which belong to Type II, and nothing has yet been established with regard to their relationship to infectious processses.

Occasionally, strains were isolated which were placed in a group designated as Type III; but the importance of this group was not appreciated until it was discovered that sixteen of the eighteen strains recovered from the throat early in scarlet fever absorbed the specific agglutinin of Type III serum. Thus, it appears that Type III hemolytic streptococci are closely associated with scarlet fever.

This individuality of scarlet fever streptococci again brings up the question of the relation of hemolytic streptococci to the cause of this disease. Heretofore the similarity between the streptococci isolated from scarlatinal and nonscarlatinal sources led to the conclusion that these organisms represented merely secondary invaders: but, with the establishment of individual scarlatinal strains, it may be that the present views will have to be revised. As Gordon says, the possibility must be realized that the streptococci in question may ultimately be established as the essential cause of scarlet fever. The exact significance and also the practical application of this new development as regards diagnosis and special treatment of scarlet fever are, of course, still to be decided; but in view of the results at hand, it seems reasonable to assume that in any case serologic tests of hemolytic streptococci from the throat may prove of aid in the differential diagnosis of scarlet fever from nonscarlatinal infections.

FURTHER FACTS ABOUT RICKETS

The Accessory Food Factors Committee of the Medical Research Council of Great Britain has sponsored the idea that rickets is a deficiency disease due to diets which are unbalanced in that they contain too little of those substances rich in an antirachitic factor and too much of those deficient in this respect.[1] This conclusion was based almost entirely on the investigations of Mellanby,[2] who believes that, in many respects, the antirachitic factor has a distribution similar to that of what has been described in this country as fat-soluble A; and the suggestion lies near that the antirachitic property of foods is identical with the fat-soluble vitamin.

This view, however, has not remained unchallenged. The physiologists of the University of Glasgow,[3] in particular, have insisted, on the basis of their own studies on growing puppies, that Mellanby's conclusions are unwarranted. Noël Paton and his co-workers stress the factor of exercise and outdoor life. Thus they insist, in their latest publications, that in young dogs under laboratory conditions a liberal allowance of milk-fat—a carrier of vitamin A—neither prevents the onset of rickets nor cures it when it has developed. On the other hand, puppies kept largely in the open air may escape the development or rickets on a diet containing only small allowances of milk fat. In other words, it is held that the vitamin hypothesis cannot account for such an outcome. A somewhat similar conclusion has been ventured by Hess and Unger [4] in this country.

Dietary deficiencies are by no means limited to the vitamins which have lately acquired so much prominence in the study of nutrition. A perfect diet includes many other factors, some of which are likely to escape notice at times because of the small magnitude of their participation in the ration. The element iodin affords a striking illustration; it is seemingly indispensable, yet the quantities requisite for health must be very small at most. Investigations conducted in this country at the Johns Hopkins University [5] have indicated that in rats gross deformities resembling those seen in rickets may be called forth by diets in which the calcium content as well as the intake of vitamin A were involved. Thus the lime factor, long suspected to have some undefined bearing on the genesis of human rickets, has experimentally been brought into more direct consideration.

More recently, Sherman and Pappenheimer [6] of Columbia University have reached the conclusion that lesions resembling rickets may be caused or prevented without change in either the protein or the vitamin component of the diet, and that therefore neither of these can be regarded as a necessarily predominating factor. On the particular diets which these New York investigators used, rickets uniformly appeared in the absence, and was uniformly prevented by the presence, of phosphates. They are not ready to conclude that rickets is bound up solely with the phosphate ion; indeed, they specifically assert that the quantitative relations of the inorganic ions, rather than an absolute deficiency of any one of them, may have been the determining factor. Furthermore, they admit that under certain dietary con-

1. Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines), National Health Insurance Medical Research Committee, Special Report Series No. 38. London, 1919.

2. Mellanby, E.: An Experimental Investigation on Rickets, Lancet **1**: 407 (March 15) 1919.

3. Findlay, L.: The Etiology of Rickets: A Clinical and Experimental Study, Brit. M. J. **2**: 13, 1908. Paton, D. N.; Findlay, L., and Watson, A.: Observations on the Cause of Rickets, Brit. M. J. **2**: 625 (Dec. 7) 1918. Paton, D. N., and Watson, A.: The Aetiology of Rickets: An Experimental Investigation, Brit. J. Exper. Path. **2**: 75 (April) 1921

4. Hess, A. F., and Unger, L. J.: The Clinical Rôle of the Fat-Soluble Vitamin: Its Relation to Rickets, J. A. M. A. **74**: 217 (Jan. 24) 1920.

5. McCollum, E. V.; Simmonds, N.; Parsons, H. T.; Shipley, P. G., and Park, E. A.: Studies on Experimental Rickets, I, The Production of Raehitis and Similar Diseases in the Rat by Deficient Diet, J. Biol. Chem. **45**: 333 (Jan.) 1921. Shipley, P. G.; Park, E. A.; McCollum, E. V.; Simmonds, N., and Parsons, H. T.: Studies on Experimental Rickets, II, The Effect of Cod Liver Oil Administered to Rats with Experimental Rickets, J. Biol. Chem. **45**: 343 (Jan.) 1921.

6. Sherman, H. C., and Pappenheimer, A. M.: A Dietetic Production of Rickets in Rats and Its Prevention by an Inorganic Salt, Proc. Soc. Exper. Biol. & Med. **18**: 193 (March) 1921.

ditions it may well be that rickets is caused by deficiencies or unbalanced quantitative relationships of organic as well as inorganic food factors.

Similarly, the investigators at Johns Hopkins University [7] have lately announced the conclusion that the phosphate ion in the diet may be a determining factor for or against the development of rickets. They insist that if the phosphate content of the diet is sufficiently high, a deficiency of vitamin A cannot cause rickets-like changes in the skeleton. Hence such a deficiency cannot be the sole cause of rickets. One may assume, however, that the level of blood phosphate is determined in part by the amount of vitamin A available for the needs of the organism. The problem of rickets is evidently far more complicated than was suspected only a few months ago; but with the possibilities of direct experimental attack on it now opened by the recent studies in the nutrition of laboratory animals, the prospect of a successful solution looms large.

Current Comment

THE THORAX IN RICKETS

It is not universally assumed that rickets offers a direct menace to life. The alterations in the composition of the bones, the most characteristic phenomena of the disease, often result in structural changes that can be seen with the naked eye. The beading of the ribs is a familiar manifestation of rickets, and the "rachitic rosary" has been considered pathognomonic of the disorder, although Hess and Unger [8] have insisted that beading also frequently occurs in connection with infantile scurvy. However, Park and Howland [9] of the Johns Hopkins Hospital have recently pointed out that skeletal changes which occur during the progress of severe and prolonged rickets may not only threaten life but also become a direct cause of death. The foremost danger of this sort ensues when the rachitic thorax loses its rigidity, yielding during inspiration simultaneously at costochondral junctions and shafts. Depressions, at first dynamic and later static, arise at the sides of the thorax and produce an enfeeblement of respiration. Among other difficulties, a progressive reduction in the size of the thorax and loss of power to expand may ensue. The lung begins to become atelectatic. The pulmonary circulation is impeded. Hypertrophy of the right heart follows. The entire respiratory machine is barely able to perform its task; and when its burdens are somewhat increased by an intercurrent infection, the mechanism fails. The entire sequence of events here described follows when a thorax is deprived of its normal rigidity. It is this, not mere deformity, that is responsible for the rachitic dangers. Treatment must be prophylactic; for, as the Baltimore pediatricians remind us, it is out of question in the present state of our knowledge to bring rickets to a sudden termination. Bone repair and regeneration do not take place over night. To offer mechanical support to the yielding ribs through orthopedic devices seems impracticable to Park and Howland. Hence, they add, at present the only course is to administer cod liver oil in moderate doses, and to avoid infection and those things which give rise to abdominal distention.

7. Shipley, P. G.; Park, E. A.; McCollum, E. V., and Simmonds, N.: Studies on Experimental Rickets, III, A Pathological Condition Bearing Fundamental Resemblances to Rickets of the Human Being Resulting from Diets Low in Phosphorus and Fat-Soluble A: The Phosphate Ion in Its Prevention, Bull. Johns Hopkins Hosp. **32**: 160 (May) 1921.

8. Hess, A. F., and Unger, L. J.: Scorbutic Beading of the Ribs, Am. J. Dis. Child. **19**: 331 (May) 1920.

9. Park, E. H., and Howland, J.: The Dangers to Life of Severe Involvement of the Thorax in Rickets, Bull. Johns Hopkins Hosp. **32**: 101 (April) 1921.

OXYGEN DEFICIENCY AND RESPIRATION

Largely owing to the contentions of Haldane and his co-workers and the contributory evidence supplied by contemporary investigators of the physiology of respiration, the fundamental cause for the excitement of the respiratory center has been sought in acid products which either are formed in its cells or are brought to it by way of the circulation. Carbon dioxid, being the most conspicuous and constantly formed acid product, has been regarded as the preeminent stimulant which excites the nervous center of the respiratory mechanism and maintains its regular action. Indeed, there is no doubt that slight changes in the content of carbon dioxid in the blood can promptly affect the small area of the brain in the medulla known as the respiratory center. Physiology is again coming to a better realization that a decrease in the amount of oxygen in the blood also can profoundly affect respiration. It has been maintained that such a condition of anoxemia is in essence identical with an accumulation of acid substances, the latter being postulated as the products of cell metabolism under conditions of inadequate oxygen supply. Have we not been taught that lactic acid and similar unoxidized organic acids make their appearance in the body when the tissue oxidation is inadequate? Macleod [1] and his collaborators at the University of Toronto are among those who contend, on the other hand, that oxygen deficiency per se acts as a stimulus to the respiratory center.[2] These investigators have found that the respiratory stimulation in conditions of reduced oxygen supply may occur when a much higher percentage of oxygen is still available, and much earlier in the anoxemia period than could be accounted for by the appearance of determinable unoxidized acids. Lactic acid will, it is true, make its appearance sooner or later; but Macleod [3] has offered an interpretation of its occurrence which bears no relationship to the stimulation of the respiratory center. It is suggested that the excess of lactic acid in anoxemia may perform the function of assisting in the neutralization of the relatively increased base which results from the blowing off of carbon dioxid from the blood, this being dependent on stimulation of the respiratory center by the oxygen deficiency.

1. Fraser, L. M.; Lang, R. S., and Macleod, J. J. R.: Some Observations on the Effects of Anoxemia on the Respiratory Center in Decerebrate Animals, Am. J. Physiol. **55**: 159 (March) 1921.

2. Haldane, J. S.; Kellas, A. M., and Kennaway, E. L.: J. Physiol. **53**: 181 (Dec.) 1919. Haldane, Meakins and Priestley: Ibid. **53**: 433, 1919.

3. Macleod, J. J. R.: The Concentration of Lactic Acid in the Blood in Anoxemia and Shock, Am. J. Physiol. **55**: 184 (March) 1921.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

State Medical Meeting.—At the recent annual meeting of the Arizona State Medical Association, a resolution was adopted asking that the governor appoint to the vacancy in the state hospital a man trained in nervous diseases, regardless of politics. The following officers were elected for the ensuing year: president, Dr. Albert Louis Gustetter, Nogales; vice president, Dr. Harry T. Southworth, Prescott; secretary, Dr. Delemere F. Harbridge, Phoenix; treasurer, Dr. Alvin Kirmse, Globe. The next meeting will be held at Prescott.

ARKANSAS

State Medical Board.—Dr. Wells F. Smith, Little Rock, has been elected president of the state medical board; Dr. William H. Toland, Nashville, vice president; Dr. James W. Walker, Fayettesville, secretary, and Dr. J. T. Palmer, Pine Bluff, treasurer. Other members are: Dr. John A. Bogart, Forrest City; Dr. John C. Swindle, Walnut Ridge, and Dr. Hendric A. Ross, Arkadelphia.

COLORADO

Colorado Congress of Ophthalmology and Oto-Laryngology.—A congress will be held at Denver, June 29-30, under the auspices of the Colorado Ophthalmological and the Colorado Oto-Laryngological societies.

Hospital News.—The Presbyterian Hospital of Colorado let the contract for the foundation of the first unit of the hospital, June 14. This unit will be erected at a cost of about $1,250,000 on Grasshopper Hill, Denver.

FLORIDA

Personal.—Dr. Joseph N. Fogarty, Key West, has been appointed chief surgeon of the East Coast Hospital and Florida East Coast Railway, with headquarters in St. Augustine. Dr. Fogarty succeeded the late Dr. Murray W. Seagers.

ILLINOIS

Hospital News.—The Rockford Hospital has been thoroughly reorganized to conform to the standards of the American Medical Association, American College of Surgeons, and American Hospital Association. Mr. S. G. Davidson, vice president of the American Hospital Association, has been secured as superintendent. Dr. William T. Cluney, former associate professor of pathology at Northwestern University Medical School, and chief pathologist at Wesley Hospital, has full charge of an up-to-date laboratory. A children's clinic has been organized as an integral part of the hospital, with full facilities for the care of outpatients.

Chicago

Institute of Medicine Entertains Dr. Chagas.—On June 20 the Institute of Medicine of Chicago gave a dinner in honor of Dr. Carlos Chagas of Brazil. Following the dinner Dr. Chagas addressed the society on the subject of "American Trypanosomiasis." In responding to the introduction of the president of the institute, Dr. Chagas said:

It is difficult for me to express as I wish my gratitude for the high honor that you have shown me in your country. You have received with the greatest kindness a modest Brazilian research worker whose scientific work is but enough to give him a modest name in his own country, and when compared with the great scientific work performed by the intelligent scientists of this country is as unknown. Fortunately, I understand your attitude, and in it I find once more the evidences for a high spirit of international cordiality; in it I recognize the superiority of a great people, always eager to stimulate and to promote scientific development in the farthest places of the world. From afar off in my own dear country we follow always wondering the great development of your scientific progress and applaud without limit memorable deeds that you add every day to your memorable history. In the field of science and especially in the scientific branches of medicine you reached very early the highest point of perfection. I have followed very closely your medical organization and in that I admire every day the power of your will and the efficiency of your culture. You have advanced very rapidly in your scientific evolution and you did it, gentlemen, dominated by that valuable sentiment of human solidarity that compels you to diffuse the benefits of your greatness to the other people of the world; that quickens you with the highest motives for promoting the happiness of life in all the world. Happy indeed is that country that is able to be a beautiful example of civilization and at the same time a great leader in altruism and moral greatness. Unfortunately, my dear friends, I do not speak your language with the perfection necessary to express to you exactly the gratitude I feel. It does not matter, however, because the language of the heart is always the same everywhere, and it is through the heart that I thank you very much.

On June 21 Dr. Chagas went to Boston to be present at the convocation of Harvard University, which will confer on him the honorary degree of Doctor of Science.

MARYLAND

Health Meeting.—A conference of the boards of health of Maryland was held, June 17, at the Medical and Chirurgical Faculty Building, Baltimore, at which representatives from the counties of the state and Baltimore city were present. Dr. Ennion G. Williams, state health officer of Virginia, was the principal speaker. Dr. John S. Fulton, secretary of the State Board of Health of Maryland, presided at the sessions.

Personal.—Dr. Harry Goldsmith, physician-in-chief of the City Detention Hospital for the Insane, Bay View, is being considered for the superintendency of the entire institution, because of his long service at the hospital.——Dr. Arthur Wegefarth has moved from Baltimore to San Diego, Calif., where he will be associated with his brothers, Drs. Harry M. and Paul Wegefarth, in the practice of medicine.——Mr. Schachne Isaacs, formerly instructor in psychology at the University of Cincinnati, Ohio, has been appointed instructor in the department of psychology at the Johns Hopkins University.

MICHIGAN

Personal.—Dr. Hugh Cabot, since October, 1919, head of the department of surgery in the University of Michigan Medical School, has been made dean of the medical school to succeed Dr. Victor C. Vaughan, who resigned recently after thirty-four years' service.

Organization of Medical Social Service Workers.—At the recent meeting of the State Hospital Association and the Michigan State League of Nursing Institutes, held at Ann Arbor, social service workers voted to form an organization to be known as the State Association of Medical Social Service Workers. A committee of organization was appointed to draw up a resolution to be presented for adoption at the conference of social service workers to be held at Ann Arbor in October.

MINNESOTA

Eye Clinic.—Lieut.-Col. Henry Smith, recently of Jalandhar, Punjab, India, held a clinic at St. Joseph's Hospital, under the auspices of the Minnesota Academy of Ophthalmology and Laryngology, June 22.

MISSOURI

Special Meeting for Lieutenant-Colonel Smith.—The St. Louis Medical Society held a special meeting, June 24, at which Lieut.-Col. Henry Smith, London, was the guest of the ophthalmic section.

Rural Sanitation.—At a recent meeting of the state board of health, it was decided to use an appropriation of $200,000, by the last legislature, to inaugurate rural sanitation in every county of the state. Dr. Thomas T. Tarran of the U. S. Public Health Service was selected by the board to direct installation of county sanitation. With the exception of Green and Jasper counties, which have tried local means along this line, there has been no attempt at rural sanitation in the state. The government will contribute an amount similar to that provided by the state and it is expected that the counties will contribute their share, and that aid will also be obtained from the Red Cross and the Rockefeller Foundation.

NEW YORK

Twenty-Fifth Anniversary of the Loomis Sanatorium.—The principal feature of the twenty-fifth anniversary of the founding of Loomis Sanatorium for the Treatment of Tuberculosis, at Liberty, June 1, was the dedication and presentation to the institute of two new structures, one to be known as the Gris-

wold Building and the other as the Standard Oil Company of New Jersey Building, in honor of their donors. The building given by the Standard Oil Company will be maintained by the organization for the exclusive use of its employees. The Griswold Building is a gift of Mr. and Mrs. William E. S. Griswold in memory of Mrs. Griswold's grandfather, Dr. Abraham A. Berry, who was a New York physician, a major in the Civil War and the first mayor of Williamsburg. The principal address was made by Dr. James Alexander Miller, chairman of the committee on the Prevention of Tuberculosis of the Charity Organization Society of the City of New York.

New York City

Memorial to Dr. Hillel Solotaroff.—A committee has recently been formed to collect funds to endow a ward in some hospital, to honor the memory of the late Dr. Hillel Solotaroff. Dr. Nickolas Lukin, 1437 Prospect Avenue, New York City, is corresponding secretary and treasurer for the fund.

Personal.—Dr. William T. Jenkins, formerly health commissioner of this city, is gravely ill at the Hahnemann Hospital.——Dr. and Mrs. L. Emmett Holt, Dr. and Mrs. Hans Zinsser, and Dr. and Mrs. Louis C. Lowenstein, and Dr. and Mrs. Edwin Beer sailed for Europe on the Red Star liner *Finland,* June 18.——Dr. Otto Krebriel sailed for Europe on the American liner *Mongolia,* June 16.

Fordham Closes Medical School.—With the graduation of its senior class, June 16, Fordham Medical College closed its doors after sixteen years of service, the reason being lack of funds to keep the school up to the highest standard in equipment and instruction. The university at its commencement exercises conferred on Dr. Joseph Byrne, the dean of the medical school, the degree of Doctor of Laws in recognition of his loyal services to the institution.

NORTH CAROLINA

Revision of Health Rules.—Wake County Board of Health, at a recent meeting, revised the ordinance governing the production, handling, sale and distribution of milk in Wake County. The clause regarding the dispensing of milk in food establishments requires that the milk shall be served customers in individual containers—unopened half-pint bottles—and that the milk shall be bottled at the place of production or at the pasteurizing plant. This regulation eliminates the condition of dipping milk from large containers, which has been the custom in many food establishments.

OHIO

Alumni Reunion.—The annual reunion and alumni week of the Alumni Association of the Ohio-Miami Medical College, was held June 16-18, at Cincinnati. The address in surgery was given by Dr. John F. Erdmann, and the address in medicine by Dr. George Draper, both of New York.

OREGON

Robert C. Yenny Memorial Meeting.—The ninth annual meeting of the Alumni Association of the Medical School, University of Oregon, which was called the Robert C. Yenny Memorial Meeting, was held in Portland, May 31-June 2, under the presidency of Dr. Otis F. Akin. In connection with this meeting the Noble Wiley Jones Lectureship was delivered by Dr. William Ophuls, dean of the medical school of Leland Stanford Junior University, San Francisco. Officers elected for the ensuing year are: president, Dr. George A. Cathey, Portland; vice presidents, Dr. Christian E. Stafrin, Portland; Dr. Fred E. Adams, Eugene; Dr. C. Harold Palmer, Portland, and Dr. Leslie G. Johnson, Marshfield; treasurer, Dr. Kittie Plummer Gray, Portland; secretary, Dr. Adalbert G. Bettman, Portland.

PENNSYLVANIA

Personal.—Dr. John A. Kolmer, professor of pathology and bacteriology in the Graduate School of Medicine of the University of Pennsylvania, and director of the pathologic laboratories of the Dermatological Research Institute, received the honorary degree of Doctor of Science at Villanova College, June 9, and made the address to the graduating classes.——Dr. R. J. Perkins, who has been connected with the medical staff of the state hospital for the insane at Danville for some months, left for Hamilton, Canada, to become a member of the medical staff of the general hospital of that city.——Dr. M. M. Rosenberg, for the past year chief resident physician at the state hospital, Scranton, has tendered his resignation and will engage in private practice, in that city. A successor to Dr. Rosenberg has not been selected as yet.——Dr. William C. Miller, chief of the division of public health education, state department of health, has inaugurated a correspondence course of instruction for health officials in every county throughout the state. The course which is required of all health officials is open to nurses, welfare workers and workers in allied fields.

Philadelphia

Women's College Commencement.—The sixty-ninth annual commencement of the Women's Medical College of Pennsylvania was held in the Broad Street Theater, June 16. Dr. Walter B. Cannon, professor of physiology in Harvard Medical School, delivered the address and fifteen young women were graduated as doctors of medicine. A reception in honor of Dr. Cannon and the graduating class was held in the college building after the commencement exercises. At the annual alumnae dinner of the college held at the Rittenhouse Hotel, June 15, fifty women physicians were present. Dr. Eleanor C. Jones was the toastmaster, and among the other speakers were Dr. Mary E. Rose, New York, a member of the class of 1896, and Dr. Blanche Elliott, class of 1921.

Personal.—Dr. Samuel S. Woody has been appointed professor and Dr. Theodore LeBoutillier assistant professor of epidemic contagious diseases in the Graduate School of Medicine of the University of Pennsylvania.——Dr. Edward B. Krumbhaar has resigned the post of assistant professor of research medicine, University of Pennsylvania, to become director of the pathological laboratory of the Philadelphia Hospital. Dr. Krumbhaar is also associate professor of pathology in the Graduate School of Medicine of the University of Pennsylvania.——Dr. Hobart Amory Hare, professor of materia medica in Jefferson Medical College, received the honorary degree of Doctor of Laws at the commencement exercises of the University of Pennsylvania, June 15.——Admiral William C. Braisted, former surgeon-general of the Navy and the newly elected president of the Philadelphia School of Pharmacy and Science, conferred the degrees and addressed the graduating class at the centennial celebration and exercises of that college in the Academy of Music, June 15.

WASHINGTON

Referendum of the Medical Profession.—The secretary of state has received the petitions on the three remaining acts of the 1921 legislature against which referendums have been filed. On referendum No. 13 against a section of Senate Bill 180, more than 70,000 names appeared on the petition filed by the secretary of the committee for the protection of public health. This movement was started by the medical profession in protest against a prohibition in the law against the examination of schoolchildren.

CANADA

American Surgeons Meet.—The forty-first annual meeting of the American Surgical Association was held the past week in Toronto, under the presidency of Dr. John B. Roberts of Philadelphia. There were about 150 present from the United States and Canada. The annual meeting next year will be held in Washington, D. C.

Personal.—Dr. Edwin G. Hodgson has returned to Toronto from Boston, where he attended the meeting of the American Medical Association. Dr. Gordon G. Copeland was also in attendance.——Dr. W. Magner, Cork, Ireland, has been appointed pathologist to St. Michael's Hospital, Toronto. He will also be attached to the pathologic department of the University of Toronto, and will devote full time to his duties.——Among the Toronto ladies who contributed to the enjoyment of the visiting delegates to the meeting of the American Surgical Association in Toronto the past week were Mrs. Herbert Bruce, Mrs. Alexander Primrose and Mrs. F. N. G. Starr.——Dr. Crawford C. McCullough, Fort William, Ont., at the meeting of the International Association of Rotary Clubs in Edinburgh, Scotland, has been elected president of the organization.——Madame Curie was recently tendered a complimentary luncheon at Niagara Falls, Ont., by the University of Toronto Women's Club, and presented with an address. Owing to Madame Curie's unavoidable absence through indisposition, the address was received by one of her daughters, Mlle. Eva Curie.

GENERAL

Election of Military Surgeons.—At the meeting held in Boston, June 3, Capt. Frank L. Pleadwell, Newport, R. I., until recently naval fleet surgeon, was elected president of the Association of Military Surgeons of the United States. Col. Harles N. Lynch, U. S. Army, and Col. David Fairchild, Clinton, Iowa, formerly surgeon-general of the Rainbow Division, were among those chosen as vice presidents.

Personal.—Dr. E. V. Cowdry, since July 1, 1917, professor of anatomy at the Peking Union Medical College, Peking, China, has resigned that position to accept an appointment as associate member of the Rockefeller Institute for Medical Research.——Dr. Davidson Black, formerly associate professor of embryology and neurology of the Peking College, has been appointed professor and head of the department of anatomy at the Peking College, succeeding Dr. Cowdry.

Conference of State and Provincial Health Authorities of North America.—At the conference held, June 3, at Boston, a resolution was adopted asking Congress to restore the appropriations for federal aid in the control of communicable diseases. Dr. Eugene R. Kelley, commissioner of health, Boston, was elected president for the coming year. The other officers chosen are: vice president, Dr. Oscar Dowling, Shreveport, La., and secretary-treasurer, Dr. Richard M. Olin, Lansing, Mich.

Bill to Control Manufacture of Shaving Brushes.—A measure prohibiting the sale of shaving and lather brushes containing horsehair has been introduced in Congress by Representative Winslow of Massachusetts. The purpose of the bill is to prevent the spread of anthrax. It makes unlawful either the importation into this country or the shipment by interstate commerce of shaving brushes manufactured out of horsehair. Such a precautionary law has been advocated by the U. S. Public Health Service for a long time.

President States Policy on Reorganization.—At a recent cabinet meeting President Harding instructed all departmental heads of the government to dismiss federal employees engaged in active opposition to the plans of the administration for the reorganization of the departments of the government through the Smoot-Reavis Commission. Certain bureau chiefs have been assiduously spreading propaganda against the proposed reconstruction of the government and the action of the cabinet was directed at them. It was also stated with positiveness that the reorganization was a settled policy of the President and would be carried out regardless of antagonism on the part of federal employees.

National Tuberculosis Association Makes Recommendations.—At its annual meeting in New York, June 15-17, this organization adopted resolutions calling on the U. S. Public Health Service to see that examiners trained in the detection of tuberculosis are stationed at all ports of debarkation and requesting the steamship companies to use greater caution in accepting for passage immigrants coming from the regions of Europe which are particularly infected with the white plague. A memorial resolution on the death of Major-Gen. William C. Gorgas of the U. S. Army was also adopted. The following officers were elected for the ensuing year: president, Dr. James Alexander Miller, New York; secretary, Dr. George M. Kober, Washington, D. C.; treasurer, Henry D. Platt, New York.

Bill for Veterans' Bureau Before Senate.—After a debate lasting ten days the Sweet bill establishing a Veterans' Bureau in the Treasury Department passed the House and has been sent to the Senate where it was referred to the Committee on Finance. Several amendments were added to the original measure. One of them increased the number of suboffices from forty to 140 in number and another provided that veterans, who were unable to pay their government insurance because of disability and thus allowed it to lapse, were entitled to insurance and compensation. The bill provides for the transfer of the Bureau of Vocational Rehabilitation, the Bureau of War Risk Insurance and the activities of the U. S. Public Health Service to the Veterans' Bureau in which is centralized all power dealing with war veterans.

Regulations on Prescribing Beer.—The Bureau of Internal Revenue Office has announced that regulations governing the sale of beer on prescription issued by physicians will not be drawn up until final disposition is made of the Volstead measure before Congress amending the prohibition act so as to prevent the sale of beer for medicinal purposes. An effort is now being made before the House Committee on Rules to hasten the passage of this legislation, and the bureau has decided to defer action in the issuance of licenses and compilation of rules pending congressional action. It is also announced by the bureau officials that brewers have indicated no intention of starting the manufacture of medical beer because of the hostile legislation and that all necessary outlay of capital will be averted until the definite attitude of Congress is known.

Appropriations for Public Health.—The Urgent Deficiency bill passed by Congress contained several items of importance in the promotion of public health. A sum amounting to $309,000 was appropriated for the prevention of epidemics, authority for the expenditure being invested in the President through the U. S. Public Health Service. The funds may be used in case only of threatened or actual epidemics of cholera, typhus fever, yellow fever, smallpox, bubonic plague, Chinese plague, black death, trachoma, influenza, or infantile paralysis. Authority is granted also to aid state and local boards of health in the suppression and prevention of these epidemics. In an emergency the money may be used in the execution of the quarantine laws. A sum of $500,000 is also appropriated for further improvement of the Broadview Hospital, Chicago, the money to be expended for the construction of recreation buildings, walks, roads, water softening apparatus, planting and improving grounds. Another appropriation of $750,000 provides for the construction of the principal buildings at the Dawson Springs, Ky., sanatorium of fireproof material. The total appropriation for the Dawson Springs Sanatorium totals $2,250,000.

LATIN AMERICA

Guatemalan Physician Honored by French Government.—Dr. R. Robles of Guatemala has been made a knight of the French Legion of Honor for his discovery that the disease known in Guatemala under the name of "Erisipela de la Costa" (Coast erysipelas) is transmitted by a filaria. More recently Dr. V. M. Calderón has announced that the mosquito may convey the disease, but the statement has not been confirmed so far.

Guiteras Made Secretary of Public Health in Cuba.—Dr. Juan Guiteras, whose retirement from the position of director of public health of Cuba was recently mentioned in THE JOURNAL, has been appointed by the new president of Cuba, secretary of public health and charities. Dr. Guiteras is well known in this country where he was an officer of the U. S. Public Health Service and professor in the University of Pennsylvania. He was connected for many years with Dr. Gorgas in the campaign against yellow fever.

FOREIGN

Indirect Radium Injury.—A French exchange relates that Mme. Curie is suffering from injury of the hand, saying "It is not a radiodermatitis, but from the handshaking since her arrival in America. The spontaneous enthusiasm of the Americans has demolished her arm. Here in France such honors are reserved for Carpentier."

New Medicolegal Journal.—The appearance of the *Annales de médecine légale de criminologie et de police scientifique* has been announced, to be the official organ of the medicolegal congresses of French-speaking countries. The editors are Professors Balthazard of Paris and E. Martin of Lyons, and it is to be published by Baillière et fils, 19 rue Hautefeuille, Paris.

Public Health in Spain.—Influenza has reappeared in Spain, assuming in some places a more serious character than even in 1918. This is the case especially in Salamanca and in Valladolid where there has been an outbreak among the soldiers stationed there and several have died.——There has been an outbreak of typhus fever at Alcora, a town of the province of Castellón.

Psychic Research.—The German Psychologic Society offers opportunity for investigation to all persons who think that they have occult powers. A committee has been appointed to confer with such applicants. The committee is composed of Dr. Baerwald, Professor Dessoir and Dr. Albert Moll. Those who are convinced that they can present convincing evidence of telepathy, telekinesia, clairvoyance or materialization of spirits are requested to apply by letter to Geh. Rat A. Moll, Kurfürstendamm 45, Berlin.

Personal.—Dr. A. H. Nijland has been appointed the representative of the Netherlands Institute for Tropical Diseases at the annual meeting of the Far Eastern Association of Tropical Medicine, to be held at Batavia in August. He will

also represent the institute at the inauguration of the new Pasteur Institute at Bandoeng.——Dr. E. P. Benoit, professor of clinical medicine at the University of Montreal, has been elected corresponding member of the Société Médicale des Hôpitaux de Paris.

Tribute to Queirolo.—The inauguration of the new medical clinic of the University of Pisa proved an ovation to Professor-Senator G. B. Queirolo, as it is mainly the result of his initiative and efforts. He has been professor of clinical medicine there for twenty-eight years, and numerous works have issued from his service. The new and model institution is to serve in medical education as well as for the care of the sick. A fund has been endowed in the name of Professor Queirolo which was presented to the university on this occasion; it now totals 80,000 liras. Officials and scientists from a number of other Italian seats of learning brought their tribute to the ceremony. Queirolo is now 65 years of age.

The Association for Developing Medical Relations Between the Allies and Friends of France.—This new association, which has headquarters at 64 rue Desnouettes, Paris, has been asked to arrange for interchange of the children of physicians between France, England and Spain, and it is now making inquiries whether such a scheme is practicable. The chief aim of the association is to facilitate the visits of physicians and students to the medical centers in the different countries. The association comprises physicians all over France, not merely in Paris, and its members are given directions and letters of introduction to other lands, while it welcomes foreigners to France and makes its medical resources readily accessible to visiting physicians and medical students.

The International Surgical Society.—The Netherlands committee of the International Surgical Society has published a statement to the effect that when the exclusion of the members of the central states from the society was proposed, the Netherlands members urged that the exclusion should be only for the Paris meeting, and that the question should be brought up again before the next meeting. This was voted down, no limit being set to the exclusion. The Netherlands committee after consultation with other members since the Paris meeting, and in agreement with the Swiss committee, have decided to let the matter rest, but strive in future to bring the anatagonistic elements into harmony again. The members from the neutral lands are the very ones, they say, that can do most to restore the former relations between the scientists of the enemy countries. The Swiss committee has decided the same. The statement adds, "Any protests merely add to the irritation and drive the parties farther apart, so that, however agreeable it might be to the surgeons of the central lands, more harm than good would result from such protests. The Swiss committee feels in the same way in the matter." The statement is signed by the three members of the committee, Dr. C. F. A. Koch, Dr. J. Schoemaker and Dr. C. W. J. Westerman.

Deaths in Other Countries

Dr. **A. T. Moll,** former director of the institution for the insane at Utrecht, aged 81.——Dr. **Francisco López Lubelza,** chief of the public health service in the Pangasinán district in the Philippine Islands, aged 50.——Dr. **A. Leppmann** of Berlin, an authority on criminal psychiatry, aged 66.——Dr. **Alfred Saenger,** professor of neurology and chief of the third medical clinic of the public hospital at Hamburg, aged 61. ——Prof. **G. Kucera** of Prague, noted for his works on radioactivity.——Dr. **Max Brüchner** who left the practice of medicine to aid in the foundation of the German colonies in Africa, and later became director of the Ethnography Institute at Munich, aged 75.——Dr. **Filomeno da Camara Velho de Mello Cabral,** professor of histology and physiology at the University of Coimbra, Portugal, aged 77.——Dr. **Daniel de Mattos,** professor emeritus of pathologic anatomy at the University of Lisbon and a leading clinician, aged about 71.

CORRECTIONS

Appointments to the Wyoming State Board of Health.—Through an error THE JOURNAL, June 11, omitted the name of Dr. Albert B. Tonkin, Riverton, from the list of those appointed as members of the Wyoming State Board of Health.

Chemical Removal of Cancerous Breast.—In the summary of the paper by Dr. Charles W. Strobell (THE JOURNAL, June 4, p. 1605), the words "zinc oxid" should read "concentrated zinc chlorid and potassic hydrate in crayons," the former for removal of gross tissues, the latter for preparatory removal under anesthesia of anatomic structures superficial to the gland itself.

Government Services

MEDICAL OFFICERS, UNITED STATES NAVY, RELIEVED FROM ACTIVE DUTY

DISTRICT OF COLUMBIA
Washington—Groff, C. C.

LOUISIANA
New Orleans—Menedez, A. M.

MARYLAND
Baltimore—Fay, D. E.

MISSOURI
Kansas City—Cope, P. F.

PENNSYLVANIA
Philadelphia—Kelly, T. M.

Hospitalization Board to Make Report

By adoption of an amendment to the Urgent Deficiency Bill that has passed both houses of Congress and has been signed by the President, the Secretary of the Treasury is authorized to expend the $18,600,000 appropriated for increased hospital facilities as he deems most advantageous to furnishing relief to the disabled war veterans. Before the enactment of this amendment the law provided that $12,500,000 of this sum had to be expended in the construction of five new hospitals. The change in the mode of expenditure has resulted in the convening of the Hospitalization Board, and a report to the Secretary of the Treasury is expected to be made by this board within the next month. The members gathered in Washington, D. C., for a short session and then adjourned to meet again in another week. A thorough study has been made by the board of the entire hospital situation in the country with reference to the construction of new hospitals and the increase of the facilities of old ones already operated by the government. The recommendations of the board, therefore, will be followed in all probability by the Secretary of the Treasury.

Necessity for Naval Hospital

The Senate amendment to the naval appropriation bill which authorizes the Secretary of the Navy to continue and to enlarge the naval hospital being constructed at San Diego, Calif., and to increase the capacity from 150 to 400 beds, provides for an urgent need of the naval service for the care of its personnel of the fleet already in the Pacific. There are only two other hospitals on the Pacific Coast, one at Puget Sound and the other at Mare Island, and all the buildings at Mare Island are wooden structures and most of them of temporary war-time character. San Diego is rapidly developing into an important naval base, making necessary the immediate increase in capacity. With the transfer of the entire main fleet to the Pacific, the capacity of the three hospitals mentioned and the hospital at Pearl Harbor would be unable to care for the sick and wounded even with the increase in bed capacity at San Diego. There is urgent need for the establishment of a permanent hospital at San Diego which could be temporarily expanded in times of emergency.

The Army School of Nursing

The largest group of nurses trained under government control—and the only class of nurses that has ever been a part of a training school connected with the Army—completed the three-year course and graduated last week at Walter Reed General Hospital, Washington, D. C. Eighteen hundred students entered the course when the school was authorized, May 25, 1918, by the Secretary of War in response to the anticipated need for 20,000 nurses for the Army. After the armistice an opportunity to withdraw from the course was given and many resigned. However, the present class—numbering 515—is the largest group ever graduated from a training school for nurses. The other branch of the school will hold its graduation exercises, July 14, at the Letterman General Hospital, San Francisco, when 109 young women will receive their diplomas. The school has been accredited by the regents of the University of the State of New York, and by the State Boards of Nurse Examiners of California and Illinois, and the graduates of the school are eligible for registration in all states where there are laws governing the registration of nurses. This graduation and this event can never be duplicated, for although the Army School of Nursing is to continue, the class will be small and the conditions will be peace-time conditions.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 23, 1921.

Child Adoption

The report of the Committee on Child Adoption appointed by the government, to consider "whether it is desirable to make legal provision for the adoption of children in this country and if so in what form," has just been published. The committee finds that the tie between the natural parent and the child should not be broken except for some strong reason to secure the welfare of the child, but the next best thing to the care of the natural parent is that of the adopting or foster parent who takes a personal interest in the child and brings it up in normal family life. The sanction for adoptions should be given by a regular judicial authority rather than by an administrative department or local authority. The experience of other countries, as well as the opinions of witnesses, confirmed this conclusion. These consents should be required before the court sanctions an adoption: (1) Of the adopting parent or parents. (2) In the case of married persons who do not adopt jointly, of the husband or wife of the adopter, unless they are lawfully separated. (3) Of the child to be adopted, if over the age of 14 years; in all cases the judge, or some suitable and responsible person acting on his behalf, should see the child, and if it is of sufficient age and intelligence ascertain and consider its inclinations. (4) Of both natural parents or the surviving parent in the case of a legitimate child, and of the mother in the case of an illegitimate child. The manner in which these consents should be given might well be settled by rule of court. The judge should also ascertain and consider the views: (1) of the legal guardians of the child, if any; (2) of any near relative or other person, association or authority having the custody or control of the child when not in the custody of its natural parents; (3) in the case of pensioned children of deceased members of the forces, of the minister of pensions; (4) of the father of an illegitimate child if parentage has been admitted or proved and he contributes to its support. Persons who should be allowed to adopt are thus classified: (*a*) a husband and wife jointly, if both are over 25; (*b*) a married man or a married woman with the consent of the other spouse, if the judge considers that there are special grounds for such a course of a joint adoption, and if the adopter is over 30; (*c*) a single man or woman, if over 30. In all cases the adopter or the younger of two joint adopters should not be less than twenty years older than the person to be adopted. When the adoption is once sanctioned, the relation between the adopter and the persons adopted and the relative rights and duties should be the same as those of the natural parent and child. The child should take the name of the adopter, unless otherwise provided by the order. Marriage between the adopter and the adopted child should be prohibited so long as the tie of adoption subsists; but after judicial revocation of an order for adoption such marriage might be permitted. Adoption once sanctioned should be regarded as permanent and revocable only by order of the court. The grounds on which an order annulling the adoption may be made should be specified by statute.

The Danger of Athletics for Girls

The question whether athletics at schools are injurious to girls has aroused discussion. At a public dinner, and also in a letter to the *Lancet,* Miss Cowdroy, headmistress of Crouch End High School (London), attacked the present system. She has known many women who were physical experts and prided themselves on the fact. Few have not had at some time a more or less serious breakdown. Girls who engaged in strenuous games acquired hard muscles, set jaw, flat chest, and often a hard, aggressive manner. The health of the athletic women was often more apparent than real. They frequently suffered from "nerves," heart trouble, some form of rheumatism, or a displacement of some kind. Sometimes menstruation stopped for long periods. They did not seem able to meet unaccustomed strains. Their marriages were often childless. Their children were physically inferior to those of the feminine women of Victorian days. On the other hand, other headmistresses disagree with these views. Miss F. R. Gray, High Mistress of St. Paul's Girls' School, Hammersmith, says: "All this was said twenty or thirty years ago, and it was then shown that there was nothing in it. One or two cases of girls' physical disabilities are brought up again and again. No real proof is offered that these were the results of games or drill. I am certain that games are not overdone in properly conducted girls' schools. All trained gymnastic mistresses are constantly on the alert for this. Then there is the medical officer who sees the girls from time to time and is careful that there is no overstraining. Another head mistress (of Grey Coat Hospital School, Westminster —one of London's oldest foundations) considers the criticisms on exercises very one-sided. Of course they can be overdone, like everything else, but there is no reason why they should.

Proprietary Articles at the Antipodes

In a presidential address before the annual meeting of the new South Wales Branch of the British Medical Association, Dr. C. B. Bickerton complains that physicians prescribe proprietary preparations without knowing their composition, and accept the advertising claims of manufacturers. The nostrum evil seems coterminous with civilization and to require the same measures. The *Medical Journal of Australia,* following the example of The Journal A. M. A., has decided to undertake the analysis of Australian preparations submitted to it for advertisement. Hitherto the Australian journal has kept a control over the claims of advertisers and not accepted advertisements without preliminary inquiries as to the composition of articles advertised. But this control is now regarded as insufficient. It is proposed to analyze foods and proprietary remedies and to take precautions that the articles sold correspond to the samples offered for analysis. Standards for food products are being adopted, and those which do not conform to them will be excluded from the advertising pages. The results of inspection and analyses will be published editorially so that readers may be informed concerning the reliability of Australian-made food preparations. In regard to proprietary remedies, inspection will be undertaken to ascertain whether sufficient care and cleanliness are observed in compounding them. A manufacturer who refuses inspection and analysis will not be allowed to advertise in the *Journal.*

The Journal of Obstetrics and Gynecology of the British Empire

All those interested in the progress of obstetrics and gynecology will be glad to hear that the journal of the British school has resumed publication. It was started in 1902 and well achieved its object of being "a complete and impartial record of British work, an exponent of obstetric and gynecologic work and a summary of contemporary thought and achievement in obstetrics and gynecology throughout the world." Like many other journals, it suffered by the war, and suspended publication in August, 1915. The present directors include the well-known names of Russell Andrews, T. W. Eden, Prof. Thomas Wilson and Blair Bell. The editor is Dr. Comyns Berkeley, who is assisted by Dr. Eardley Holland. The *Journal* will be published quarterly by

Sherratt and Hughes, 34 Cross Street, Manchester, and the annual subscription is $10.50, post free.

War Enlistment and Casualties

What may be regarded as the final authoritative figures, including not only the armies but also the mercantile marine, has been issued by the government in the subjoined table:

Country	Enlistments All Ranks*	Deaths from All Causes†	Wounded	Prisoners	Total Casualties
Great Britain and Ireland	6,211,427	744,702	1,693,262	176,305	3,614,269
Canada	683,170	56,625	149,732	3,754	210,111
Australia	413,453	59,330	152,171	4,084	215,585
New Zealand	227,325	16,136	40,729	502	57,367
South Africa	136,373				
Newfoundland	9,869	8,832	15,153	1,718	25,703
Other colonies	135,337				
Total dominions and colonies	1,605,527	140,923	357,785	10,058	508,766
India	1,679,416	61,398	70,859	11,070	143,327
Total	9,496,370	846,023	2,121,906	197,433	3,266,362

* Includes military forces serving on outbreak of war.
† Includes 14,472 merchant seamen and 1,099 fishermen.

The figures given include naval casualties between Aug. 4, 1914, and Nov. 11, 1918, and military casualties during the period Aug. 4, 1914, to April 13, 1920.

The statistics of other countries give these totals: France: deaths from all causes, 1,385,300; wounded, no record. Belgium: deaths, 38,172; wounded, 44,686. Italy: deaths, 460,000; wounded, 947,000. Portugal: deaths, 7,222; wounded, 13,751. Roumania: deaths, 335,706; wounded, no record. Serbia: deaths, 127,535; wounded, 133,148. Greece: deaths, 5,000; wounded, 21,000. United States: deaths, 115,660; wounded, 205,690. Germany: deaths, 2,050,496; wounded, 4,202,028. Austria and Hungary: deaths, 1,200,000; wounded, 3,620,000. Bulgaria: deaths, 101,224; wounded, 152,400. Turkey: deaths, 300,000; wounded, 870,000. The figures as to Bulgaria are considered an underestimate, many archives having been lost.

VIENNA

(From Our Regular Correspondent)

May 10, 1921.

Uneasiness Among the Profession Caused by Recent Dental Legislation

A few months ago, an understanding was arrived at between the representative of the medical profession in Austria and of the dental mechanics, which was embodied in a dental act. This became law by the consent of the national assembly in October, 1920, and it was thought that this long-standing pecuniary problem had been definitely settled. But it was no more than a calm before the storm. Vigorous attacks against conditions arose out of the act. The mechanics demanded perfect freedom from all supervision by physicians in their work. Their chief desire was to obtain permission to extract teeth, if the conditions in the mouth of the patient rendered it necessary, and to do the minor surgery required in such a process. As the physicians stoutly refused, the mechanics proclaimed a strike. All men working for the surgeon dentists in their offices were withdrawn by the union of the dental mechanics and for weeks physicians had to make up with this handicapped state of affairs. Meanwhile the members of the national assembly were the object of vigorous persuasion by the energetic leaders of the mechanics and the result was that a few days ago a new dentists' bill was passed, which gave the technical dentists or mechanics the right to extract teeth, lance abscesses, perform minor operations in the diseased mouth, etc., without the government even paying heed to the protests of the profession. It must be remembered that in this country until now no one except a duly qualified doctor of medicine has been permitted to meddle with a diseased human body. Even midwives and nurses were strictly forbidden to do anything that could be termed a "bloody" interference. Quacks were not common here—even the "patent medicines" had not a large scope, all owing to the legal principle that disease is to be cared for by the physician. And now, a law permitting men of no medical qualification to perform real surgery in the vicinity of important structures is promulgated. It is true, the men were required to pass a sort of examination showing their abilities to deal with such work, but still it was only partial knowledge required of them, and the old principle was thus invalidated. The response among the profession was serious. From all quarters the organization was urged not to consent to this kind of solution of the problem. The branch associations in the provinces at once retaliated by resignation of all medical work pertaining to public health. The notification of disease and the cooperation at inquests, at sanitary work and similar occasions has been refused since that time. Care is being taken that no individual patient should suffer from this partial strike; only all work of "state medicine" is affected. Even a true medical strike has been suggested, but this fearful weapon, which has not yet been wielded in this country, has been with difficulty averted. The feeling for it among many physicians was very strong owing to the bitterness and indignation reigning in the widest circles of the profession. The government is at present at a loss what to do, as it never expected such an outburst of resentment on our part, and for political reasons cannot incur the wrath of the other side. The result will therefore be "negotiations." But the profession is decided to be hard and stout.

Variations of Tuberculosis Mortality Produced by the War

The board of health in Austria has caused a widespread investigation into the variations of tuberculosis mortality in this country caused by the effects of the war, and the report drawn up by Dr. Rosenfeld was published some time ago. It was one of the chief points of discussion at the tuberculosis convention that took place last month in this city. The investigation comprised all classes of the population and both rural and urban districts. All statistics were strictly examined before being admitted. The following figures are instructive: Before the war, the mortality figure from this disease was dropping constantly. From 1895 to 1900 there died in Vienna on an average of each thousand alive, 4.42; in 1911-1913, only 2.98 per year. In the rural districts of lower Austria, the respective figures stand at 3.35 and 2.50. The continuation of this decreasing line was therefore justly to be expected after 1913. But during the war years, a manifest increase was noted. The absolute figures for the above mentioned rural districts were: in 1919, 3,765 cases; in 1917, 6,398 cases; similar conditions prevailed in the other districts of the country, and with the exception of a few districts where no factories at all were or are still present, the number of tuberculosis deaths increased even in the flat country. This is explained by the fact that during the war numerous factories were constructed in the rural districts where the unhygienic conditions of work—powder, chemical agents, poisonous gases—demanded their toll of life. Still worse were the conditions in the towns. There not only the relative but also the absolute increase is much higher than the average for that district would demand, and it appears at least a year before it is manifest in the country. Especially in the camps erected for the refugees, the mortality from tuberculosis was appalling: from 21 to 23 per cent. These people had undergone all sorts of physical and psychic hardships, and had even less to eat than the underfed native population, thereby succumbing all the more easily. As regards Vienna, comprising about 30 per cent. of Austria in population, the conditions studied referred chiefly to the females, because it is not possible to ascertain exactly which proportion of the men died from tuberculosis.

owing to their absence while in service at the army. Thus, while in 1914 the female tuberculosis deaths amounted to 2,423, the figure rose during the war to 5,196, and it reached the maximum in 1919, with 7,598, or 300 per cent., in comparison with 1914. The cause of death was mostly pulmonary disease; then came disease of the bones and the intestines. The increase of mortality was noticeable five months after the outbreak of the war; even in the ages of 1 to 5 years a marked increase was noticed, although the drop of the birth rate should have produced a different result. The increase of pulmonary tuberculosis alone is more than 90 per cent. of the figures of the year 1914, and the ages between 25 and 35 are least affected. The districts inhabited by the poorer classes of the population are relatively worse off than those in which richer people lived. The figures obtained by the statistics show that we have to go back to the years of 1890-1895 to find a similar death rate from tuberculosis; in other words, the war has thrown us back at least twenty years in regard to this one disease.

PARIS

(From Our Regular Correspondent)

May 20, 1921.

Medical Care of the War Wounded

In a previous letter I referred to the conflict that has arisen between the minister of pensions and the Union des syndicats médicaux de France with respect to the schedule of medical fees applicable to the war wounded. At the instance of Professor Pinard, member of the chamber of deputies, the minister of pensions has appointed a commission, consisting, among others, of representatives of various medical societies, to inquire into the best means of applying the pension law in harmony with the views of the medical profession. In order that an understanding may be reached, Dr. Chauveau, member of the senate and chairman of the medical group in parliament, has proposed that the medical profession accept the schedule of the ministerial decree as the basis for the settlement of past accounts and for such period of time as shall be required for the establishment of a new schedule. In determining the fees of the new tariff the minister of pensions shall reach an agreement with the representatives of the large medical societies and of the war wounded. The latter should have an equal voice in working out the text of a law regulating the organization and the control of medical care, including surgical treatment.

The Eight-Hour Day in the Hospitals

I have mentioned previously the inconveniences that arise from a strict application to hospitals of the law of April 23, 1919, establishing an eight-hour day throughout France. Physicians and surgeons to the hospitals are bitter in their complaints against the system. In view of such complaints, the minister of social hygiene and provision has recently called the attention of the prefects to the hardships resulting from the application of the eight-hour law to hospital establishments. From the inquiry which he instituted it appears that the application of this law to hospitals in general, and more particularly to hospitals for the insane, presents great difficulties, not only by reason of the lack of personnel required to fill out the ranks because of the increase in the force of these establishments necessitated by the reduction in the hours of service, but also on account of the heavy expense involved in the additions to the pay-roll. However, the law itself provides means by which it can be adapted to various trades and industries. Although the law demands, in principle, that the duration of employment shall not exceed eight hours per day or forty-eight hours per week, or an equivalent duration based on a period of time other than the week, it also provides for a number of exemptions, some of a permanent and some of a temporary nature, corresponding to the particular necessities of the trades concerned. The permanent exemptions take cognizance of the classes of personnel performing preparatory or supplementary work that must of necessity be done outside of the regular working hours of the establishment in question. They apply also to the classes of employees whose work is essentially of an intermittent nature. The temporary exemptions are granted in order to afford large business houses an opportunity of meeting emergencies involving an extraordinary volume of work, necessities of a national character, and accidents and disasters (that have occurred or are impending). The freedom of action afforded by these various exemptions has made it possible to regulate the application of the law to trades that are exposed to shut-downs and inclemencies of the weather; for example, building operations and public work in the liberated regions of France, and to trades in which, by reason of the intermittent character of the employment, the actual time spent on the job must be considered rather than the actual amount of work performed (hotels, cafés, restaurants in the Paris region, barber shops, etc.). The permanent and temporary exemptions are also applicable to hospitals. If the work of certain members of the personnel is of an intermittent character, involving long periods of rest and waiting, they may come under a special ruling, which would take into account the intermittent nature of their work; and instead of considering the actual amount of work performed, which would be difficult to determine and to control, only the length of time spent on the job would be regarded, and as to the concessions that might be granted, they would depend on the evidence furnished by employers as to the nature of the work. As regards workmen who perform preparatory and supplementary work, permanent extensions in the working hours would be permissible. It is only with reference to workmen and employees belonging to the trades, who are called on to perform consecutive work, that strict limitations of the duration of actual work should be applied; but even in their case, as with regard to the personnel of hospitals, the establishments would have the privilege of working overtime in order to meet any emergencies entailing an unexpected volume of work. The minister of social hygiene has, therefore, invited the hospitals to furnish a detailed statement in regard to the regimen that should be provided for the various classes of working personnel, bearing in mind that (1) those classes of personnel that perform consecutive work should have the duration of the period of actual work determined in accordance with the regulation; (2) those who perform preparatory and supplementary work should be given permanent exemptions entitling them to exceed the eight-hour limit, and (3) as regards those whose work is of an intermittent character, it would be only proper that the time spent on the job should be considered rather than the duration of actual work. The administrative officers of the hospitals will also be requested to indicate the number of supplementary hours that they would need to have at their disposal in order to meet emergencies that might arise occasioning an unexpected amount of work.

Death of Dr. Claude Sigaud

Dr. Claude Sigaud of Lyons died recently, at the age of 59. Sigaud was born at Charentay, department of the Rhone, May 2, 1862. Sigaud pursued his medical course at Lyons, where he became intern and director of the clinic of the late Prof. R. Lépine. We owe to Sigaud some noteworthy researches on the external exploration of the digestive tract and on the morphology of man. He published a treatise on the mechanical functional troubles of the digestive tract, and a clinical treatise on digestion and the alimentary regimen, in two volumes.

Marriages

DOUGLASS HAGGARD, Nashville, Tenn., to Miss Onie Kennedy of Troy, S. C., in Calcutta, India, March 25.

JAMES FAIRFAX FULTON, Staunton, Va., to Miss Martha Alexander Bell of Lewisburg, W. Va., June 18.

JAMES MORRISON HUTCHESON to Miss Margaret Erskine Miller, both of Richmond, Va., June 11.

F. L. SECOY, Sioux City, Iowa, to Miss Ethel Henry of Lemars, Iowa, at Sioux City, May 12.

ROBERT WRIGHT HOUSEAL, Augusta, Ga., to Miss Esther May Wilcox of Baltimore, June 4.

HARRY L. ROSE, Chicago, to Miss Beatrice Slinger of Charles City, Iowa, June 9.

JOHN LEWIS RAWLS to Miss Azzie Jueldah Garling, both of Suffolk, Va., June 2.

JOHN S. WEITZEL to Miss Marie H. Woods, both of Richmond, Va., May 18.

C. C. RISHER to Mrs. Laura McAshan, both of Laurel, Miss., June 7.

CLYDE H. HARNER to Miss Maple Saunders, both of Denver, March 2.

EDWIN G. FABER to Miss Louise Robinson, both of Denver, May 12.

Deaths

Thomas L. F. Armitage, Princetown, Minn.; Medico-Chirurgical College of Philadelphia, 1893; born in Ireland, educated at Royal University of Ireland, and Queens University of Belfast; served in British Medical Corps, in the Soudan, 1885-87, winning the medal and bar and the Khedive bronze star; died, June 4, aged 61.

Jehiel Weston Chamberlin ⊕ St. Paul; Rush Medical College, Chicago, 1882; for many years ophthalmic surgeon St. Luke's Hospital; local surgeon for several railroads; died after an illness of several months from cirrhosis of the liver and carcinoma of the pancreas, at his home in St. Paul, June 15, aged 64.

James L. Suddarth, Washington, D. C.; George Washington University, Washington, D. C., 1868; member Medical Society of the District of Columbia; Confederate officer under Stonewall Jackson; at one time member of the faculty of Columbia and George Washington universities; died, May 25, aged 81.

Mary Emma Cadwallader, Dayton, Ohio; Laura Woman's Medical College, Cincinnati, 1900; member of Ohio State Medical Association; died, April 24, at the Dayton State Hospital, where she had been on the staff for twenty years, aged 60.

Willoughby Mandes Marcks, De Soto, Kan.; attended University of Pennsylvania (license, Kansas, 1901); a practitioner for nearly fifty years at De Soto, Kan.; veteran of the Civil War; died, May 25, aged 82.

John Baker Kelly, Kellytown, Ala.; Jefferson Medical College, Philadelphia, 1859; Confederate veteran, Civil War; member of Alabama legislature, 1877-88; died, June 2, from cerebral hemorrhage, aged 85.

Ellen Woodward Howell, Philadelphia, New York Medical College and Hospital for Women, 1892; member of staff of Women's Southern Homeopathic Hospital, 1917-20; died, June 6, from paralysis, aged 53.

Thomas C. Doyle ⊕ Orangeburg, S. C.; University of Maryland, Baltimore, 1889; mayor of Orangeburg, three successive terms; also a druggist; died, June 4, of cerebral hemorrhage, aged 55.

Allen D. Evans, Christiansburg, Va.; University of Virginia, 1904; member of Virginia State Medical Association; died suddenly, May 17, while returning from a visit to a patient, aged 52.

Warren C. Wood, Lockport, N. Y.; Berkshire Medical College, Pittsfield, Mass., 1866; killed when his automobile was struck by an interurban electric car, about May 25, aged 55.

Eveline Phebe Ballintine, Rochester, N. Y.; University of Michigan, Ann Arbor, 1877; charter member of the Medical Women's National Association; died, May 29, aged 69.

A. W. Powers, Fountain, Minn. (license, Minnesota, years of practice); practicing physician of Fountain for nearly fifty years; died, May 29, after a short illness, aged 71.

Jacob Preston Sargent, Lodi, Calif.; Bellevue Hospital Medical College, New York, 1886; died at Lane Hospital, San Francisco, after a long illness, aged 58.

John Thomas Abston, Hickory Flat, Miss.; University of Tennessee, 1882; member of Mississippi State Medical Association; died recently, aged 62.

J. Lorentz Scott, Aspinwall, Pa.; University of Pittsburgh, 1920; resident physician in the Allegheny General Hospital, 1920-1921; died, June 6, aged 26.

Emil Frei, Brooklyn; College of Physicians and Surgeons, Columbia University, New York, 1892; specialist in children's diseases; died, June 12, aged 49.

M. W. Parks, LaGrange, N. C.; Medical College of State of South Carolina, Charleston, 1875; died after a long illness, as Mount Olive, N. C., May 31.

Edward Elias Mather, Williamstown, Mass.; College of Physicians and Surgeons, Columbia University, New York, 1871; died, May 22, aged 77.

Joshua Lambert Dulaney, Asbury Park, N. J.; University of Maryland, Baltimore, 1868; Confederate surgeon in Civil War; died, about May 20.

Minos C. Jordan, Antlers, Okla.; University of Louisville (Ky.), 1878; died in 1920 in the State Institution for the feebleminded, Enid, Okla.

Harvey B. Kilbourn, San Francisco; Jefferson Medical College of Philadelphia, 1879; died, June 4, from cerebral hemorrhage, aged 74.

Allen G. Neathery, Gainsville, Texas; Memphis Hospital Medical College, 1888; died, May 30, from cerebral hemorrhage, aged 59.

Elijah V. Green, Martinsville, Ind.; Indiana Medical College, Indianapolis, 1876; died, June 9, from acute indigestion, aged 72.

James M. Sligh, Anaconda, Mont.; Detroit Medical College, 1880; former state senator of Montana; died, June 2, aged 76.

Samuel A. Hollister, Jersey City, N. J.; Homeopathic Hospital College, Cleveland, 1886; died, June 2, from pneumonia, aged 65.

George R. Tolson, Covington, La.; Kentucky School of Medicine, 1888; died, May 29, from cerebral hemorrage, aged 67.

David Vedder Still ⊕ Johnston, N. Y.; Bellevue Hospital Medical College, 1876; died, May 31, from heart disease, aged 80.

George Washington Vines, Dadesville, Ala.; Tulane University, New Orleans, 1872; died, June 1, from pneumonia, aged 76.

Samuel Tandlich, New York; New York University Medical College, 1897; died, May 27, from heart disease, aged 56.

Albert S. Blough, Elizabethtown, Pa.; Chirurgical College of Philadelphia, 1904; died in Marietta, Pa., May 26, aged 46.

Solomon Henry Dessau, New Rochelle, N. Y.; Jefferson Medical College, Philadelphia, 1868; died, June 10, aged 74.

Bartlett Yancy Harris, San Francisco; University of Illinois, 1888; died, June 5, from bulbar paralysis, aged 69.

John S. Mengel, Trevorton, Pa.; Jefferson Medical College, 1887; died, May 26, from cerebral hemorrhage, aged 61.

Andrew J. Gourley, Lickcreek, Ill.; Kentucky School of Medicine, 1890; died, May 31, from paralysis, aged 59.

Frank A. Palmer ⊕ Mechanicsville, N. Y.; Albany Medical College, 1882; died, June 1, from pneumonia, aged 62.

Eugene Francis West, San Francisco; California Medical College, 1889; died at Felton, Calif., June 8, aged 68.

Herbert F. Noble ⊕ Toledo, Ohio; Toledo Medical College, 1884; died, May 29, after a lingering illness, aged 66.

Samuel J. Liebman, New York; attended Baltimore University School of Medicine; died, June 7, aged 44.

Francis Bates Sewall ⊕ Marlin, Texas; University of Virginia, Charlottesville, 1902; died, June 5, aged 40.

Melville B. Capps, Livingston, Tenn.; Vanderbilt University, 1887; died at Nashville, May 17, aged 63.

Charles Frederick Stockert, Lincoln, Neb.; Rush Medical College, 1893; died, May 30, aged 52.

Donald McLeay, Prairieville, Mich.; Detroit Medical College, 1872; died, May 24, aged 80.

⊕ Indicates "Fellow" of the American Medical Association.

Correspondence

THE EXAMINATION IN CHEMISTRY SET BY THE NATIONAL BOARD OF MEDICAL EXAMINERS

To the Editor:—In THE JOURNAL, May 28, the report of the tenth examination of the National Board of Medical Examiners is given. The attention of the medical profession should be called to certain features of this report. Of sixteen men examined, five failed, two of them because of falling below 50 in chemistry, two others because of falling below 65 in chemistry and one other subject, and one partly because of his low grade in chemistry. Of the sixteen men examined, only four were given a grade over 70 in chemistry. The average grade in chemistry was only 67.5, or 7.5 points below the passing mark.

If all the men were from one school we would say that that school must have a poor chemistry department. These men were from ten different "A" class colleges. All but one were recent graduates. The explanation must be that the questions were unreasonably difficult and technical. It is safe to say that very few of our best physicians could have passed that chemistry examination. It may be the practice in medical schools to use certain of the preliminary and theoretical courses to "thin out" the classes. It is wrong, however, to fail a man who made excellent grades in medicine, surgery, obstetrics, etc., because he didn't know what an "accessory food factor" was, or he forgot the exact number of known amino-acids, or he didn't know all the methods of determining the amount of uric acid in urine and blood, or all the methods of estimating the nonprotein nitrogen in the blood.

Should we not demand fairness to the younger men in medicine? If our national examining board must have an examiner who is a theorist and disloyal to his profession, he should at least be required to give an examination that could be passed by more than 25 per cent. of selected applicants.

H. CURTIS JOHNSON, M.D., Chicago.

"RELATION BETWEEN PHYSICIANS AND ROENTGENOLOGISTS"

To the Editor:—In the Medicolegal department of THE JOURNAL, June 4, 1921, there is abstracted a decision of the Supreme Court of Arkansas in the case of *Runyan et al.* v. *Goodrum*, wherein is reversed a decision of a lower court awarding $25,000 damages against a firm of physicians, for alleged severe roentgen-ray burns sustained by a patient while undergoing a fluoroscopic examination by a lay assistant.

The defendants in this case are to be congratulated on the fact that their difficulties arose in a state where the court of last appeal seems to take a lenient view of a physician's responsibility to his patient. According to the Court's review of the case, it appears that the defendants, a firm of physicians, employed a roentgenologist, and that he had a nongraduate woman assistant who made the examination wherein the injury was sustained. It is admitted that "the plaintiff was seriously burned in the operation of the roentgen-ray machine," and that the burn was caused by the fact that the lay operator "became interested and absorbed in explaining the mysteries of her science and art to the mother and father of the plaintiff, and thus unconsciously let the time go by for thirty or forty minutes while, with disastrous effect, the rays were penetrating the back of the plaintiff."

The learned Court, on the facts as stated, admits that the occurrence was most unfortunate and deplorable, yet concludes that the defendants were not legally liable for the injury to their patient, inasmuch as they had provided for their roentgen-ray department an adequate and approved line of paraphernalia, and presumably had employed competent persons to operate it. The decision was not swerved by the admitted fact that the competent operator had become gossipy with by-standers while the ray played for thirty or forty minutes with deadly effect on the back of her unfortunate patient.

The Arkansas court admits that it has been able to find no precedents to guide it to the conclusions arrived at in this case, and it may well be questioned whether this decision will serve as a guide to other courts in deciding a similar case. If a physician, or a firm of physicians, install a roentgen-ray outfit and employ someone to operate it, then surely such persons must assume full responsibility for any untoward effect sustained by a patient under treatment with this form of apparatus. If the apparatus is safe and adequate, and if the person operating it is competent and experienced, it is not likely that any accidents will occur except those wholly unavoidable.

This sort of case will in the future come before courts again and again, because manufacturers are flooding the country with roentgen-ray installations and giving the purchasers a few days' instruction in the operation of the apparatus, and all over the country half baked roentgenologists, both professional and lay, are budding forth as alleged experts in this intricate field. Physicians are advertising for assistants in various lines, giving preference to those having a little knowledge in operating roentgen-ray machines, forgetting that here a little knowledge is an exceedingly dangerous thing.

Before installing so potent an agency as a roentgen-ray equipment there should be first an assurance of its safe and competent operation, and it is probable that most courts will in the future, notwithstanding the Arkansas decision, hold that a patient is entitled to adequate protection against the ignorance or carelessness of persons operating such powerful appliances. It is also probable that physicians employing lay assistants, or graduates without proper training in this specialty, will be held to full responsibility for injury to their patients.

J. A. MATLACK, M.D., Longmont, Colo.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

"DERMATOLOGIC CASE FOR DIAGNOSIS": FACTITIOUS DERMATITIS

Relative to the case described in this department, May 28, p. 1517, our correspondent writes:

To the Editor:—The first thing considered in the etiology of this case was "self-inflicted injuries." This was not because of previous experience with similar cases, but because the lesions at the beginning always "looked like a bruise." Careful watching by the family failed to discover such to be the case. However, since I wrote my query, practically all the lesions have suddenly healed and no new ones have appeared, without any change in treatment or change in the general appearance and condition of the patient. She got up one morning and began going about the farm, and the lesions began immediately to heal. With these facts in view, I am forced to conclude that malingering is the correct diagnosis, and that my failure was failure to detect her in it. She has probably tired of playing interesting invalid and will continue to improve.

M. Q. E.

Equipment for Hospital Social Work.—The necessary equipment for hospital social work is of two types: namely, personal qualifications and qualifications derived from training or experience. The development of these requires a course including both theoretic and practical work, long enough and sufficiently thorough to produce a real impression on the personality and to establish a technic.—*Hospital Social Service* 3:9, 1921.

Book Notices

NOTES ON THE MEDICAL TREATMENT OF DISEASE. For Students and Young Practitioners of Medicine. By Robert Dawson Rudolf, C.B.E., M.D., F.R.C.P., Professor of Therapeutics in the University of Toronto. Cloth. Price, $4. Pp. 457. Toronto: University of Toronto Press, 1921.

The aim of this book is "to impress the broad principles of the medical treatment of the sick, and to urge the importance of method in dealing with the patient." After some introductory remarks and a brief discussion of routine in treatment, the author takes up the therapeutics of special diseases in much the same manner, on the whole, as that employed in the ordinary textbooks on the practice of medicine, though somewhat more thoroughly, while but little space is given to other aspects of disease, such as etiology. The treatment advocated is of the good old fashioned type, "fever mixtures" and "expectorant mixtures" being preferred by the author to simples, but there is much common sense and good judgment displayed throughout. While students would, no doubt, derive a great deal of benefit from a course such as outlined in the book, one cannot help feeling that such a book would be unnecessary if textbooks on medicine gave a more satisfactory exposition of therapeutics and if teachers and students did not fail to study adequately, in their course in medicine, the therapy of disease. Therapeutics, coming last, is studied least. On the other hand, it is just such courses on therapeutics that cause framers of curriculums to discriminate against the special teaching of therapeutics. We have no time, they say, for duplication of courses; therapeutics is an integral part of the practice of medicine. If, instead of the special therapy of diseases, the course on therapeutics were devoted to the practical details of general therapy—such as the care of the fever patient; means of evacuation of the bowel in various conditions of disease; how, when and where not to check excessive evacuation of the bowel; how to increase and decrease the quantity of urine; how to stimulate and depress the circulation; how to treat dyspnea, cough, vomiting and convulsions—a mode of presentation would be offered immediately applicable to the problems of practice which could not but make a permanent place for itself on medical curriculums. It is to be regretted that this is not such a book.

ANATOMÍA PATOLÓGICA Y PATOGENIA DE LA SÍFILIS PULMONAR. By Dr. Pedro I. Elizalde, Professor Suplente de Anatomía Patológica. Paper. Pp. 368. Buenos Aires: "Las Ciencias," 1919.

Dr. Elizalde's book is divided into three parts, one devoted to gummas, another to pneumonia and another to bronchopneumonia. It is the result of a seven years' intensive study of syphilis and its effects on the respiratory system. His researches comprised four steps: determination of germ, gross and microscopic differentiation of lesions, nature of exudate, and condition of lung tissues. He lays stress on the polymorphism of the spirochete in lung lesions, with a tendency to degenerate into fragmentary granules. It is chiefly found in the bronchial walls and next in the vessels and alveoli, and it may be present in the sputum. While the number of cases (thirty) on which this work is based may seem rather small, the author is right in his contention that too frequently the syphilis element is disregarded in diagnosing pulmonary diseases. Many photomicrographs of the author's own cases illustrate the points made.

GEBURTSHILFLICHES VADEMEKUM, EIN KURZES LEHRBUCH DER GEBURTSHILFE FÜR STUDIERENDE UND AERZTE. Von Prof. Dr. A. Dührssen. Thirteenth edition. Paper. Price, 18 marks. Pp. 331, with 44 illustrations. Berlin: S. Karger, 1921.

GYNÄKOLOGISCHES VADEMEKUM FÜR STUDIERENDE UND AERZTE. Von Prof. Dr. A. Dührssen. Thirteenth edition. Boards. Price, 12 marks. Pp. 290, with 149 illustrations. Berlin: S. Karger, 1920.

These two compends are prepared in the usual pocket manual form, and attempt to cover the subjects of obstetrics and gynecology. They seem to contain the most recent views of the subjects they discuss, though they lack the excellent illustrations of technic and operative procedures usually available in larger textbooks. The chapters on operative obstetrics are an excellent outline of the subject.

MANUAL OF MILITARY UROLOGY INCLUDING VENEREAL DISEASES, SKIN DISEASES AND WOUNDS OF THE GENITO-URINARY ORGANS. Published for the American Expeditionary Forces by the American Red Cross. Second edition. Paper. Pp. 290, with illustrations. Paris: Masson et Cie, 1919.

This manual was authorized for use by the Medical Department of the American Expeditionary Forces. It deals with three topics: venereal diseases, dermatology and the surgery of the urinary and male genital organs. The section relating to dermatology discusses briefly but clearly the prevention and treatment of the various dermatoses particularly affecting troops in the field. In this group are the various parasitic skin diseases, chemical dermatitides from mustard gas and explosives, pyodermias, etc. The section on surgery of the urinary tract and male genitalia is exceptional for its conciseness. On the whole, this booklet contains more useful information for the Army medical officer than most books twice its size. The appendixes include various general and special orders relating to venereal disease and its control, as well as regulations pertaining to the sale of liquor and to prostitution.

GRUNDZÜGE DER BEHANDLUNG VON HAUTUND GESCHLECHTSKRANKHEITEN. Dargestellt von Dr. Leopold Pulvermacher. Paper. Price, 36 marks. Pp. 249. Berlin: Urban & Schwarzenberg, 1920.

In this book the author has collected the various methods in use in the Berlin clinics in the treatment of skin and venereal diseases. His efforts are directed toward interpreting the rationale for the different drugs and instruments employed. In discussing dermatologic therapeutics he devotes a chapter to the physical methods in use—phototherapy in all its forms, electrolysis, cataphoresis, diathermy, carbon dioxid snow, etc. The part devoted to the therapy of syphilis is clear and satisfactory. The therapy outlined for cystitis and the fact that cystitis is discussed as an entity might excite unfavorable comment from urologists in this country. There are many therapeutic suggestions in this book, but we are impressed with the fact that only an experienced medical man could select the appropriate measures of treatment from the great mass of material.

CREATIVE CHEMISTRY: DESCRIPTIVE OF RECENT ACHIEVEMENTS IN THE CHEMICAL INDUSTRIES. By Edwin E. Slosson, M.S., Ph.D. Cloth. Price, $2.50. Pp. 311, with illustrations. New York: The Century Company, 1920.

The purpose of this book is to enlighten the public in the matter of the relation of chemistry to our national life, and this object is well achieved. The author for many years was an instructor in chemistry and also for some time the literary editor of the *Independent*. The story of the achievements of chemistry in creating substances to meet almost every conceivable human need, to furnish substitutes for the substances nature provides in deficient amounts, to improve on the gifts of nature, and to furnish useful substances which nature has never been known to produce, is told in a fascinating way in terms entirely comprehensible to the layman, and with a picturesque style that never permits interest to flag.

LES LIPOÏDES DANS L'INFECTION ET DANS L' IMMUNITÉ. Par le Docteur G. Linossier, Professeur agrégé à la Faculté de médecine de Lyon. Paper. Price, 10 francs. Pp. 105. Paris. J. B. Ballière et Fils, 1920.

This monograph consists of a careful, critical review of the present situation of our knowledge concerning the part played by lipoids in the processes of immunity. The author takes a conservative stand and recognizes that as yet the activity of lipoids independent of admixed proteins has not been established. Because of the careful critique of the author, this work will be of value to those who are interested in the function of the lipoids.

MANUEL D'URÉTROSCOPIE. Par Robert Henry et André Demonchy. Preface du Dr. Marion. Paper. Price, 25 francs net. Pp. 116, with 86 illustrations. Paris: Masson et Cie, 1920.

This volume includes a preface by Dr. G. Marion, and elaborates in a thorough manner the technic of urethroscopy with the various types of instruments. The authors find indications for topical therapy through the urethroscope more frequently than is customary in this country. The five plates containing thirty colored illustrations are works of art, and present effectively the gross pathologic changes.

Medicolegal

Rules as to Number of Patients and Number of Visits—Endarteritis Obliterans

(Sinclair v. Brunson et al. (Mich.), 180 N. W. R. 358)

The Supreme Court of Michigan says that the plaintiff had a corn removed from one of his toes. This was followed by the toe getting very sore. He consulted the defendants, father and son, who were country physicians. After treating the toe for a little time, they amputated it. The plaintiff contended that proper care was not given the toe, and that as a result thereof infection set in, making it necessary later to amputate the leg just below the hip. The defendants denied that they had not properly treated the toe. They denied all neglect, and asserted that the plaintiff was suffering from endarteritis obliterans, for which there is no cure, and that the amputation of the leg was the inevitable result of the disease regardless of treatment given, and that therefore they were in no way responsible for the loss of the plaintiff's leg. There was testimony to support each of these conflicting contentions. There were medical experts on each side who testified; and they did not agree about the case, or as to how endarteritis obliterans affects the patient. One of them testified that if the disease existed at all it would affect all the arteries. On the other side, it was claimed that it might stop up some of the arteries without affecting the others. On a former trial of the case a verdict for $4,000 was rendered in favor of the plaintiff, and a new trial was granted which resulted in a verdict and judgment for the defendants, which judgment is now set aside, and another trial ordered.

In the charge to the jury was the following:

> In determining whether or not the doctors visited the plaintiff as often as they should have visited him, you are to take into consideration the community in which the parties lived and the territory which the doctors had to cover and the number of patients which they had to visit; for their skill, or lack of skill, their conduct in giving treatment and in making visits is all to be determined by you in view of the situation as it appeared to them at the time and the circumstances surrounding them and surrounding their patient.

The supreme court, however, thinks that it is not the law that physicians can take on so many patients that they will be excused if they neglect some of them and harm results from the neglect. The trial court went as far as it should when it said in its charge substantially that, in considering the testimony relative to the visits made by the physicians, the physicians alone were the judges of the number of visits that should be made and when they should be made, provided they used the ordinary judgment of physicians practicing in the community where they practiced or in similar localities, and there could be no damages for failure of the defendants to call as often as the plaintiff thought they should, provided the defendants used the judgment that was ordinarily used by physicians in the community where they practiced, or in similar communities.

After a physician had testified that he had treated twenty-five or thirty cases of endarteritis obliterans which demanded special attention, and that the number of patients whom he had had who did not require special treatment would run into the hundreds, another physician was asked how he accounted for this large epidemic of the disease that the first physician had found in Chicago, and answered that he did not know, but thought that he was confused and talking about something entirely different — arteriosclerosis. The supreme court thinks that the admission of the testimony was harmful error. It was not for the witness to draw conclusions in relation to the other physician, but for the jury. Nor could reference to the number of cases of the disease reported in the Murphy Clinics be sustained, as a proper furnishing of statistics, when there was no foundation laid showing how the Murphy Clinics came into existence or what field they covered.

During the trial parts of the body of a man who died of endarteritis obliterans were offered in evidence, and the jury was given special opportunity to examine them, some of the jurors even being handed forceps to turn over the exhibits. The proceeding is pronounced a very unusual one; but the court does not express an opinion on whether it was reversible error, as on the new trial there would not likely be a repetition of the alleged error.

Period of Temporary Total Incapacity—Unreasonable Refusal to Submit to Operations

(Mount Olive Coal Co. v. Industrial Commission et al. (Ill.), 129 N. E. R. 103. O. W. Rosenthal & Co. v. Industrial Commission et al. (Ill.), 129 N. E. R. 176)

The Supreme Court of Illinois says, in the first case, that the period of temporary total incapacity, under the workmen's compensation act, is that temporary period immediately after the accident during which the injured employee is totally incapacitated for work by reason of the illness attending the injury. It might be described as the period of the healing process. Temporary, as distinguished from permanent, disability is a condition that exists until the injured workman is as far restored as the permanent character of the injuries will permit. The employee in this case suffered what was described as a greenstick fracture of the radius of his right arm about 1½ inches above the wrist. The period of temporary total incapacity was that period during which he was unable to work because of the broken bone in his arm. When the bone had completely knitted and the usual attendant soreness and stiffness disappeared, the period of temporary incapacity ended, and disability then existing was necessarily the result of the permanent character of the injury received. If he had lost his hand, the period of temporary disability would have been the physical state of the patient until the stump was healed and he was able to get about. The loss of the hand would have been the permanent disability for which compensation is allowed under another division of the workmen's compensation act.

The evidence in this case showed, without dispute, that there was a solid union of the bone, and that the only thing the matter with the employee was adhesions in the tendons of his wrist and hand, the operation to overcome which was a simple one, attended with no danger whatever, and with no pain under a mild and entirely safe anesthetic. The court must therefore hold that the permanent disability of he employee was due to his refusal to submit to this simple operation, and not due to the accident. If the operation should be had and prove unsuccessful, the employer would be liable for whatever loss of use of his hand he suffered, as well as surgical and hospital services necessary for the operation and for treatment already received; but if successful, its liability would be for temporary loss of time and for treatments had and surgical and hospital expenses incurred in the operation. Whatever time the commission found from the evidence that he lost by his unreasonable refusal to submit to this operation must be credited to the employer in awarding compensation. Such loss of time must be attributed to the voluntary act of the employee in refusing to submit to proper medical treatment, and not to the accident.

In the second case, the Supreme Court of Illinois says that the sole question before it was whether the industrial commission properly suspended compensation on the employee's refusal to submit to a surgical operation such as was requested for the cure of a hernia that resulted from an injury. The testimony of the physicians was to the effect that it was a comparatively superficial operation, though counsel for the employee argued that it was a major operation, and one involving some danger to life, and should not be required as a prerequisite to obtaining compensation for the injury. Naturally, each case must depend largely on its special facts. The hernia here was caused by the accident, but it appeared that an injury of this kind is not recovered from in the ordinary process of healing by allowing nature to take the ordinary course, as is the case with many wounds. On the facts as found in this record, the court thinks that the findings of the commission suspending the award were justified, and the courts are bound by the commission's finding.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

May, 1921, **1**, No. 8

*Problem of Effecting Sterilization in Association with Various Obstetrical Procedures. J. W. Williams, Baltimore.—p. 783.
*Submucous Adenomyoma. O. H. Schwarz, St. Louis.—p. 794.
Practical Application of Local Anesthesia to Surgery of Lower Abdomen. R. E. Farr, Minneapolis.—p. 800.
*Statistical Study of Fetal Deaths Occurring in Service of Woman's Hospital of New York. H. O. Ingraham, New York.—p. 821.
Education of Nurses for Obstetric Service. S. J. Goodman, Columbus, Ohio.—p. 823.
Maternal Welfare in Relation to Prevention and Early Diagnosis of Tuberculosis. A. L. McDonald, Duluth.
Ovary Containing Endometrium. C. C. Norris, Philadelphia.—p. 831.
*Repeated Cesarean Section. P. Titus, Pittsburgh.—p. 835.
Opportunities for Study of Advanced Obstetrics. A. M. Mendenhall, Indianapolis.—p. 849.
Cholecystogastrostomy and Cholecystoduodenostomy. W. W. Babcock, Philadlephia.—p. 854.
*Sigmoido-Uterine Fistula: Report of Case. W. C. G. Kirchner, St. Louis.—p. 860.
Lateral Partial Glandular Hermaphroditism. C. W. Moots, Toledo.—p. 864.
Polycystic Kidney of Atypical Character. L. Broun, New York.—p. 868.

Deliberate Sterilization of Women.—Deliberately effected sterilization was done in association with some obstetric procedure in forty-four out of twenty odd thousand patients admitted to the Obstetrical Service of the Johns Hopkins Hospital. Twenty-nine sterilizations were done at the time of labor. Eighteen were associated with supravaginal hysterectomy, fourteen of which were done at a second or third cesarean section performed on account of contracted pelvis, and four on account of the existence of serious disease. In eleven other patients sterilization was effected following cesarean section for various causes, but mostly for contracted pelves, by doubly ligating the tubes and burying the uterine ends between the folds of the broad ligaments. The remaining fifteen operations were done during the course of pregnancy, and were as follows: six supravaginal hysterectomies and nine hysterotomies followed by tubal sterilization for various diseases complicating pregnancy. Williams discusses these cases in detail.

Submucous Adenomyoma.—Schwarz discusses three cases, in two of which there were small polypoid masses, both about the size of a hen's egg and connected by a pedicle to the uterine wall. These are of interest, however, both on account of their size and on account of the fact that the uterus was not removed subsequently. In the third case, the tumor was of enormous size; it clearly substantiates all of Cullen's ideas as regards the origin of these tumors.

Fetal Deaths.—Among 3,000 deliveries, the fetal mortality was 4.6 per cent (138 deaths). Sixty-eight of these were stillbirths. The probable cause of death in these sixty-eight cases was: Birth trauma, 38; placenta praevia, 7; toxemia, 18; fetal abnormality, 2; miscellaneous, 3.

Repeated Cesarean Section.—Sixteen cases of repeated cesarean section are recorded by Titus.

Sigmoido-Uterine Fistula.—In the case cited by Kirchner intestino-uterine fistula occurred as a sequel of childbirth.

American Journal of Public Health, Boston

April, 1921, **11**, No. 4

Importance of Oral Hygiene During Childhood. H. B. Butler, Washington, D. C.—p. 297.
Brief Statistical Study of Recent Expreience with Measles and Whooping Cough in Massachusetts. J. F. Henry, Boston.—p. 302.
Program of Bureau of Social Hygiene of California State Board of Health. W. M. Dickie, Sacramento, Calif.—p. 306.
Education in Health at Cornell University, 1919-1920. H. Emerson, L. B. Chenoweth, F. C. Balderry, and C. E. Case, Ithaca, N. Y.—p. 309.
Supervision of Health in Colleges and Universities. J. Sundwall, Minneapolis.—p. 327.
Students' Infirmary, University of California. Its Contribution to Student Health. R. T. Legge, Berkeley, Calif.—p. 335.
Department of Hygiene and Public Health at University of Kentucky. P. K. Holmes, Lexington, Ky.—p. 338.
Mental Hygiene and College Student. F. E. Williams, New York.—p. 341.
Standardization of Botulism Antitoxins. I. A. Bengtson, Washington, D. C.—p. 352.

Annals of Surgery, Philadelphia

May, 1921, **73**, No. 5

*Results of Surgical Treatment of Epithelioma of Lip. W. E. Sistrunk, Rochester, Minn.—p. 521.
Salivary Calculus in an Acromegalic. C. Jones, Boston.—p. 527.
Treatment of Acute Suppurative Pleurisy. J. M. Hitzrot and W. M. Weeden, New York.—p. 531.
*Duodenal Ulcer in Infancy. D. W. Palmer, Cincinnati.—p. 545.
Linitis Plastica. A. H. Harrigan, New York.—p. 551.
Use of Duodenal Tube in Pre-Operative Study of Bacteriology and Pathology of Biliary Tract and Pancreas. A. O. Whipple, New York.—p. 556.
Acute Intestinal Obstruction Due to Strangulation of Loop of Small Intestine by Meckel's Diverticulum. W. B. Coley, New York and S. T. Fortuine, Cambridge, N. Y.—p. 568.
*Chronic Duodenal Obstruction with Duodenojejunostomy as Method of Treatment. E. L. Kellogg and W. A. Kellogg, New York.—p. 578.
*Symphysiotomy as Aid to Removal of Cancer of Prostate. G. Walker, Baltimore.—p. 609.
Secretory Pressure of Kidney as Index of Pathologic Conditions. G. Walker, Baltimore.—p. 610.
Sliding Hernia of Ureter. G. G. Ross and K. P. A. Taylor, Philadelphia.—p. 613.
Dislocations of Semilunar Carpal Bone. I. Cohn, New Orleans.—p. 621.
Injury to Bile Ducts and Methods of Repair. H. B. Sweetser, Minneapolis.—p. 629.

Epithelioma of Lip.—One hundred and thirty-six cases form the basis of Sistrunk's study. In ninety-eight cases, a primary complete operation was performed when the glands were not involved; that is, a local excision of the growth with removal of the glands draining the lower lip. In eleven cases, the glands were involved at the time of operation. In six cases, a block dissection was done in addition to removal of the submaxillary and submental lymphatics. In twenty-seven cases, the growth only was excised, usually on account of the age or physical condition of the patient. A review of these cases shows that the percentage of cures following operation in cases in which the glands are involved is much lower than in cases in which operation was performed before the glands became involved. The percentage of from five to eight-year cures when the glands were involved is almost identical with that obtaintd in cases of cancer of the breast when the glands are involved. The percentage of local recurrences seems too large. This, Sistrunk believes, probably could be avoided to a certain extent by a wider removal of the growth and the use of radium after operation. Rapidly growing epitheliomas, and especially those growths with a marked inflammatory reaction surrounding them, are best removed with the actual cautery without attempting to perform a plastic operation at the time. In cases in which the glands have liquefied, broken down and extensively involved the surrounding tissues no relief can be expected. Such cases are probably best treated by means of radium and roentgen ray. Treatment of the growth by means of radium and the roengten ray without removal of the glands does not seem a radical procedure. There is no doubt that radium often destroys the growth, but such a procedure is almost identical with the methods in which the growth is removed with pastes or by local excisions. Although there may be no local recurrence of the growth following the latter procedures, in from 20 per cent. to 30 per cent. of the cases, metastasis occurs later in the submaxillary and submental glands.

Duodenal Ulcer in Infancy.—Palmer reports what he belivees to be the first case of duodenal ulcer in infancy to be operated on, and that successfully. The child was 6 months old. A tentative diagnosis of congenital pyloric stenosis of a mild, persistent type was made and operation advised and accepted. However, at operation no pyloric tumor was present. The pylorus was of normal thickness, but about one-half inch distal to the pyloric ring there was attached a tag of omentum plastered over an area of the peritoneum distinctly "strippled" and puckered as is the case in ulcers in adults. The child's condition was so bad that a gastro-enterostomy seemed out of the question, and a pyloroplastic operation was substituted, splitting the pylorus and

suturing it up in the opposite direction to widen the lumen. The child reacted well but soon began to vomit. The vomiting became worse and food seemed to accentuate the vomiting. It seemed that the lumen created by the pyloroplastic operation was insufficient, and Palmer advised gastrojejunostomy. A rapid, short loop, posterior suture gastrojejunostomy was made. This operation was very successful. Now at the age of 2 years the child weighs thirty-two pounds and is normal in every way.

Chronic Duodenal Obstruction.—A résumé is given by the Kelloggs of forty-one cases of chronic duodenal obstruction treated by duodenojejunostomy. They are convinced that duodenojejunostomy will save from invalidism a group of patients not amenable to other treatment, and that it should be recognized as a definite surgical procedure with well defined indications and limitations. In fourteen cases with epigastric pain, vomiting, or typical bilious attacks, a dilated duodenum was suspected or diagnosed before operation. In the remaining cases, the symptom suggested gallstones, appendicitis and gastric ulcer.

Symphysiotomy in Operations on Prostate.—By experimentation on cadavers Walker found that a symphysiotomy or pubiotomy not only greatly facilitates the removal, but also enables the surgeon to see clearly the extent of the diseased process and to do the repair of bladder and urethra with precision. The bladder is exposed as in an ordinary suprapubic operation, and is then opened to confirm the diagnosis, and to ascertain the extent of the invasion of the vesical neck. The symphysis, pubic ligaments and attachment of the triangular ligament are divided. Abducting the leg slightly, separates the cut ends of the bone. The bladder is divided transversely near its neck and as near the prostate as the growth will allow. The seminal vesicles, which are now exposed, are ligated and divided. The urethra is cut across at its junction with the prostate. The prostate is separated from the surrounding structures. The inferior vesical artery and the branch of the superior vesical artery are ligated. The enucleation is continued until the gland is free, so that it can be removed. An opening is made through the perineum for drainage. The posterior three fourths of the bladder wound are closed, leaving a small opening at the anterior angle for the connection of the urethra to the bladder; then cut end of the urethra is sutured to the opening left in the bladder. The symphysis is closed with heavy silver wire. The proper drains are placed and the wound is closed.

Boston Medical and Surgical Journal

June 2, 1921, **184**, No. 22

Mutual Relations Between Physician and Commonwealth. F. W. Anthony, Haverhill.—p. 563.
Essential Factors of Cancer Causation. J. W. Shannon, San Diego, Calif.—p. 572.

Journal of Infectious Diseases, Chicago

May-June, 1921, **28**, No. 5

Experimental Typhoid-Paratyphoid Carriers. K. F. Meyer, San Francisco.—p. 381.
Optimum Hydrogen-Ion Concentration for Growth of B. Typhosus, and B. Paratyphosus A and B. P. Schoenholz and K. F. Meyer, San Francisco.—p. 384.
*Do "Carrier" Strains Differ from Strains Isolated from Ordinary Typhoid Cases? C. R. Christiansen, N. M. Neilson and K. F. Meyer, San Francisco.—p. 394.
*Comparative Study of Infections Produced by Intravenous Injections of Typhoid, Paratyphoid A and B Bacilli in Normal and Immunized Rabbits. K. F. Meyer, N. M. Neilson and M. L. Feusier, San Francisco.—p. 408.
*Mechanism of Gallbladder Infections in Laboratory Animals. K. F. Meyer, N. M. Neilson and M. L. Feusier, San Francisco.—p. 456.
Reaction and Physiology of Hepatic Duct and Cystic Bile of Various Laboratory Animals. N. M. Neilson and K. F. Meyer, San Francisco.—p. 510.
*Bacteriostatic and Germicidal Properties of Bile. N. M. Neilson and K. F. Meyer, San Francisco.—p. 542.
*Influence of H-Ion Concentration on Growth of B. Typhosus in Mediums Containing Bile or Bile Salts. P. Schoenholz and K. F. Meyer, San Francisco.—p. 588.

Typhoid Carrier Strains.—Fourteen *B. typhosus* strains, isolated from carriers in California, were studied by Christiansen and his associates by means of the usual cultural and carbohydrate tests. They failed to find any striking differences between these strains and those isolated from acute typhoid cases. Seven carrier strains tested on rabbits by means of intravenous injections failed to exhibit specific elective cholecystotropic and renotropic properties. Furthermore, it was impossible to confer such characteristics to a recently isolated strain of *B. typhosus* by successive passage through the gallbladder of rabbits. It was, however, demonstrated that immunized rabbits inoculated with large doses of living typhoid bacilli exhibited gallbladder infections in a somewhat higher percentage of instances than normal rabbits. The theory of Fornet and the publications of other workers on experimental typhoid carriers are discussed and compared with ten authors' own observations.

Comparative Study of Typhoid Infections.—A small number of typhoid bacilli inoculated intravenously into normal rabbits of the same litter was rapidly removed from the blood stream at the end of from ten to fifteen minutes after the inoculation. From 20 to 30 per cent. of the inoculum was found in the liver; a smaller amount in the spleen, bone marrow and lungs; and comparatively small amounts in the lymph nodes, kidneys, muscle, etc. The gallbladder bile contained only a small number of bacteria, while the gallbladder wall received, according to its size, a proportional share of the total number of bacteria deposited in the liver. The intraportal injection presented no advantage over the common intravenous method. The blood and serum of normal rabbits in vitro is bacteriolytic for typhoid and paratyphoid A bacilli, but is in inactive for paratyphoid B bacilli. The serum of immunized rabbits in vitro, whether protected against typhoid, paratyphoid A or paratyphoid B bacilli, is nonbactericidal. Pieces of excised organs of exsanguinated rabbits heavily infected with bacilli of the typhoid-paratyphoid group, when incubated in test tubes at 37 C., may show in the first two hours a slight bactericidal action. The property is marked in the excised lung tissues, but not in its extracts and is dependent on the living protoplasm of the cell. The nature of the immunity of the rabbit against the typhoid and paratyphoid B bacilli is considered in some detail by Meyer and his co-workers, and it is pointed out that an intravenous injection of a large dose of *B. typhosus* produces primarily a toxemia, while the invasive *B. aertryckei* provokes in small amounts a progressive septicemia. The various cellular factors, which, in the light of available knowledge, are responsible in the normal and immunized rabbit for the local and general antitoxic adaptation immunity are discussed.

Mechanism of Gallbladder Infections.—The experiments made by Meyer and his associates have demonstrated that more bacteria appear in the bile of normal rabbits inoculated intravenously with from 8,000 to 24,000 million typhoid bacilli than in that of immunized animals of the same litter, provided the last inoculation of the vaccine is administered from twenty to thirty days previous to the infection. The elimination of the bacteria by the hematohepatogenous or descending route is immediate. The ability of the individual rabbit to eliminate bacilli in the bile varies considerably. Even repeated inoculations of large doses (from 10 to 15 billion) may in a small number of rabbits never lead to a discharge of typhoid bacilli in the hepatic duct bile. The excretion of typhoid bacilli in the hepatic duct bile of dogs is irregular and not definitely influenced by immunization. Injections of less than 10 billion bacilli in dogs varying in weight from 14 to 26 pounds fail to cause an elimination of bacteria. The typhoid bacillus reaches the gallbladder in human cases of typhoid fever regularly after the liver has been disabled by the poisonous product of the bacteria, and its presence therein is evidenced by positive cultures or by a mild or moderately severe catarrhal cholecystitis.

Bacteriostatic Properties of Bile.—The observations reported on by Neilson and Meyer demonstrated one outstanding fact, namely, a test-tube experiment may be simple and reveal a great deal of information, but it does not always tell the truth and may be most misleading to the pathologist.

Influence of H-Ion Concentration on Growth of Typhoid Bacillus.—According to Schoenholz and Meyer, bile of oxen, hepatic duct bile of rabbits, bacto "desiccated ox bile," sodium glycocholate and taurocholate in 1 per cent. concentration in a 0.01 per cent. "Difco" peptone-phosphate solu-

tion at a p_H 7.0 are growth enhancing for *B. typhosus*, while greater amounts, such as from 3 to 30 per cent., greatly inhibit proliferation. At p_H 8.4 the same bile specimens or their salts acquire either inhibitive, bacteriostatic or germicidal properties. The more concentrated the mediums are in biliary salts, the greater is their effect on the viable cells. Even small amounts of bile salts, such as 0.5 per cent., destroy the inoculated bacteria in twenty-four hours. At p_H 8.4 glycocholates are more antiseptic than taurocholates, while the same salts in the same concentration may be stimulative at a p_H 7.0.

Kansas Medical Society Journal, Topeka

May, 1921, **21**, No. 5

Can Standards of Diagnosis and Treatment of Early Pulmonary Tuberculosis be Established. C. S. Kenney, Norton.—p. 155.
Occlusion of Superior Mesenteric Vessels. R. H. Hertzler, Newton.—p. 160.

Medical Record, New York

June 4, 1921, **99**, No. 23

Teeth and Systemic Disease. W. G. Thompson, New York.—p. 946.
Serum Treatment and Management of Lobar Pneumonia. W. W. Herrick, New York.—p. 948.
*Complications of Pneumonia. N. B. Foster, New York.—p. 950.
Diabetic Acidosis. T. W. Edgar, New York.—p. 952.
Blood Irritants of Dietary Origin, J. M. W. Kitchen, East Orange, N. J.—p. 955.
Concept of Roentgen-Ray Pathology. A. J. Pacini, Washington, D. C.—p. 957.

Pulmonary Abscess Complicating Pneumonia.—When the pulmonary abscess is nearer the center of a lobe, Foster says, the lung may be collapsed by artificial pneumothorax in the same way that tuberculous cavities may be treated. The only contraindication is pleural adhesions. In some cases a complete cure has been attained by this relatively simple procedure. When adhesions frustrate attempted collapse of the lung, the only method of treatment left is excision of the involved area, or lobectomy. Pulmonary abscess does not heal spontaneously, and, when left untreated, the fate of these patients is so distressing that a majority will risk any hazard that promises relief.

New York Medical Journal

June 1, 1921, **113**, No. 15

Some Emotional Reactions in Epileptics. L. P. Clark, New York.—p. 785.
Singultus. H. S. de Brun, New York.—p. 789.
Case of Hysterical Aphagia. A. A. Rutz, Brooklyn.—p. 793.
Sensory Aphasia. E. M. Ellison, Washington, D. C.—p. 796.
Shaker Celibacy and Salacity Psychologically Interpreted. T. Schroeder, Cos Cob, Conn.—p. 800.
Mental States Associated with Apoplexy and Allied Conditions. A. C. Buckley, Philadelphia.—p. 806.
*Effect of Tobacco on Man. W. J. Gies, M. Kahn and O. V. Limerick, New York.—p. 809.
Ataxic Paraplegia with Pernicious Anemia. K. A. Menninger, Topeka, Kan.—p. 812.
*Syphilis of Lungs Simulating Tuberculosis. H. M. Minton, Philadelphia.—p. 813.
Lethargic Encephalitis as a Complication of Influenza. B. Frankel, New York.—p. 815.
Case of Injury to Eyeball. W. L. Pyle, Philadelphia.—p. 816.
Cases of Foreign Body in Larynx and Esophagus. J. Friedman and S. D. Greenfield, Brooklyn.—p. 818.
Marie Curie. D. Waterson, New York.—p. 820.

Effect of Tobacco on Man.—The authors claim that the habitually moderate use of tobacco is not harmful to adults; in fact, it proves distinctly helpful to certain adult types. The habitually excessive use of tobacco may prove harmful to certain individuals, but this holds equally true of all foods. The excessive use of tobacco may prove harmful in certain neurovascular disorders. The habitual use of tobacco by juveniles is harmful. Tobacco does not cause disease of either mind or body.

Syphilis of Lung.—Minton has noted cases which to the casual observer might have been diagnosed as pulmonary tuberculosis, but, after investigation, have proved to be syphilis of the lungs. He believes that many cases of this disease are being treated for pulmonary tuberculosis, and urges more frequent use of Wassermann and other blood tests in cases with signs and symptoms of active tuberculosis, but not giving positive sputum. This should be done whether a history of a primary syphilitic lesion is obtainable or not.

Pennsylvania Medical Journal, Harrisburg

April, 1921, **24**, No. 7

Lethargic Encephalitis. D. J. McCarthy, Philadelphia.—p. 449.
Analysis of Mental Symptoms Associated with Epidemic (Lethargic) Encephalitis. C. C. Wholey, Pittsburgh.—p. 453.
Necropsy Findings in Epidemic Encephalitis. W. W. G. Maclachlan, Pittsburgh.—p. 458.
Spontaneous Rupture of Gallbladder; Report of Three Cases. E. W. Meredith, Pittsburgh.—p. 463.
Repair and Anastomosis of Bile Passages for Relief of Chronic Jaundice. M. Behrend, Philadelphia.—p. 465.
*Eradication of Diphtheria by Means of Toxin-Antitoxin Following Schick Testing. E. L. Bauer, Philadelphia.—p. 471.
*Practical Value of Toxin-Antitoxin Injections in Immunization Against Diphtheria and of Schick Test as Means for Identifying Those That Are Susceptible. W. H. Park, New York.—p. 474.
Blood Clot Dressing for Simple Mastoid Operation. G. M. Coates, Philadelphia.—p. 477.
Intranasal Operation for Dacryocystitis. J. H. McCready, Pittsburgh.—p. 483.
Auricular Fibrillation. R. V. Patterson, Philadelphia.—p. 486.
Misuse of Vaccines, Hay Fever Pollens and Proteids. M. S. Ersner.—p. 490.
Hospital, Profession and Laity. J. W. Kennedy, Philadelphia.—p. 492.

May, 1921, **24**, No. 8

Is Practice of Medicine Worth While? E. O'N. Kane, Kane, Pa.—p. 531.
End Results in 608 Cases of Peripheral Nerve Injury. W. W. Babcock and J. O. Bower, Philadelphia.—p. 533.
Pericarditis. G. E. Holzapple, York, Pa.—p. 540.
Treatment of Hyperthyroidism. F. B. Utley, Pittsburgh.—p. 544.
Ovarian Pregnancy; Report of Case. S. A. Chalfant, Pittsburgh.—p. 548.
Phase of Accessory Sinus Disease. B. M. Dickinson, Pittsburgh.—p. 551.
*Infant Feeding During First Two Years. E. E. Graham, Philadelphia.—p. 555.
Origin of Pennsylvania Medical Journal. C. L. Stevens, Athens.—p. 560.
Prevention of Syphilis and Its Sanitary Management. W. M. Baker, Warren.—p. 564.

Value of Shick Testing.—Bauer urges that Schick testing and active immunization of susceptible children be made a universal practice, especially among young children.

Value of Toxin-Antitoxin Immunization.—Park has never observed a case of undoubted clinical diphtheria in a child which had given a negative reaction in a test carried out by a qualified person. Tests have demonstrated that the outfits sent out by the majority of biologic products companies are frequently very faulty. The toxin used must also be of the proper age and strength. A lethal dose of a well aged toxin is more severe than one of a fresh toxin. The antitoxin neutralizing value of the toxin, rather than the minimal fatal dose, is probably the safer guide. The physician must be certain that the fluid is delivered intracutaneously and that the resulting effect is observed for a sufficient time. When the Schick test is carried out properly it is extremely dependable.

Infant Feeding.—The rapid growth of all tissues and organs of the infants, especially of the bones, Graham says, renders the ingestion and absorption of the mineral salts of great importance. Potassium, sodium, calcium, magnesium, phosphorus and a trace of iron, are the most imporatnt mineral salts found in milk. These salts, with the exception of iron, are present in sufficient amounts in both human and cow's milk to supply to the infant all that its body requires for normal growth and development. The diet that suplies an abundance of milk must contain an abundance of mineral salts. Eggs and cereals also contain an abundance of mineral salts. Olive oil is a form of fat that seems to be digested well by many young infants. The addition of olive oil to the diet of these infants enables one to give them often an additional amount of fat. Olive oil or cod liver oil may be used by inunction.

Porto Rico Medical Association Bulletin, San Juan

April, 1921, **15**, No. 130

*Tropical Pyrexias in Porto Rico. A. Torregrosa.—p. 45. Cont'n.
Adenoids and Tonsil Disease in Etiology of Tuberculosis, Malnutrition and Infectious Diseases in Children. A. R. Laugier.—p. 67.
The Milk Question. F. del Valle Atiles.—p. 69.

Tropical Pyrexias Most Common in Porto Rico.—In this instalment of Torregrosa's comprehensive work he discusses the differential diagnosis between malaria and typhoid; between malaria, typhoid and acute endocarditis; between

malaria, typhoid and generalized tuberculosis, and between malaria, typhoid and pneumonia, puerperal fever, or acute appendicitis. He says in Porto Rico malaria often simulates acute appendicitis, with chill, high fever, pain at McBurney's point and contraction of the abdominal wall. These cases are generally recognized, however, as it is the rule to examine for leukocytosis with appendicitis. In all these pyrexias, examination of the blood is the main reliance for the differential diagnosis. The typhoid bacilli can be found in the blood the second or third day of the disease in fully 89 per cent. of the cases, but soon disappear from the blood. The blood also gives the clue in acute endocarditis.

Rhode Island Medical Journal, Providence

May, 1921, **4**, No. 5

Value of Radium in Treatment of Disease. R. B. Greenough, Boston. —p. 71.
Nonsurgical Method of Drainage of Biliary Tract as Aid in Diagnosis and Treatment of Gall-Bladder Disease. B. B. V. Lyon, Philadelphia. —p. 76.
Salivary Calculus (Parotid). C. A. McDonald.—p. 84.

Wisconsin Medical Journal, Milwaukee

May, 1921, **19**, No. 12

Human Breast: Plea for Well Directed Treatment Based on More Accurate Diagnosis. W. S. Bainbridge, New York.—p. 619.
Infections of Urinary Tract, with Consideration of So-Called "Pyelitis" Group. B. C. Corbus and V. J. O'Conor, Chicago.—p. 626.
Prenatal Care: Its Importance and Prophylactic Value. C. H. Davis, Milwaukee.—p. 630.
Ophthalmic Education. C. Loeb, Chicago.—p. 635.
Plea for Offspring of Those Afflicted with Syphilis. J. C. Sargent, Milwaukee.—p. 639.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

April 27, 1921, **15**, No. 1

Liverpool School of Tropical Medicine. Scientific Record. D. Allmand. —p. 1.
"Arneth Count" in Hookworm-Infected White Children in North Queensland. A. Breinl.—p. 49.
*Bronchomoniliasis Complicating Pulmonary Tuberculosis in a Native of Gold Coast, West Africa. J. W. S. Macfie and A. Ingram.—p. 53.
Case of Indigenous Infection with P. Falciparum. B. Blacklock.—p. 59.
Mosquitoes in Isle of Man. B. Blacklock and H. F. Carter.—p. 73.
Some Unusual Breeding-Places of Stegomyia Fasciata, Fabr., in Australia.—G. F. Hill.—p. 91.
Musca Domestica, Linn., As a "Bush Fly" in Australia. G. F. Hill.—p. 93.
New Tsetse-Flies (Glossina) from Belgian Congo. R. Newstead and A. M. Evans.—p. 95.
On Collection of Pappataci Flies (Phlebotomus) from India. R. Newstead and J. A. Sinton.—p. 103.

Bronchomoniliasis and Pulmonary Tuberculosis.—A case is recorded by Macfie and Ingram in which bronchomoniliasis complicated pulmonary tuberculosis in a native of the Gold Coast at Accra. The patient died from hemoptysis. At the postmortem examination both lungs were found to be tuberculous. The left lung was collapsed, and the pleural cavity partially filled with exudate. In this exudate and in the thickened pleura over the lung *Monilia* was present. The organism, which belonged to the *Tropicalis* group of Castellani and Chalmers, closely resembled in biochemical reactions *M. nivea,* Cast. (1910).

International Journal of Public Health, Geneva

May-June, 1921, **2**, No. 3

Nucleus of Tuberculosis Problem. W. C. White.—p. 225.
Relation of Health to Atmospheric Environment. L. Hill and M. Greenwood.—p. 232.
Lethargic Encephalitis as an Epidemic Disease. A. S. MacNalty.—p. 248.
Antivenereal Campaign: Education of Educators. H. Gougerot.—p. 257.
Education of Health Officers. G. C. Whipple.—p. 263.

Journal of Tropical Medicine and Hygiene, London

May 2, 1921, **24**, No. 9

Keratosis Pilaris of Jackson and Brocq in Anglo-Egyptian Sudan. A. J. Chalmers and E. Gibbon.—p. 121.
Monilia Metalondinensis (Castellani, 1916) and Epidermophyton Rubrum (Castellani, 1909). E. C. Spaar.—p. 126.

May 16, 1921, **24**, No. 10

*Latent Malaria in Soldiers Returned to England. The Value of Large Mononuclear Cell Count. Test for Quinin in Urine. W. Broughton-Alcock.—p. 133.
*Symptomatology and Treatment of Leprosy. P. Hooper.—p. 137.

Test for Quinin in Malaria Cases.—Alcock modified the technic of the direct Tanret's or Mayer's test for quinin by previously acidulating the urine to not more than 2 per cent. with acetic acid, as this has been found by Roche Lynch to give a positive finding in a much higher dilution of quinin in the urine, especially if the urine be previously alkaline. The period of time taken for the practical application of the test is from three to eighteen hours after 10 grains of quinin is taken orally, or to seven hours after taking a dose of 5 grains. The taking of repeated daily doses prolongs the limit.

Treatment of Leprosy.—In Fiji, Hooper says, leprosy may be divided into three stages, the macular stage without neuritis or nodules; the nervous stage with macules, past or present, but without nodules; and lastly, the nodular stage, in which neuritis is always demonstrable though macules may not have been noticed. Hooper believes that all cases of purely skin leprosy (i. e., such cases as are characterized only by macules without demonstrable nerve lesion or nodule formation and without acid-fast bacilli in the nasal mucus) can be cured by modern methods, that many cases of nervous leprosy can be cured, and that some nodular cases can be cured. Cure or failure will thus largely depend on early diagnosis accompanied by early treatment. The favorable results of treatment Hooper has obtained have been due to the general hygienic treatment and to the intramuscular injection of chaulmoogra oil, mostly by Mercado's formula. This work could not have been accomplished without the most efficient nursing staff. During the years 1918 and 1919 twenty-three patients have been discharged on parole, of whom one has returned. We have now six more cases ready for discharge. He finds that crude chaulmoogra oil may be given intravenously in doses of 15 minims daily for six days weekly for months on end without ill effects. Of forty patients so treated since August 21, all except two have derived benefit. The formula used is phenol, 10; ether, 250; chaulmoogra oil, 750; start with 10 minims for adults, and increase gradually to 20 minims. This dose is given daily for six days a week and may be continued for at least five months on end.

Lancet, London

May 21, 1921, **1**, No. 5099

*Glycemia and Glycosuria. G. Graham.—p. 1059.
*Nonoperative Treatment of Surgical Tuberculosis. H. Gauvain.—p. 1065.
*Spinal Caries in Children. A Method of Fixation. W. T. G. Pugh.—p. 1071.
*Action of Digitalis and Atropin on Peripheral Blood Pressure. I. Harris.—p. 1072.
Roentgen-Ray Appearances of So-Called Osteo-Arthritis of Spine. C. Gouldesbrough.—p. 1074.
Manifestations of Hysteria. H. Carlill.—p. 1075.
Two Cases of Retroperitoneal Hemorrhage. T. G. D. Bonar.—p. 1078.

Glycemia and Glycosuria.—The hypotheses for the cause of diabetes, and the principles and details of the modern treatment are discussed by Graham in this, the third, Goulstonian lecture.

Nonoperative Treatment of Surgical Tuberculosis.—Gauvain limits his discussion to tuberculous disease of the bones, joints and glands, in which conditions nonoperative treatment may now be adopted with confidence and a reasonable assurance of success. His experience is that it is quite fallacious to suppose that adults do not respond well to conservative treatment. It is of equal importance in adult cases of tuberculous disease, and yields equally gratifying results, although with adults there may be a more frequent necessity for operative aid. Any individual case may require the application of numerous measures appropriate to its peculiar requirements and varying according to the stage of the disease or even to the idiosyncrasies of the patient. The final judgment to be passed on any method of treatment must depend on the end-results achieved. Tables of results prepared by Gauvain convey graphically the significance and value of conservatism in the treatment of surgical tuberculosis.

Apparatus for Fixation of Spine.—The apparatus which Pugh uses is a frame which rests on a carriage of simple design; the latter is not essential to the frame, which with its head end resting on a block acts equally well on a bed. The frame, like the Whitman stretcher, is made of gaspipe and is generally eight or ten inches longer than the patient; it has a flat transverse bar opposite the shoulders and a padded one just above the knees. It is slightly narrower than the distance between the iliac crests, but from the lower part of the thighs is cranked out an inch and a half on each side to allow of more freedom of movement for the legs. An adjustable felt-lined foot-rest prevents the feet from dropping, and a bend in the frame at the level of the knees allows the latter to assume their natural position of rest in slight flexion. The thighs at their lower end rest on the padded crossbar to which knee-straps are attached by means of a saddler's D. The legs lie on a felt-covered wooden flap, which can be dropped at suitable intervals to allow of active exercise of the thigh and leg muscles, the separate strap over each knee ensuring that this movement takes place without disturbance of the spine by the psoas. To avoid the foot-rest when raising the legs the child has to dorsiflex his feet and thus a full range of movement at the ankle-joint is maintained. A flap made of duratumin beneath the buttocks allows of the use of an enameled tray as a bedpan; if the frame is on a carriage the tray is suspended from the tubing by a special holder, otherwise it rests on the bed. One border is curled closely round the tubing and serves as a hinge; the free end rests on a flat catch inserted in the tubing, and has a slot through which the catch slips if rotated, and thus the flap can be made to drop. The "apron" consists of two transverse pieces of crash toweling connected by a duralumin rod on each side. The chest-piece is shaped to avoid the neck and sends a process over each shoulder, which ends in a webbing loop; at the side it passes beneath the armput to end in a narrow pocket or hem in which the rod fits. The pelvis-piece which ends in similar pockets runs across the lower abdomen not extending lower than the level of the top of the intergluteal fold, which is the upper limit of the duralumin flap beneath the buttocks. Through slots in the shoulder bar and three holes in each connecting rod the apron is laced behind the frame with blind cord, the ends of which are tied to the foot of the frame out of the patient's reach.

Effect of Digitalis on Blood Pressure.—Under the influence of digitalis Harris says the diastolic pressure becomes lower, and incidentally the systolic, while pulse pressure rises. The decline of the diastolic pressure is not due to a diminished output of the heart—the contrary is the case. The low diastolic pressure is neither due to dilatation of the arteries. The conclusion is that the blood stream leaves the arterial circulation at a greater rate than under normal conditions. The corollary to this conclusion is that under digitalis the heart contains at the beginning of the systole a greater amount of blood than before. The quickening of the pulse observed in the latter stages of digitalis is due to the fact that in a shorter time than normal the intracardiac pressure is sufficiently high to excite contraction.

Quarterly Journal of Medicine, London

April, 1921, **14**, No. 25

*Renal Dwarfism. H. Barber.—p. 205.
*Study of Arteriosclerosis, with Special Reference to Its Relation to Chronic Renal Disease. G. Evans.—p. 215.
Lethargic Encephalitis. C. P. Symonds.—p. 283.

Renal Dwarfism.—There is a form of interstitial nephritis in children which gives rise to dwarfism and very probably to bone deformities. Such cases are analyzed by Barber. Only five postmortem examinations have been obtained, but the findings have been similar in type, varying a little only in degree. The kidneys are very small; the smallest weighed 120 grains in a boy of 15, and the largest 300 grains in a boy of 16. The capsule is not adherent, the surface is only slightly granular or irregular; it is pale with little mottling; a few cysts may be present; the cortex is narrow and the cut surface pale; the blood-vessels do not stand out. Microscopically there is interstitial nephritis, varying in degree with the size of the kidney. In a typical case the child is usually described as small since birth, but nothing very noticeable in most cases until about 6 or 7 years of age, after which development has been very poor. Some degree of thirst is usually present, and with it polyuria. As the child grows older the dwarfism becomes more obvious and deformities of bone tend to develop, more particularly genu valgum, toward the age of puberty. A fatal termination from uremia would seem to be most probably some time in the second decade. The urine varies with the degree of disease but is pale in color in all cases, with specific gravity usually between 1,004 and 1,008. Albumin was present in all cases except one. Cardiovascular signs are very slight. The systolic blood pressure is about 100 mm. The stunted growth is very striking. Deformities of the bone, of which genu valgun is the most definite have been present in eight of the ten cases. There seems to be little prospect that the condition will be arrested; a steady progress is the rule, with a fatal determination probably somewhere in the second decade. There would seem to be little scope for treatment.

Arteriosclerosis and Kidney Disease.—The type of arterial disease first described by Gull and Sutton as arteriocapillary fibrosis, and more recently named diffuse hyperplastic sclerosis, forms the main object of Evans' study. The material for histologic examination was taken from a hundred postmortem examinations and twenty specimens of tissue removed at operation. The histologic observations have been correlated with the microscopic postmortem findings and with the clinical notes of the patient's condition before death. Diffuse hyperplastic sclerosis is more common in the kidney than any other organ; it is not found in other organs unless present in kidney or spleen; it is always more marked in these organs than in any other organs; it is not found in its typical development in the heart, lung or skeletal muscle. A new form of acute endarteritis is described. The histologic idnetity of local and diffuse hyperplastic sclerosis is shown; the difficulty of explaining diffuse hyperplastic sclerosis in terms simply of growth, involution or degeneration is discussed. The conclusion is that the lesion is one of active inflammation. The difference between diffuse hyperplastic sclerosis and senile arteriosclerosis is one of physiologic age response. A casual sequence exists between raised blood pressure and cardiac hypertrophy. The relation is established between cardiac hypertrophy and diffuse hyperplastic sclerosis. Syphilis and the cause of chronic renal disease are causes of cardiac hypertrophy, and thus, on the evidence brought forward, etiologic factors in the causation of diffuse hyperplastic sclerosis. Cerebral hemorrhage is evidence of aretrio sclerosis, sometimes of diffuse hyperplastic sclerosis; but at present the only adequate clinical evidence of diffuse hyperplastic sclerosis is a persistently raised systolic pressure of 190 mm. Hg. Chronic renal disease is an active inflammatory lesion in most cases, and, since it is closely associated with diffuse hyperplastic sclerosis, this is brought forward as further evidence that the latter is also an active inflammatory lesion. The histologic criterion by which true chronic interstitial nephritis may be recognized is stated, and its distinction from chronic diffuse nephritis on the one hand, and from arteriosclerotic kidneys on the other hand, is defined.

Archives Médicales Belges, Liége

February, 1921, **74**, No. 2

*Chloroform Anesthesia. H. Houdmont and L. Fouarge.—p. 81.
Pneumoperitoneum in Diagnosis. A. Stein and W. Stewart (N. Y.).—p. 93.
Physiologic Electrocardiography. H. Fredericq.—p. 98. Conc'n.

Chloroform Anesthesia.—The practical conclusions from Houdmont and Fouarge's research are that as chloroform paralyzes the nerve centers, a preliminary injection of atropin is advisable, although the British Commission denounces it. One great advantage from it is that epinephrin can be given then at need. The anesthetic acts on the vegetative system, but when this phase is past, the morbid phenomena are those from injury of the cells by the chloroform and the resulting disturbance in the functioning of organs. They warn further that a purge reduces the amount of urine, and thus impairs elimination through the kidneys. The kidney thus blocked

by purgation may be incapable of throwing off the nitrogenous waste. It is better to use enemas than purges. Insufficiency of the suprarenals and of the liver should be combated. For this, sugar may be given before the operation and, as soon as possible afterward, a glucose solution by the drip method. Opium is contraindicated throughout. The main thing is to save the liver, as this protects the organism against toxins and infection later.

Archives des Maladies du Cœur, etc., Paris

March, 1921, **14**, No. 3

*Velocity of Arterial Blood Wave. C. Laubry, A. Mougeot and R. Giroux.—p. 97.
Partial Heart Block with Complete Arrhythmia; Four Cases. L. Gallavardin.—p. 130.
*Auricular-Ventricular Innervation. L. Stiénon and Donzelot.—p. 138.

Speed of Arterial Blood Wave.—The extensive research reported, in which modern laboratory methods were applied to study of the pulse wave, seems to show that the speed is about 8 meters per second in the arm, and in the lower part of the body 9 meters. The speed varies proportionally to the systolic arterial pressure, and may thus have diagnostic value in estimation of arteriosclerosis and insufficiency of the left ventricle.

Pathologic Anatomy of the Impulse System of the Heart.—Donzelot comments on Stiénon's recent study of fifty-two hearts, comparing them with the histologic findings reported by others. In five of the cases death had occurred suddenly, and in one of these there had been auricular fibrillation without any special lesions.

Bulletin de l'Académie de Médecine, Paris

May 10, 1921, **85**, No. 19

*Ileus with Myoclonus. Kummer and Fol.—p. 567.
*Prophylaxis of Infection from Shellfish. Courtois-Suffit and F. Bourgeois.—p. 570.

Ileus with Myoclonus.—The rhythmic jerking and twitching of the abdominal wall and diaphragm accompanying the occlusion of the bowel in the woman of 49 seemed to be a form of epidemic encephalitis, but necropsy revealed merely acute malignant nephritis. A few similar cases have been published recently in which epidemic encephalitis was unmistakably responsible for the ileus as well as for the clonic spasms in the abdominal wall.

Prophylaxis of Typhoid from Shell-Fish.—Summarized in Paris Letter, p. 1778.

Bulletins de la Société Médicale des Hópitaux, Paris

May 6, 1921, **45**, No. 15

*Fatal Therapeutic Shock. Lesné.—p. 604.
Treatment of Syphilis. A. Renault.—p. 605.
Hysteric Fever in Girl of 13. J. Comby.—p. 607.
Congenital Heart Disease. Queyrat. Gandy and Deguignand.—p. 608.
*Prosthesis to Correct Facial Paralysis. J. A. Sicard.—p. 612.
*Pulmonary Gangrene. P. Emile-Weil, Semelaigne and Coste.—p. 615. Idem. Netter.—p. 629.
Primary Pneumococcus Septicemia. H. Bourges and Marcandier.—p. 631.
Icterohemorrhagic Spirochetosis; Three Cases. Oettinger and Deguignand.—p. 635.
*Syphilitic Pleuroperitonitis. M. Chiray and H. Janet.—p. 641.
*The Liver in Enteroptosis. R. Glénard and J. J. Rouzaud.—p. 647.
Failure of Vaccines in Erysipelas. Boidin and Delafontaine.—p. 651.
*Obesity after Epidemic Encephalitis. L. Livet.—p. 656.
Multiple Suppuration in Streptococcus Infection. M. Renaud.—p. 659.
Malignant Granuloma in Young Man. G. Loygue and J. Clarion.—p. 662.

Fatal Shock from Intravenous Injection.—The fatal syncope followed a few minutes after 5 c.c. of a 1 per cent. solution of collargol had been injected. The young man was emotionally excitable and had fainted on two occasions while being vaccinated. Dufour supplemented Lesné's communication with a similar fatality from injection of arsphenamin, only that in his case the fatal syncope occurred before any of the fluid had passed into the vein. The patient had been extremely apprehensive and nervous. In a series of other cases, an impressive epileptic convulsion followed the injection.

Prosthesis to Correct Facial Paralysis.—Sicard relates that the disfiguring feature of the facial paralysis of fifteen years' standing in the young woman has been corrected by a simple hook device worn on one of the upper teeth. This blunt hook lifts up the sagging corner of the mouth, and thus restores the symmetry of the face. The device interferes scarcely at all with chewing and speaking, and it can be removed and replaced at will.

Serotherapy of Gangrene of Lung.—In three of the ten cases a complete cure was realized under nonspecific serotherapy, plus pleurotomy in two. No benefit was apparent in one case, but improvement in all the others. Netter reported the recovery of a boy of 10 under antigangrene serum made with the perfringens, septic vibrio and the malignant edema bacillus.

Syphilitic Pleuropulmonary Disease.—The woman of 36 had first a phase involving the peritoneum; this was followed by symptoms suggesting pleural and pulmonary tuberculosis. The temperature kept at 38 C. (100.4 F.) for two months. Then symptoms of periosteitis suggested syphilis, and the whole melted away under three injections of arsphenamin. Pain below the liver had been the first symptom.

Enteroptosis.—Glénard and Rouzaud warn that the neglect to care for the liver is the main reason for the failure of medical measures with enteroptosis. The liver shares in the general pathologic process.

Obesity After Epidemic Encephalitis.—Livet reports three cases in which obesity developed as a sequel of epidemic encephalitis in young adults. His success with organotherapy suggests that the obesity is due to derangement of one or more of the ductless glands. In another case the relapses of the disease, after a year's course, were effectually combated by light baths, tepid douches and hexamethylenamin in 2 gm. doses by the mouth. Under this the insomnia subsided and both mind and body became more alert.

Encéphale, Paris

April, 1921, **16**, No. 4

*Brain Tumors. C. de Monakow.—p. 177.
Fluctuations in Mental Capacity in Dementia. M. Mignard.—p. 191.
Gradual Manifestation of Affective Reactions. T. G. Brown.—p. 201.
Influence of War on Juvenile Delinquency in Alsace and Lorraine. P. Courbon.—p. 202. Conc'n.
Present Status of the Choroid Plexus in Organic Disease of the Brain and in Dementia Praecox. S. Kitabayashi.—p. 206.

The Natural History of Brain Tumors.—Monakow describes glioma in particular, with four fine plates and analysis of his eighty-six cases, only thirty-one operable. Four patients seem to be cured since the removal of the growth, but three of them were left with hemiplegia. The period of latency may be very long, and the psychasthenia and hysteric and epileptoid conditions may prove very puzzling for the physician. A combination of trauma and emotional stress was noted in nearly every case. Headache and vomiting are comparatively late symptoms.

Journal de Médecine de Bordeaux

April 25, 1921, **92**, No. 8

*Symmetric Ataxia of the Fingers. H. Verger and H. Grenier de Cardenal.—p. 211.
The Systolic Pressure in the Blood Pressure Curve. R. Alexandre and R. Moulinier.—p. 215.
*Edema of Leg with Autodrainage. H. L. Rocher and C. Lasserre.—p. 216.

Symmetric Ataxia of the Fingers.—Verger and de Cardenal report four cases of bilateral ataxia of the fingers, the result of spinal cord disease. In two of the cases described, epidemic encephalitis seemed to be responsible; in another syphilis, and under treatment for this the symptoms subsided. In the fourth case the impotence of both hands was accompanied by spasmodic phenomena, all of which had developed after treatment for rabies. Bilateral ataxia of the fingers tends toward spontaneous cure.

Edema After an Inguinal Operation.—In the case described, after resection of tuberculous glands in the right inguinal region, hard edema of the leg developed. It was treated by burying a rubber tube in the subcutaneous cellular tissue, reaching from above Poupart's ligament down into the upper third of the thigh. Each end was passed into a small slit in the aponeurosis where it was sutured with two stitches of linen thread. The elephantiasic edema seems to be gradually subsiding.

Lyon Médical, Lyons

May 10, 1921, **130**, No. 9

*Varioliform Syphilid. L. M. Bonnet.—p. 379.
Care of Radium Apparatus. T. Nogier.—p. 417.

Varioliform Syphilid.—Bonnet has encountered twelve cases of this kind. It is usually a serious eruption and may be the first syphilid to appear. It is accompanied by more or less fever, which imprints a special character on it. Under early arsenical treatment it usually promptly subsides, but occasionally the effect is slow in becoming apparent. Local treatment is generally unnecessary. The great danger is that the syphilid may be mistaken for smallpox. In Galliard's recent case the diagnosis of grave varicella was made at first, as also in one of Bonnet's cases. Renault was unable to determine whether the disease was varicella or syphilis in one case, and one child and one adult in Bonnet's series had been taken to the smallpox hospital before the correct diagnosis was made. He cites six other instances of this same mistake made by experienced physicians. The variola pustule is surrounded with an inflammatory area, while the syphilitic pustule always has infiltration below, and develops irregularly and there is not the intense backache of variola, and the symptoms of infection are mild. The fever is usually not high. In one family the husband and wife both presented the varioliform syphilid. One husband had the varioliform while the wife presented an ordinary papular eruption.

Médecine, Paris

January, 1921, **2**, No. 4, First Part

Ophthalmology in France in 1920. A. Cantonnet.—p. 245.
Technic for Treatment of Chronic Glaucoma. F. Lagrange.—p. 249.
Differentiation of Phlegmon in Orbit. Rollet and Bussy.—p. 254.
*Injury of the Anterior Segment of the Eye. H. Frenkel.—p. 256.
*Vision Without Eyes. A. Cantonnet.—p. 260.
Optic Neuritis in Meningitis. F. Terrien.—p. 261.
*Causes of Myopia. A. Chevallereau.—p. 266.
False Exophthalmos. R. De Saint-Martin.—p. 268.
*Retention Catheter in Lacrimal Apparatus. P. Jeandelize.—p. 271.
Chronic Disease of Lacrimal Routes. A. Monthus.—p. 272.
*Milk Injections in Ophthalmology. H. Coppez.—p. 274.
*Strabismus. A. Cantonnet.—p. 277.
Headache from Eye Strain. J. Gonin.—p. 279.
The Eyes in High Blood Pressure. A. Cantonnet and Mougeot.—p. 280.
Dangers of Atropin. L. Vacher and M. Denis.—p. 284.
Treatment of Trachoma. E. Aubaret.—p. 285.

Injury of Anterior Segment of the Eye.—Frenkel describes the set of symptoms which develop after trauma affecting the anterior segment, and he urges that every practitioner should be able to differentiate disturbance from contusion of the eye without a perforating wound. The main injury is subluxation of the lens, partial traumatic cataract, generally stationary, and laceration of the iris. The subluxation of the lens is manifest by the edge of the lens becoming visible when the pupil is examined from the side. The iris also trembles as the eyeball is moved. These signs are evident only with severe contusion, but in every case the anterior chamber is usually found of uneven depth, and the iris shows some fault at some portion of its circumference; the pupil seems to be displaced or abnormal in outline. There is also liable to be mydriasis, and the pupil reflexes are weak. Specialist skill is not required for their detection. Even without visible lesions of the posterior segment, the visual acuity may be materially reduced. In 100 cases with these symptoms he was impressed with the necessity for recognizing all the elements of the clinical picture. The traumatic cataract is usually stationary but is only one feature of the syndrome. Glaucoma or progressive cataract later is extremely rare. It is important to refrain from the use of mydriatics as they may entail excessive tension.

Vision Without Eyes.—Cantonnet describes the research of Farigoule who bandaged his eyes light proof, and concentrated his attention on perception of light for fifty hours. He then found that he could perceive light and even perceive large and shining objects. Similar experiences were obtained with the blind, and he attributes this vision without eyes to Ranvier's sensory cells which have a nerve connection with the brain centers. Cantonnet has been applying the same technic to four blind persons, but the results have been negative to date.

Causes of Myopia.—Chevallereau ascribes myopia to close work, and warns that over 12 per cent. of all cases of blindness begin with myopia. He says no one is born myopic except in rare pathologic cases. Close work compresses the contents of the eyeball, distending and lengthening the tunics.

Wounds of the Lacrimal Apparatus.—Jeandelize emphasizes the advantage of the retention catheter in treatment of injury of the lacrimal apparatus of the lower lid.

Protein Treatment in Ophthalmology.—Coppez says that parenteral injection of milk has won an important place in treatment of the eyes. The results of other substances have not been so reliable as with 5 c.c. of milk, boiled for four minutes. The protein shock that results has proved particularly effectual in acute iritis. From the very first injection the pain is relieved, the effusion begins to be absorbed and the pupil dilates. Traumatic or operative hemorrhage in the anterior chamber or vitreous humor is rapidly absorbed. With gonococcus conjunctivitis, the secretion declines and local measures are then more effectual, and coincident vulvovaginitis subsides also. After an operation on the eye, injection of milk is useful in prophylaxis of infection. This wards off exudation. The reaction is not evident until the fourth hour. The temperature then runs up to 38.5 or 40 C. and keeps high for about two hours. The next day there are usually a little headache and loss of appetite. The course is generally three or four injections at intervals of one day. The hyperthermia is more pronounced in the young.

Treatment of Strabismus.—Cantonnet asserts that squint can be corrected by training vision alone in cases of divergent strabismus and in the very mild and recent cases of the convergent type, if the child is young and intelligent, and cooperates. All others require an operation.

Paris Médical

May 14, 1921, **11**, No. 20

*Syphilis plus Febrile Rheumatism. J. Minet, E. Duhot and R. Legrand.—p. 389.
*Reflex Factors in Angina Pectoris. D. Routier.—p. 392.
Oscillometer Curve. C. Finck.—p. 395.

Syphilis Plus Febrile Rheumatism as Factor in Cardiovascular Disease.—It is generally accepted that while syphilis attacks the aorta, acute articular rheumatism attacks the heart, but in nine cases here described the two diseases coincided or succeeded each other. In some the syphilitic vascular lesion seemed to prepare the soil on which the rheumatism induced the aneurysm or other cardiovascular disease; in others, the rheumatism prepared the soil for the syphilitic lesion. The combination with syphilis should always be suspected in cardiovascular disease. Elimination of this element by specific treatment may transform the clinical picture completely, as occurred in one of the cases described.

Angina Pectoris.—Routier explains that the assumption of angina pectoris as a reflex phenomenon is sustained by the cessation of the attacks after the left sympathetic nerve is resected—a successful case has recently been reported. This interrupts the reflex arc, but the primary cause persists. This is always an abnormal contraction of the myocardium—an extra effort to combat some extra resistance, an excessive effort in proportion to the nourishment it is getting.

Presse Médicale, Paris

May 14, 1921, **29**, No. 39

Carbon Disulphid in Treatment of Seborrhea. R. Sabouraud.—p. 381.
*Coxa Plana. J. Calvé.—p. 383.
Series of Mishaps with Arsphenamin. L. Cheinisse.—p. 386.

Coxa Plana.—Calvé recalls that the Calvé-Legg-Perthes affection of the hip joint is found only in children between 5 and 10, and that there is no inflammation, no atrophy and no atony, but palpation shows the head of the femur abnormally large and flat. This is mostly cartilage but gradually ossification proceeds, resulting, however, in a special flattening of the superior epiphysis of the femur, justifying the term coxa plana. During the first phase the ossification center is partially or totally destroyed in the interior of the cartilaginous epiphysis, owing to trauma or inflammation. The cartilage is so thick that the inflammatory process does not reach the joint proper, and the cartilage merely shows

some hypertrophy and grows flatter. During the second phase the ossification center regenerates in the depths of the cartilage. The regeneration occurs first in a fragmentary and irregular way, but finally the fragments unite and form a single bony epiphysis. The play of the joint is not quite normal; owing to this flattening of the head, the parts do not interlock perfectly.

Progrès Médical, Paris

April 30, 1921, **36,** No. 18

*Diffusion of Poison in Stomach. Loeper and others.—p. 189.
*Silica in Treatment of Arteriosclerosis. L. Scheffler, A. Sartory and P. Pellissier.—p. 189.
*Typhoid Pyelitis. H. P. Achard.—p. 191.
Cancer of Tongue. Delbet.—p. 192.
The "Lenticular-Striate Syndromes." Sainton.—p. 194.

Diffusion of Poison in Stomach.—Loeper found that certain poisons introduced into the dog stomach diffused into the pneumogastric nerve when there was a slight erosion of the stomach mucosa; otherwise not.

Silica in Treatment of Arteriosclerosis.—This communication relates the details of a few out of the hundreds of cases of arteriosclerosis treated with silica by mouth or vein or both. The writers say that this treatment is harmless and may prove effectual after failure of other measures, the patients throwing off their dizziness and headache, the tendency to insomnia growing less, and menstruation becoming normal. Some of the patients who had been confined to bed were restored to active life. The dose is 0.01 gm. of sodium silicate by the vein at two or three day intervals, plus 0.6 gm. by the mouth. From four to twenty intravenous injections were given in these cases.

Typhoid Pyelitis.—Achard says that when a typhoid convalescent voids turbid urine, a few drops of acetic acid will clear it if the turbidity is from phosphaturia. If not, bacteriologic examination is indispensable for vaccine therapy, but the pyelitis cannot be certainly diagnosed without catheterization of the ureters. It is important to determine the capacity of the kidney pelvis; if it is more than 6 or 8 c.c., this indicates distention. If there is no retention or distention, treatment must be merely medical; otherwise the pelvis must be rinsed out. If there is no pronounced dilatation, the silver nitrate solution cures completely. When the pelvis has been stretched to 20 c.c. or more, it rarely recuperates completely, and conditions invite reinfection later, generally from the colon bacillus. The dilation of the pelvis is thus the guide to treatment and prognosis.

Revue de Chirurgie, Paris

1920, **39,** No. 6

*Surgery of the Ileocecal Valve. C. Lefebvre.—p. 417.
*Loofah in Surgery. E. Juvara.—p. 429.
*Primary Sarcoma of the Rectum. N. C. Lapeyre.—p. 437. Conc'n.

Surgery of the Ileocecal Valve.—Lefebvre gives an illustrated description of the best means for correcting insufficiency of this value of reflex origin, from paralysis or dilatation of the bowel, or of organic origin from insufficiency of the muscle, or disease; also treatment of stenosis of this valve. Insufficiency is usually the cause of disturbances in this region, especially of pain in the right iliac fossa, too often ascribed erroneously to chronic appendicitis.

Loofah in Surgery.—Juvara expatiates on the superior advantages of pads of loofah, for cleansing the surgeon's hands, instead of a brush. This vegetable sponge allows sheets to be cut 10 or 11 cm. square and these squares can be sterilized readily in a box from which the squares can be drawn automatically, like the apparatus to supply toilet paper. He says that this vegetable sponge bears sterilization better than brushes, and cleanses the part better, while the action is gentler and more even. This sponge gourd grows readily in tropical regions, and for every reason, he declares, it is superior to a brush for preparing the surgeon's hands.

Primary Sarcoma of the Rectum.—In this conclusion of Lapeyre's long article he gives the details of thirty-two cases, including one in a boy of 11 which had developed rapidly. In only three of the cases mentioned in this installment were the patients cured by removal of the rectum. These were two men, 35 and 43, and a woman of 55. These were in good health when last seen a year or two after the operation. The sarcoma was of the small cell type or lymphosarcoma. One youth of 15 required two operations later on account of rectal prolapse but has had no recurrence of the sarcoma during the nearly two years since.

Policlinico, Rome

May 9, 1921, **28,** No. 19

Fractioned Examination after Test Meal. A. Chiasserini.—p. 647.
*Plastic Peritonitis. S. Segagni.—p. 651.
The Arneth Blood Count in Tuberculosis. I. Bersani.—p. 655.

Form of Plastic Peritonitis.—Segagni refers to subacute peritonitis with simple plastic formations of varied size and depth but which are liable to assume an acute phase at times, suggesting suppuration. The tendency is to a spontaneous cure, without leaving a trace. He gives the details of a typical case in a girl of 5, comparing it with Morquio's four similar cases. The onset is sudden, with symptoms suggesting grave peritonitis, but they soon become attenuated and then large doughy patches can be palpated. They shift about and are tender, but in about a month can no longer be distinguished. In his case the child was dismissed in good health about the fifth week; but the course was from one to three months in Morquio's cases.

Riforma Medica, Naples

April 30, 1921, **37,** No. 18

*The Residual Nitrogen of the Blood. A. Bertolini.—p. 410.
*Diabetes Insipidus and Puberty. T. Silvestri.—p. 412.
*Neurofibromatosis. V. Iuspa.—p. 415.
Cystic Empyema of Hernial Sac. O. Cignozzi.—p. 418.
Recent Achievements in Roentgen-Ray Treatment. L. Bordoni.—p. 420.
*Bladder Tumors. E. Aievoli.—p. 421.

The Residual Nitrogen of the Blood.—Bertolini discusses the meaning of the high residual nitrogen, from 0.284 to 0.529 per thousand, found in six cases of liver disease with apparently normal kidney functioning. Also in six cases of various diseases with slight kidney disease but with apparently normal functioning. The range was from 0.236 to 1.04. In four other cases of severe kidney disease with uremia, the residual nitrogen content ranged from 0.410 to 1.180 but in one in this group, with uremia of 3.52, the residual nitrogen was only 0.41 per thousand although the condition was so grave that death ensued in twenty-four hours. He followed the Bang micromethod.

Diabetes Insipidus and Puberty.—The diabetes insipidus had developed at the puberty age along with other indications of arrested development, probably the result of inherited nervous taint and acquired grave gastro-intestinal infection. The hypophysis seems to be normal but there have been periods of intense headache. The headaches did not develop until years after the diabetes insipidus had been installed, and their appearance and disappearance were not associated with any change in the morbid condition. There was no symptom that suggested disease in the hypophysis, and test administration of hypophysis extract was negative. The young man had pains at times suggesting pancreas colic. At the age of 20 he began to grow and soon developed to normal size and the external genitals grew to correspond, while the polyuria subsided. This retarded puberty seemed to restore normal conditions.

Diffuse Neurofibromatosis.—In Iuspa's case the typical picture of diffuse neurofibromatosis coincided with flaccid paralysis suggesting disease of the central nervous system, with positive Wassermann reaction. Under arsenical treatment the nervous symptoms of central origin all subsided. The case teaches the importance of excluding syphilis before ascribing to Recklinghausen's disease the nervous complications that may develop in the course of neurofibromatosis.

Tumors of the Bladder.—Aievoli compares recent articles by Rochet and Beer on this subject, with comment.

May 14, 1921, **37,** No. 20

Mode of Action of Cupping. G. B. Farmachidis.—p. 457.
Meningitis Following Epidemic Encephalitis. A. Cantilena.—p. 458.
*Splenectomy in Hemolytic Jaundice. P. Pennato.—p. 459.
Technic for Amputations. E. Aievoli.—p. 462.
Classification of Trypanosomiasis. I. Iacono.—p. 464.

Splenectomy in Hemolytic Jaundice.—The girl of 17 with congenital hemolytic splenomegaly improved strikingly at once after splenectomy. A supernumerary spleen showed the same advanced fibrous degeneration as the spleen proper. In Michieli's and in Losio's case the recurrence later was attributed to the supernumerary spleen which had been left behind at their operations.

Rivista Critica di Clinica Medica, Florence

April 15, 1921, **22**, No. 11

*Babinski's Phenomenon. A. Salmon.—p. 121. Cone'n No. 12, p. 133.

Mechanism of Babinski's Phenomenon.—Salmon studies the relations of Babinski's phenomenon with the superficial and deep reflexes and with the defensive reflexes. He describes a case of anterior poliomyelitis in which this phenomenon was pronounced.

Revista Mexicana de Biología, Mexico, D. F.

March, 1921, **1**, No. 4

Fractioned Analysis of Gastric Content. M. Cordero.—p. 149.
*The Leukocyte Reaction. F. Ocaranza.—p. 154.
The Visual Cerebral Cortex. I. Ochoterena.—p. 191.

The Leukocyte Reaction.—Ocaranza gives a large number of charts showing the leukocyte reaction to injection of physical, chemical, colloid or biologic agents in guinea-pigs and rabbits.

Revista Médica del Uruguay, Montevideo

April, 1921, **24**, No. 4

*Anovulvar Herpes Zoster. Alice Armand Ugón.—p. 153.
*Chorio-Epithelioma. C. P. Colistro.—p. 155.
Prophylaxis of Typhoid Fever. L. Morquio.—p. 162.
*Measles Plus Otitis. J. C. Munyo.—p. 179.
Transient Mumps Meningitis in Two Children. C. Pelfort.—p. 181.
Leishmaniasis from Standpoint of Odontology. V. M. Vera.—p. 184.

Anovulvar Herpes Zoster.—The herpes zoster appeared on the buttocks and in and around the anus and vulva of the child of 8. As in other cases in children, there was no spontaneous pain, but the lumbar puncture fluid showed a cellular reaction.

Chorio-Epithelioma.—Colistro compares the literature with a case described in a woman of 38 who had borne one child and had seven abortions, all probably induced. Then a hydatidiform mole was removed from the uterus and within a month a malignant chorio-epithelioma developed, compelling panhysterectomy.

Otitis in Measles.—Munyo found the pneumococcus in the ear in all examined among the large number of recent cases of measles with otitis. The profuse suppuration, the intense pain and the high fever, keeping up twelve or fifteen days after paracentesis, distinguished these cases. The otitis displayed a marked tendency to become chronic unless properly treated.

Semana Médica, Buenos Aires

April 14, 1921, **28**, No. 15

*Butter-Flour Mixture in Infant Feeding. P. de Elizalde.—p. 417.
*Formation of Antibodies. J. Bacigalupo and R. A. Alcaraz.—p. 424.
*Miliary Tuberculosis in Boy of 11. L. K. Wimmer.—p. 426.
*Prolapse of the Cord with Survival of Child. S. E. Bermann.—p. 428.
Mercurial Treatment of Chorea. M. Helmann.—p. 433.
*Exophthalmic Goiter in Pregnant Woman. F. R. Pasman and R. Mestre.—p. 435.

Butter-Flour Mixture in Infant Feeding.—Elizalde reports favorable experiences with the Czerny-Kleinschmidt butter-flour mixture, lauding its high nutritive value, agreeable taste and easy preparation, rendering it extremely useful in feeding of infants who require a special amount of nourishment, with only relative tolerance.

Formation of Antibodies.—Bacigalupo and Alcaraz report research on the local action of the tissues in formation of antibodies. The results confirm that the local lesion is important in the formation of hemolysins. In the rabbits tested, the extirpation of the local lesion was followed by reduction in the amount of hemolysins.

Miliary Tuberculosis in a Child.—In Wimmer's case the boy of 11 had been healthy except for transient stomach disturbance at times, when the acute miliary tuberculosis developed, with delirium, extreme dyspnea and death in less than two weeks. There had only occasionally been fever during the brief course of the disease, and nothing to explain the dyspnea on auscultation.

Prolapse of Umbilical Cord.—Bermann reports seven cases in which, notwithstanding the cessation of pulsation in the prolapsed cord, the children were born alive. The fingers applied directly to the precordial or epigastric region may perceive the contractions of the heart when the heart sounds are no longer audible. The heart may be in syncope and this allows resuscitation. The vital functions seem to be merely suspended in these cases; this is more readily explained in the intra-uterine environment. He advises waiting for an hour after the heart signs have disappeared before embryotomy. The chances for the survival of the child in these cases depend on the degree and duration of the compression of the cord, the prompt extraction of the child, and the application of measures to combat apparent death, including massage of the heart.

Exophthalmic Goiter in Pregnancy.—In the case described the exophthalmic goiter had developed in the course of the pregnancy, and the condition became very grave at the sixth month, the woman not being able to obtain a moment of rest, the dyspnea extreme, and the pulse 180, the condition growing worse under repose, bromids and antithyroid treatment. Evacuation of the uterus was followed by retrogression of the clinical picture. In a few days symptoms had been so much improved that she left for home. The further outcome is not known.

Siglo Médico, Madrid

April 9, 1921, **68**, No. 3513

Model Sanitary Equipment for Rural District. V. M. Cortezo.—p. 333. Cont'd.
The Propaganda Against Venereal Disease. Gougerot.—p. 337. Conc'n in No. 3514, p. 367.
*Vitamins in Culture Mediums. J. Jiménez.—p. 339.

April 16, 1921, **68**, No. 3514

Pathogenesis of Tabetic Ataxia. J. M. de Villaverde.—p. 357.
Preparing the Patient for Operation on the Kidneys. A. Pulido Martín.—p. 365.

Vitamins in Culture Medium.—Jiménez reports considerable research showing the favorable influence on the growth of pathogenic bacteria when accessory factors are added to the culture mediums in the form of extracts of organs and tissues. The active substances in these extracts are of the vitamin type, but only those soluble in water seem to be effectual.

Deutsche medizinische Wochenschrift, Berlin

April 21, 1921, **47**, No. 16

Tuberculosis. IV. W. Kolle, Schlossberger and Pfannenstiel.—p. 437.
Research Institute for Clinical Pharmacology. Brauer.—p. 439.
Chronic Bacillary Dysentery and Sequels. Strasburger.—p. 441.
Artificial Pneumothorax in Acute Pneumonia. U. Friedmann.—p. 443.
Partial Antigens in Scrofulous Eye Disease. W. Meyer.—p. 444.
*Negative Respiratory Pressure to Control Surgical Hemorrhage. A. Brunner.—p. 445.
"Osmotherapy." Stejskal.—p. 446.
Angiofibroma of the Adductor Pollicis. E. Glass.—p. 447.
Spread of Tuberculosis Among City Populations. Salomon.—p. 447.
Modification of Milk for Infant Feeding. J. Levy.—p. 448.
Pathogenesis of Diabetes Mellitus. P. F. Richter.—p. 448.
Congenital Syphilis. L. Langstein.—p. 449.

Underpressure Respiratory Apparatus for Surgical Purposes.—Brunner recalls the endeavors to secure a relatively bloodless condition for operations by induced changes in the blood distribution of the body on the basis of differential pressure applied to the systemic and the pulmonary circulatory systems. He describes the advantages of his modification of the Bruns underpressure respiratory apparatus for this purpose, and relates his experiences with it. By confining the circulation of the blood to the pulmonary circulation by means of differential pressure procedures, it is possible to perform operations in the region of the systemic circulation with a minimal loss of blood. Of operations performed by this method, he mentions especially a reamputation of the thigh. When negative pressure was thus induced in the air passages, the capillary hemorrhage from the scar tissue and from the spongy sawed surface of the bone was soon completely checked. In extirpation of the scapula for

sarcoma, parenchymatous and venous hemorrhage was also checked in a satisfactory manner. The procedure is especially valuable in treatment of patients who have lost large quantities of blood or are suffering from shock.

Zentralblatt für Chirurgie, Leipzig

April 23, 1921, **48**, No. 16

*Radical Operation for Diaphragmatic Hernia. J. Bakes.—p. 554.
Posterior Thoracic Notomelia with Spina Bifida. H. Hartleib and A. Lauche.—p. 558.
Frostbite of Both Lower Legs. T. Kölliker.—p. 563.
Origin of Pseudarthroses. T. Naegeli.—p. 563.

Blocking the Phrenic Nerve for Radical Operation for Diaphragmatic Hernia.—Bakes describes his operation on a man of 43 for incarcerated diaphragmatic hernia. Under local anesthesia the left phrenic nerve was exposed over the scalenus anterior muscle and was frozen with ethyl chlorid spray applied for two minutes. The nerve was thus converted into a white, opaque, hard cord. Reposition and closure of wound followed. Thereupon, under ether narcosis, with Kirschner's extensive thoraco-abdominal fish-hook incision, the whole left diaphragm with the hernia in the lateral-posterior portion was exposed under differential overpressure. The dome of the diaphragm was found flattened, and it presented the appearance of a relaxed, soft muscular plate lying perfectly quiet, instead of its normal constant motion. The hernial sac, 12 cm. long and 8 cm. wide, composed of a heavy mass of omentum, was resected, and the gap in the diaphragm, 3 cm. wide and 6 cm. long, was sutured. Owing to the relaxed condition of the diaphragm, brought about by the freezing of the phrenic nerve, the suturing was as easily accomplished as an ordinary skin suture. The duration of the operation was fifty minutes. Healing was prompt and after painless convalescence of twelve days the patient got up, being dismissed the sixteenth day. The effect on the diaphragm of the blocking of the phrenic nerve persisted for about eight days.

Zentralblatt für Gynäkologie, Leipzig

April 30, 1921, **45**, No. 17

*Warning Anent "Interstitial Gland." R. Meyer.—p. 593.
Total Extirpation of Uterus and Rejuvenation. W. Lahm.—p. 601.
Angiospasms in Gravidae with Kidney Disease and Increased Blood Pressure. H. Hinselmann, W. Haupt and H. Nettekoven.—p. 603.
*Action of Venesection in Eclampsia. H. Nevermann.—p. 609.
*Quinin in Obstetric Cases. W. Strakosch.—p. 612.
The Problem of Criminal Abortion. F. B. Wemmer.—p. 615.

Warning Anent "Interstitial Gland."—Meyer asserts, on the basis of extensive investigation, that there is no such thing in genus *Homo* as an independent interstitial gland. Opposing views, he thinks, are based on the false interpretation of sections through the theca folliculi, or on incorrect conclusions drawn from lipoid remnants of dead cells of the follicles and corpora lutea. Theca cells of maturing and shriveling graafian follicles may be found at all ages, from the last three months of intra-uterine life onward. The term "puberty gland" is an empty catch-word. The development of secondary female characters, physical as well as mental, is not dependent on the presence of ovaries. Large numbers of interstitial testicular cells do not prevent the development of female characteristics in the absence of ovaries; therefore they do not possess sexual specificity. The function of the theca cells is unknown, although they probably serve as storehouses of nutriment for corpus luteum and ovum; their significance for the body as a whole is highly questionable. There is no such thing as an "interstitial uterine gland."

Effect of Venesection on Eclampsia.—Nevermann regards venesection as the most important therapeutic remedy in eclampsia, and has been investigating the mechanism by which its surprising effect is brought about. The general view at the present time is that reduction of the blood pressure is the decisive factor, but he finds that the withdrawal of from 300 to 500 c.c. of blood causes a decrease of only from 20 to 30 mm. of mercury, which with a blood pressure in eclampsia patients of 200 mm. or more cannot exert such a marked influence. His further investigations have convinced him that the prompt and marked good effect of withdrawal of blood is due to essential changes in the capillary system whereby the character of the whole circulation is quickly improved.

Intravenous Versus Peroral Quinin Administration in Obstetric Cases.—Strakosch found that intravenous quinin injections have a special advantage at most for securing a prompt, temporary effect; for example, at the end of labor. The effect on the musculature of the resting uterus just before the onset of labor is also prompt. Intravenous quinin injections should be given very slowly and great care must be taken to avoid injecting into surrounding tissues. In heart disease and vascular anomalies, peroral administration is preferable.

Zentralblatt für innere Medizin, Leipzig

April 16, 1921, **42**, No. 15

Friedmann's Tuberculosis Treatment. E. Hassencamp.—p. 306.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

April 9, 1921, **1**, No. 15

*Treatment of Gastric Ulcer. H. E. H. Schönfeld.—p. 1996.
Formation of Colloidal Copper During Tests for Sugar in Urine. L. de Jager.—p. 2006.
Case of Echinococcus Disease of Lung. A. Verschoor.—p. 2010.
Accidental Inoculation with Hog Cholera. W. A. Weisfelt.—p. 2011.

Gastric Ulcer.—Schönfeld protests that gastric ulcers are sometimes given operative treatment when there is no real necessity for it, as he explains, specifying in particular the mistaking of a gastric neurosis for an ulcer. Even the most complete operation, he reiterates, has no influence on the predisposition to ulcer production. The best permanent results to date have been realized with resection. This, by severing the vagus, reduces the danger of peptic ulcer. The slightest sign of hysteria or neurasthenia warns against operative measures, as a rule.

Hospitalstidende, Copenhagen

April 13, 1921, **64**, No. 15

Air Phlegmons After Subcutaneous Injections. Christiansen.—p. 225.

Ugeskrift for Læger, Copenhagen

March 10, 1921, **83**, No. 10

The Report of the British Medical Research Committee on Traumatic Shock.—A. Krogh.—p. 333.

March 24, 1921, **83**, No. 12

Radiotherapy of Cancer. T. Eiken.—p. 415.
Maneuver for Reduction of Subcoracoid Luxation of the Humerus. P. G. K. Bentzon.—p. 422.
Treatment of Scabies. S. Lomholt.—p. 424.
Early Days of Roentgen Treatment. J. Mygge.—p. 428.

May 12, 1921, **83**, No. 19

*Public Health Service in Greenland. A. Bertelsen.—p. 607.

The Public Health Service in Greenland.—Bertelsen is a district physician in northern Greenland, and this long article has been written for the work planned to commemorate the two hundredth anniversary of Danish colonization in Greenland. The history of the country from the medical standpoint, the organized maternity and other public health work are described with a few illustrations. Young women are trained to be nurses and midwives in a one or two year course, and there is now a midwife to each seventy women. This comparatively large number is necessary as the distances are so great. The birth rate, 1851-1900, was 38.5, and the deathrate, 1861-1900, 33 per thousand, but it has dropped since then. Most of the epidemic diseases of Europe have occurred at times in Greenland, but catarrhal disease of the respiratory and intestinal tracts and the primitive hygiene and prevalence of tuberculosis explain the high mortality. The death rate is always highest between June and November. He ascribes this to the opening of communication with Europe, and to the melting of the ice which makes a menace of the piles of garbage and manure close to the houses. He says that "after early childhood a Greenlander's body practically never comes in contact with water except by accident. The undergarment is frequently worn without ever taking it off, from the time it is first put on until it is taken off to burn." Venereal diseases have never got a foothold in Greenland; when introduced into the country it has always proved possible to stamp them out.

JOURNALS ABSTRACTED IN THE CURRENT MEDICAL LITERATURE DEPARTMENT, JANUARY-JUNE, 1921

The following journals have been abstracted in the Current Literature Department of THE JOURNAL during the past six months. Any of the foreign journals, except those starred, will be lent by THE JOURNAL to subscribers in the United States and to Fellows of the American Medical Association for a period not exceeding three days. Only one journal may be borrowed at a time. Requests for periodicals should be addressed to the Library of the American Medical Association and six cents in stamps should be enclosed. This covers the average expense of mailing a journal. Domestic journals can be obtained by sending the approximate amount direct to the respective publishers. Thus most of the journals indexed are accessible to the general practitioner, no matter where located.

Acta Chirurgica Scandinavica. Irregular. 24 kroner. Stockholm.
Acta Medica Scandinavica. Irregular. 20 kroner. Stockholm.
Acta Scholae medicinalis universitatis imperialis in Kioto. Irregular. 3.30 yen. Kioto.
American Journal of Anatomy. Bi-m. $7.50. 36th St. and Woodland Ave., Philadelphia.
American Journal of Diseases of Children. M. $4. American Medical Association, 535 N. Dearborn St., Chicago.
American Journal of Insanity. Q. $5. Johns Hopkins Press, Baltimore.
American Journal of the Medical Sciences. M. $6. Lea & Febiger, 706 Sansom St., Philadelphia.
American Journal of Obstetrics and Gynecology. M. $6. St. Louis.
American Journal of Ophthalmology. M. $10. 7 W. Madison St., Chicago.
American Journal of Physiology. M. $5. Johns Hopkins Medical School, Baltimore.
American Journal of Public Health. M. $4. 169 Massachusetts Ave., Boston.
American Journal of Roentgenology. M. $6. 69 E. 59th St., New York.
American Journal of Syphilis. Q. $7. C. V. Mosby Co., St. Louis.
American Review of Tuberculosis. M. $5. Williams & Wilkins Co., Baltimore.
Anales de la Facultad de Medicina, Montevideo. Bi-m. $2. Montevideo.
Anales de la Facultad de Medicina, Universidad de Lima. Bi-m. 6 soles. Lima, Peru.
Annales de médecine. M. 55 francs. Paris.
Annali d'igiene. M. 50 lire. Rome.
Annals of Medical History. Q. $8. Paul B. Hoeber, 67 E. 59th St., New York.
Annals of Medicine. Q. $10. W. F. Prior Co., 22 East 17th St., New York.
Annals of Otology, Rhinology and Laryngology. Q. $6. Times Bldg., St. Louis.
Annals of Surgery. M. $7.50. J. B. Lippincott Co., 227 S. 6th St., Philadelphia.
Annals of Tropical Medicine and Parasitology. Q. $5. Liverpool.
Arbeiten aus dem Anatomischen Institut der Kaiserlich-Japanischen Universität zu Sendai. Irregular. Price varies. Tokyo.
*Archiv für Gynaekologie. Irregular. Price varies. Berlin.
Archiv für Kinderheilkunde. Irregular. 60 marks. Stuttgart.
*Archiv für klinische Chirurgie. Irregular. Price varies. Berlin.
Archiv für Verdauungskrankheiten. Bi-m. 60 marks. Berlin.
Archives of Dermatology and Syphilology. M. $6. American Medical Association, 535 N. Dearborn St., Chicago.
Archives of Internal Medicine. M. $5. American Medical Association, 535 N. Dearborn St., Chicago.
Archives des maladies de l'appareil digestif et de la nutrition. Bi-m. 30 francs. Paris.
Archives des maladies du cœur, des vaisseaux et du sang. M. 36 francs. Paris.
Archives médicales belges. M. 20 francs. Liége and Paris.
Archives de médecine des enfants. M. 40 francs. Paris.
Archives de Médecine et de Pharmacie Militaires. M. Paris.
Archives of Neurology and Psychiatry. M. $6. American Medical Association, 535 N. Dearborn St., Chicago.
Archives of Ophthalmology. Bi-m. $6. G. P. Putnam's Sons, 2 W. 45th St., New York.
Archives of Radiology and Electrotherapy. M. 30 shillings. London.
Archivos Españoles de Pediatría. M. 18 pesetas. Madrid.
Archivos Latino-Americanos de Pediatría. Bi-m. $5. Buenos Aires.
Arquivos do Instituto bacteriológico Camara Pestana. Irregular. Price varies. Lisbon.
Beiträge zur klinischen Chirurgie. Irregular. Price varies. Tübingen.
Boston Medical and Surgical Journal. W. $6. 126 Massachusetts Ave., Boston.
Brain. A Journal of Neurology. Irregular. $4. London.
Brazil-Medico. W. 25 milreis. Rio de Janeiro.
Bristol Medico-Chirurgical Journal. Irregular. 3 shillings per issue.
British Journal of Children's Diseases. Q. 7 shillings, 6 pence. London.
British Journal of Experimental Pathology. Bi-m. £2. London.
British Journal of Surgery. Q. $6.50. William Wood & Company, 51 Fifth Ave., New York.
British Journal of Tuberculosis. Q. $2.50. G. E. Stechert & Co., 151 W. 25th St., New York.
British Medical Journal. W. 1 shilling 3 d. per issue. London.
Bulletin de l'Académie de médecine. W. 40 francs. Paris.
Bulletin médical. Semi-w. 14 francs. Paris.
Bulletin of the Johns Hopkins Hospital. M. $3. Baltimore.
Bulletin of the Medical and Chirurgical Faculty of Maryland. M. (except June, July, August and September) 25 cents. 1211 Cathedral St., Baltimore.
Bulletin of the Naval Medical Association of Japan. Irregular. Tokio.
Bulletin of the Porto Rico Medical Association. Q. San Juan, Porto Rico.
Bulletins et mémoires de la Société médicale des Hôpitaux de Paris. W. 65 francs. Paris.
California State Journal of Medicine. M. $1. Butler Bldg., San Francisco.
Canadian Journal of Mental Hygiene. Q. $2. 207 St. Catherine St., West, Montreal.
Canadian Medical Association Journal. M. $5. 836 University St., Montreal.
China Medical Journal. Bi-m. $5. Shanghai.
Chirurgia degli organi di movimento. Bi-m. 55 francs. Bologna.
Colorado Medicine. M. $2. Metropolitan Bldg., Denver.
Correspondenz-Blatt für schweizer Aerzte. See Schweizerische medizinische Wochenschrift.
Crónica Médica. Semi-m. 15 francs. Lima, Peru.
Delaware State Medical Journal. Q. $1. Wilmington.
Deutsche medizinische Wochenschrift. W. $6. Leipzig.
Deutsche Zeitschrift für Chirurgie. Irregular. 60 marks. Leipzig.
Deutsches Archiv für klinische Medizin. M. 80 marks. Leipzig.
Dublin Journal of Medical Science. M. £1.5s.
Edinburgh Medical Journal. M. 40 shillings.
Encéphale. M. 70 francs. Paris.
Endocrinology: Bulletin of the Association for the Study of Internal Secretions. Bi-m. $6. 1100-1103 Title Insurance Bldg., Los Angeles.
Finska Läkaresällskapets Handlingar. Bi-m. 60 Finnish marks. Helsingsfors.
Gaceta Médica de Caracas. Semi-m. 24 bolivares. Caracas, Venezuela.
Gaceta Médica de México. Irregular. $6. Mexico City.
Gann. Irregular. Tokio.
Glasgow Medical Journal. M. 30 shillings.
Grèce médicale. Semi-m. 12 francs. Athens.
Gynécologie et Obstétrique. M. 65 francs. Paris.
Hospitalstidende. W. 30 kronen. Copenhagen.
Hygica. Semi-m. $5. Stockholm.
Illinois Medical Journal. M. $3. 155 N. Ridgeland Ave., Oak Park.
Indian Journal of Medical Research. Q. 10s. Calcutta.
Indian Medical Gazette. M. Rs. 16. Calcutta.
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The letters used to explain in which department the matter indexed appears are as follows: "E," Editorial; "C," Correspondence; "T," Therapeutics; "Ml," Medicolegal; "P," Propaganda for Reform; "ME," Medical Economics; "ab," abstract; the star (*) indicates an "Original Article" in THE JOURNAL.

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For author index see page 1903.

A

ABDOMEN, abdominal sympathetic syndrome, [López] 1375
acute, diagnosis of, [Burgess] 207
acute inflammatory conditions of, new diagnostic sign in, [Salzer] *1498
acute, value of blood chemistry in, [Rabinowitch] 1041
alkali reserve in abdominal infection; its relation to leukocyte count, [Willis] *303
arteriosclerosis of, [Fernández Martínez] 1375
infections, acute, [Eccles] 1708
injuries, [Jonas] 961
massage, Japanese method of, 1694
pain in childhood, [Hutchison] 409
pathologic conditions in right abdomen, [Odriozola] 1286
roentgen-ray diagnosis of abdominal lesions, [Baetjer & Friedenwald] 268
sponge in, [Hartz] 1533
surgery, end results of, [Mayo] 682
surgery, eventration after Pfannenstiel incision, [Patel] 1711
surgery, local anesthesia for, [Widerøe & Borchgrevink] 78
surgery, physiology of liver and mortality of abdominal operations, [Crile] 614
surgery, 2 suggestions in operative technic, [Skillern] *445
surgery, use of iodin in, [Propping] 1542
surgical affections of right upper quadrant, interpretation of history in, [Heyd] 1604—ab
tuberculosis, [Slesinger] 1709
ABDOMINOCARDIAC reflex, [Livierato] 970
ABORTION, complicated, treatment of, [Vanverts] 621
febrile, [Missier] 417
febrile, treatment of, [Stix] 1542
hemorrhagic, and immediate evacuation of uterus, [Neu] 901
indications for operation in spreading peritonitis of postabortal and postpartal origin, [Polak] 63
infected, treatment of, [Douay] 1283
law to repress enticement to abortion and to use of measures to prevent conception, 666
missed, [Rongy & Arluck] 683
proposal to legalize interruption of pregnancy, 535
ABSCESS: See also under names of organs and regions
ABSCESS, fixation, articles on, 1364
gravity, in children, [Rusca] 1539
peritonsillar, familial, [Leegaard] 1808
pseudo-urinary, [Burgos] 414
ABSORPTION of hot drinks, [Boigey] 1047
ACACIA, effect of, on blood volume, [Matill & others] 337
ACADEMIE DE MEDÉCINE OF PARIS, centennial of, 190, 255, 323, 1686—E
election of general secretary of, 1779
election of vice president of, 1414
new officers of, 392
ACCIDENTS among children, deaths due to, 955
unusual, transfixion of body by steel rod, [Lake] 1535
ACETABULUM, fracture of, [Dupont] 967
ACETONE in blood, [Widmark] 903
in blood, periodic vomiting with, [Marfan] 480
ACETONE in breath, determination of, [Higgins] 336
in urine, determination of, [Goeckel] 1130
source of error in tests for, [Pittarelli] 1803
ACHUCARRO, memorial to, 188
ACHYLIA GASTRICA, etiology of, [Faber] 140
ACID, acetic and formic acids, toxicity of, [Sollmann] 547
Acetylsalicylic: See also Aspirin
acetylsalicylic or aspirin, an important court decision, 1356—E
hydrocyanic, for fumigation, [Liston] 69
Intoxication: See Acidosis
phosphoric, elimination of, in kidney disease, [Dorner] 901
picric, as skin antiseptic, [Hewitt] 1529
in operative surgery, [Farr] 475
silicic, in tubercuIosis, [Kühn] 147
Uric: See Uric Acid
ACIDEMIA, clinical evidences of, in chronic nephritis, [Cornell] *715
ACIDOSIS, 1031
alkali reserve in abdominal infection, its relation to leukocyte count, [Willis] *303
and alkaptonuria, [Katsch] 901
and capillaries, 1012—E
and creatinuria in diabetes, [Lauritzen] 903, 1719
and phenolsulphonephthalein test, [Braaseh & Kendall] 1427
experimental enlargement of spleen in, [Householder] *1556
from surgical standpoint, [Aimes] 1712
in diabetes, [Labbe] 824
in pregnancy, [Labbé] 1616
use of glucose in prevention of, following operation, [Farrar] 1369
ACNE Bacterin Mixed, 179
Colon Vaccine (Acne), 179
rôle of endocrine glands in, [Hollander] 1425
rosacea, gastric analysis in, [Ryle & Barber] 273
treatment of, [Highman] 407
vaccine therapy of, [Engman] *176
ACRIFLAVINE-Abbott, 859
antiseptic potency of, [Browning & Gulbransen] 1614
Heyl, 655
ACROMEGALY, relation of, to thyroid disease, [Anders] 1606—ab
ACROPATHOLOGY, [Roch] 898
ACTINOMYCETES, acid-fast, [Henrici & Gardner] 1042
ACTINOMYCOSIS of lower jaw, [Jorge] 1286
of salivary glands, [Söderlund] 1054
vaccine therapy of, [Colebrook] 1536
ADALIN Tablets, 179
ADDISON'S DISEASE, autograph history of case of, [Muirhead] *625
in child, [Figenschau & Berner] 1376
ADENITIS, epitrochlear, in infants, [Fabris] 1435
inguinal, of appendicitic origin, [Chifoliau] 1373
ADENOIDS, clinical picture suggesting, [Castex] 342
roentgen-ray treatment of tonsils and, [Witherbee] 477
ADENOMA, artificial production of, in rabbit stomach, [Ishibashi & others] 1287
submucous, [Schwarz] 1857
ADENOMYOMA, subperitoneal, [Cullen] 1530
ADHESIONS between stomach, gallbladder and duodenum, clinical picture from, [Agote] 277
duodenal disturbances from, [Foerster] 1140
intestinal occlusion from, [Flesch-Thebesius] 347
ADIPOSUM bueeae, lipoma of, review of literature and report of case, [Cameron] *778
ADNEXA: See Uterus
ADRENALIN: See Epinephrin
ADRENALS: See Suprarenals
ADVERTISING, bill to regulate, in Uruguay, 876
medical, harmful, 249—E
truth in, 525—E
AEROPLANE ambulance, 1182
AGAR agar solution in gastro-intestinal roentgen-ray work, [Tucker] 1078
use of washed agar in culture media, [Ayers & others] 136
AGGLUTINATION, hemiagglutination and its medicolegal bearing, [Schütze] 1044
variation of bacteria to, [Arkwright] 822
AGGLUTININS not lipoidal, [Krumwiede & Noble] 1795
AINHUM, a family disease, [Simon] *590
ALABAMA state board January exination, 1596
ALASKA September examination, 262
ALBANIA, prevailing diseases in, 1414
ALBU, ALBERT, death of, 605
ALBUMINURIA and eosinophilia in scabies, [Hayman & Fay] 335
Bence - Jones, nephrosis with, [Thannhauser & Krauss] 557
from sports, [Frenkel-Tissot] 829
functional, significance of, in young men at Harvard University, [Parmenter] 65
intermittent, in children, [Moor] 1708
ALBUMOSES in blood under normal and pathologie conditions, [Woiff] 903
ALCOHOL: See also Prohibition
ALCOHOL, amblyopia after drinking cheap substitute for brandy, [Blegvad] 488
and syphilis as causes of mental diseases, [Kirby] *1062
effect of, on growth, [Sollmann & others] 271
for and against prohibition of, 946
fight against alcohol among infants and adolescents, 536
influence of dilution on toxicity of, 190
intoxicating liquor bonds, 1774
medicinal use of whisky, 524—E
Palmer ruling on alcohol prescriptions to stand, 876
resolution on taxation of, 1682
scarcity of, in hospitals in Germany, 1021
use of, in industrial hospitals, 1411
Wood: See Methyl Alcohol
ALCOHOLISM, campaign against, 1589
fighting insobriety, 948
ALIMENTARY TRACT: See Gastro-Intestinal Tract
ALKALI and falling of hair, [Sabouraud] 755
effect of alkali on vitamin B, [Osborne & Leavenworth] 892
reserve in abdominal infection; its relation to leukocyte count, [Willis] *303
ALKALOIDS, variability in crude products containing, 933—E
ALKALOSIS, case of, and impairment of excretory power of kidneys, [Morse] 138
ALKANO, 327—P
ALKAPTONURIA, [Rombach] 1622
and acidosis, [Katsch] 901
familial, [Debenedetti] 345
ALLAN'S Compound Extract of Sarsaparilla with Iodids, 126—P
ALLERGY: See Anaphylaxis; Immunity
ALMANACS, health, 526—E
ALOPECIA areata, treatment of, [Sabouraud] 343
ALSACE-LORRAINE, physicians and dentists of, recognized throughout French territory, 124
ALTITUDE and heart disease, [von Wyss] 688
ALUMINUM potassium nitrate, 1265
AMBARD'S formula, simplification of, [Velasquez] 1286
AMBLYOPIA after drinking cheap substitute for brandy, [Blegvad] 488
AMBOCEPTOR, method of removal of, from blood serum, [Kahn] 680
AMBULANCE, aeroplane, 1182
public health in Philippines, 1691
AMEBA-like leukocytes, [Gunn] 1610
atypical, causing dysenteric lesions, [Chatterjee] 1132
AMEBIASIS: See Dysentery, Amebic
AMENORRHEA, [Novak & Graff] 1717
alimentary, [Kurtz] 1541
AMERICA, impressions of England and, 880
AMERICAN Conference on Hospital Service, [Vineent] 939, [Billings] 939
Home Economics Association, 1111
Institute of Homeopathy, membership in, [McCann] 54—C
AMERICAN MEDICAL ASSOCIATION, address of Dr. Hubert Work, 1681
address of speaker, Dr. Dwight H. Murray, 1679
address of welcome by Governor Cox, 1766
annual conference on medieal education and hospitals, license and public health, 251, 730, 798
annual meeting of board of trustees, election of editors of special journals and members of Council on Pharmacy and Chemistry, 455
appointment of subcommittee to arrange for reunions of medical veterans, 597
auditor's report, 1661
Boston, a retrospect, 1441
Boston session, 1770-E
Boston session, arrangements for reunions and similar social groups, 318
Boston session, clinics preceding scientifie assembly, 868
Boston session, hotel reservations at Boston, 43, 798, 936, 1108
Boston session, identification certificates, 1175, 1253, 1357, 1504
Boston session, important notice regarding registration, 1253
Boston session, special railroad fares, 730, 798, 1013
clinics at Boston, 1448
commercial exhibits, 1463
committee on reapportionment, 1682
committee to act on rehabilitation of ex-service men, 798
communication on coordination of legal action, 1683
communication on malpractice defense, 1683

AMERICAN Medical Association Council on Health and Public Instruction, annual conference, 43, 1013
election of officers, 1760
entertainment at Boston, 454, 660, 1451
foreign guests, 1452
Frank Billings unequivocally in favor of compulsory health insurance and health centers, 1757
grants for research in medicine, 660
grants for research in therapeutics, 935
medical historical exhibit at Boston Public Library, 868
members of the House of Delegates, preliminary roster of, 1440
memorial to the President of United States, 1756
midwinter conference, 43, 57
minutes of the sections, 1827
of Vienna reorganizes, 1775
motion on hotel reservations, 1684
motion on rules, 1684
official call to the officers, Fellows and members of, 1440
percentage of physicians receiving The Journal, 1660
place of 1922 session, 1762
preliminary program of scientific assembly, 1454
preliminary report of committee on credentials, 1655
reference committees, 1680
registration at Boston, 1447, 1767
remarks by president-elect de Schweinitz, 1761
remarks by president William C. Braisted, 1681
"Render unto Caesar," 384—E
report of Board of Trustees, 1657, 1660, 1682, 1757
report of committee on awards, 1767
report of committee on narcotic drugs of Council on Health and Public Instruction, 1669
report of committee on reapportionment, 1763
report of committee on the whole, 1762
report of Council on Health and Public Instruction, 1663, 1682
report of Council on Medical Education and Hospitals, 1671, 1673, 1682, 1764
report of Council on Scientific Assembly, 1678, 1682
report of Judicial Council, 1662, 1682, 1684, 1758, 1762
report on reference committee on constitution and by-laws, 1754, 1758
report of reference committee on legislation and public relations, 1756
report of reference committee on medical education and hospitals, 1754
report of reference committee on miscellaneous business, 1759
report of reference committee on reports of officers, 1755, 1759
report of reference committee on rules and order of business, 1755
report of reference committee on sections and section work, 1757
report of secretary, 1682
reports of subcommittees of Council on Health and Public Instruction, 1668
report of treasurer, 1661
resolutions of sympathy on death of F. W. Galbraith, Jr., 1763
resolution on extension of interstate practice, 1684
resolution on metric system, 1682
resolution on narcotics, 1684
resolution on National Dental Association, 1755
resolution on reconstruction in France, 1682
resolutions on relations of medical profession to state, 1682
resolution on section of anesthesia, 1682
resolutions on state medicine, 1682
resolution on taxation of alcohol, 1683
resolution on universal military training, 1683
resolution on work of the Association, 1683
report on local anesthesia, 1504
scientific exhibit, 250, 1175, 1453
Secretary's report, 1655
suggestion for creation of new committee, 1755
supplementary report on credentials, 1684, 1754
Swedish view of, headquarters, 188
various resolutions, 1756
AMERICAN Medical Association, why perform the state's functions? —a pertinent question, 117—E
Golfing Association tournament, 527
medical literature in Mexico, 534
Physicians and Surgeons, Congress of, Dr. Frank Billings named president of, 459
Society for Control of Cancer, 1551-ab
surgeons honored, 1359
AMINO-ACIDS, secretion of ammonia and, in tuberculosis, [Zandren] 903
AMMONIA in blood and alkali reserve, 1698
secretion of amino-acids and, in tuberculosis, [Zandren] 903
AMNESIA, [Gilbert] 406
AMNIOTIC hernia, report of case of, [Thorek] *1748
AMPUTATION by Forbes operation deemed at ankle, 958—MI
cinematization of amputation stumps, [Bosch Arana] 826, 1372
exarticulation of hip joint, with preliminary ligation of common iliac artery, [Brooks] *94, [Wyeth] 328—C, [Brooks] 329—C
neurologic research on cinematized stumps, [Veraguth] 1620
neuromas, [Grester] 1053
sensations in muscles, [ten Horn] 1436
AMYL nitrite and vascular reactions, [Richard] 341
AMYOTROPHY, occupational, [Giordano] 1285
ANAEROBIOSIS, chemical criteria of, [Hall] 617
ANALGESIA: See Anesthesia
ANAPHYLAXIS: See also Immunity
ANAPHYLAXIS, [Klinkert] 1807
alimentary, 1122
allergic phlegmons, [Bouche & Hustin] 1711
and immunity, 1259
antianaphylaxis, [Kopaczewski] 551
digestive antianaphylaxis, [Pagniez & Vallery-Radot] 551
digestive, cure of, [Zubizarreta] 277
Escude's death from allergy caused by tuberculous antigen, 1777
explanation of sensitization in children, 935—E
following intradermal protein sensitization test, [Gerstenberger & Davis] *721
history of, 380—E
nature of, [Presci] 1539
ocular reactions in, [Kodama] 406
phenomena of allergy in diseases of skin, 1010—E, [Robinson] 1265—C
route and rate of absorption of subcutaneously injected serum in relation to occurrence of sudden death after injection of antitoxic horse serum, [Lewis] *1342, 1356—E
therapeutic antianaphylaxis, [Dekker] 1328
ANATOMY, graduate work in, [Jackson] 801
ANEMIA, aplastic, caused by roentgen ray, [Larkins] 1431
aplastic, following arsphenamin, [Gorke] 625
carbon dioxid absorption curve in, [Barr & Peters] 892
hypertrophy of heart and, in young infants, [Parodi] 1539
in infants, [Tixier] 1283
intestinal tuberculosis and, in consumptives, [Krag-Moller] 904
iron and arsenic in, [Whipple & Robscheit] 1794
iron in, [Sonne] 692
lipemia in, [Horiuchi] 66
of pregnancy, [Gram] 692
pernicious, [Carr] 268, [Rieux] 1282
pernicious, age and sex incidence of, [Eason] 139
pernicious, blood volume in, [Denny] 475
pernicious, in malaria, [Coda] 1374
pernicious, repeated transfusion in, [Bowcock] 1193
primary, in children, [Litchfield] 1432
splenic, [Moynihan] 618, [Garin] 1374
treatment of, [Rud] 214
with enlargement of spleen, [Hallez] 553
ANESTHESIA, administration of carbon dioxid after anesthesia and operation; acid-base regulatory mechanism, [Reimann & others] *437, [Henderson & others] 672—C
ANESTHESIA, blocking of phrenic nerve, [Goetze] 559
blocking of phrenic nerve for radical operation for diaphragmatic hernia, [Bakes] 1866
blocking the brachial plexus, [Reding] 1617
blocking the splanchnic nerves, [Preiss] 828, [Billet & Laborde] 1434
chloroform, [Houdmont & Fouarge] 1861
effect of, on blood reaction, [Collip] 272
Encyclopedia Britannica and date of introduction of, [Keen] 884—C
ether, [Guedel] 1131
ether by rectum, [Balsamo] 73, [Aloi] 210, [Chalier & Dunet] 898
ether-oil, by rectum for children, [Salazar de Souza] 341
ethyl chlorid, dangers of, 1117
intravenous injections of sugar in general anesthesia and diseases, 741
local, absorption of, from genito-urinary tract, [Macht] 547
local, by-effects with, [Schaps] 691
local, fifth root resection under, [Coughlin] 267—ab
local, for abdominal operations, [Widerøe & Borchgrevink] 78
local, pituitary extract in conjunction with, [Otrich] *591
local, special report on, 1504
local, toxicity of apothesin, 745
local, value of, in surgery today, [Bartlett] 200—ab
loss of speech following, [Clark] 273
mechanism of hyperglycemia production by ether and chloroform, [Ross & Davis] 615
new method of splanchnic analgesia, [Labat] 894
nitrous oxid, and cholemia, [Desmarest & Lascombes] 1200
nitrogenized ether vapor, [Erdman] 1605—ab
of bladder, [Noguès] 966
report of Ohio committee on, 1790
resolution on Section on Anesthesia, 1682
sacral, [Barker] 1704—ab
spinal, [Guibal] 1373
spinal, action of, on liver and kidneys, [Ranucci] 1202
spinal, meningitis consecutive to, [Sanchis-Banus] 415
spinal, sequelae of, [Santy & Langeron] 1372
synergistic colonic analgesia, [Gwathmey] *222, 1604—ab, [Flagg] 469—C
toxic effect of anesthetics on kidney, [MacNider] 1611
ANEURYSM, aortic, [Ferrannini] 1374
aortic, report of case of rupture of, into superior vena cava, [Wien & Earle] *1750
aortic, treatment of, [Renon] 1800
aortic, treatment by wiring and electrolysis, [Hare] *587
abdominal aortic, radioscopy of, [Ribadeau-Dumas & Mallet] 274
abdominal aortic, syphilitic, [Manouslian] 1134
carotid, present status of treatment of, [Lenormant] 824
of descending thoracic aorta, [Du Bray] 1128
of pulmonary artery, syphilitic, [Letulle & Jacquelin] 341
of spinal cord artery, [Bang] 1720
of splenic artery, [Garland] 1275
thoracic, [Calvin] 1273
thoracic, bilateral pulse obliteration in, [Crawford] *1395
traumatic, [Lenger & others] 273, [Putzu] 758
traumatic, operation for, [Schmidt] 1140
ANGINA PECTORIS, [Routier] 1863
and auricular fibrillation, [Sandison] 1045
and Raynaud's disease, [Bard] 757
electrocardiography in, [Willus] 750
of diabetes, [Kahn] *570
rapid drop in blood pressure in, [Lutembacher] 554
surgical treatment of, [Jonnesco] 1200
ANGINA, Vincent's: See Vincent's Angina
ANGIOMA of larynx, [Moore] 479
ANHYDREMIA and diarrhea in Infancy, 794—E
ANILIN dyes, antiseptic property of, [Davis] 817
ANILIN-XYLENE-ACETONE clearing fluid, 1364
ANKLE, amputation by Forbes operation deemed at, 958—MI
injuries and their treatment, [Cooperman] 204
tuberculous disease of, [Chiari] 972
ANKYLOSTOMIASIS: See Uncinariasis
ANOMALIES, congenital, and inherited syphilis, [de Stefano] 689
factors in defective development, [López] 1203
ANOPHELES experiments, [Blacklock & Carter] 139
ANTHRAX, [Martinotti] 211, [Rissotto] 1203
cutaneous, [Graham] 67
from shaving brushes, 667
hemorrhagic meningo-encephalitis in, 3 cases, [House] 203
normal beef serum in, [Kraus & Beltrami] 1619
sterilization of shaving brushes in prevention of, 1265
ANTHROPOLOGIC investigations of apprentices, 536
ANTIBODIES, [Sahli] 1373
and antigens, 124
chemical nature of, [Huntoon & others] 1194
effect of mustard gas on formation of, [Hektoen & Corper] 1042
formation of, [Bacigalupo & Alcaraz] 1865
nature and origin of, [Sahli] 344, 483
nonspecific production of, [Matsumoto] 137
relation between absorption of, and proteins, [Umemura] 1796
ANTIBRULE, 1263—P
ANTIGENS and antibodies, 124
ANTIMONY in leprosy, [Cawston] 1197
tartrate, intravenous injection of, [Christopherson] 1046
ANTISCORBUTICS: See Scurvy
ANTISEPTIC Powder, 743—P
ANTITETANUS Serum: See Tetanus
ANTITOXIN, beef, [Kraus & others] 1714
Diphtheria: See Diphtheria Antitoxin
new method of adding cresol to antiserums, [Krumwiede & Bahrzahn] 1322
state control of, 946
Tetanus: See Tetanus Antitoxin
ANTRUM, maxillary, infection of, [Ayer & Buff] 1704—ab
ANURIA, prolonged, [Scholl & Foulds] *368
reflex, from calculus, [Sala] 145
ANUS, artificial, [Francois] 1802
atresia of rectum and, operative treatment of, [Anders] 972
herpes zoster encircling, [Rénon & Blamoutier] 965
spasm of sphincter ani as cause of Hirschsprung's disease, [Goebel] 761
AORTITIS, Bordet-Gengou reaction in aortic lesions, [Goynaroff] 1043
syphilitic, posttraumatic, [Fiessinger] 1800
APHASIA, hysterical, [Williams] 615
APHONIA, laryngeal pellet in treatment of, [Muck] 1437
APOPHYSITIS, growth, [Froelich] 412
APOPLEXY: See Brain, Hemorrhage
APOTHESIN, toxicity of, 745
APPARATUS for alkalization of solutions of arsphenamin, [Lane] *175
for closed method of drainage in empyema, [Fox] *1653
for continuous intravenous administration of fluids by which rate of flow may be easily determined and controlled, [Freidell] *724
for determination of blood sugar in minute quantities, [Kleiner] *172
for transfusion of citrated blood, [Hoffman & Habein] *358
motor suction of vacuum apparatus for removal of blood from throat in tonsillectomy, [West] *307
orthometer, [Wood] 1426
APPENDECTOMY as routine procedure, [Lévy] 1281
incision for, [Lake] 753
APPENDICITIS and hematometra, [Gurierrez] 1619
acute, in elderly, [Paus] 1439
and rubber glove, [Morris] 201—ab
bacteriology of, [Brown & Cade] 550
diagnosis of, and results of removal of appendix, [Barclay & McWilliams] 962
due to oxyuris vermicularis, [Patrick] 1531

APPENDICITIS, foreign body in appendix cause of, [Mahoney] 615
frequent coexistence of duodenal ulcer, cholecystitis and, [Zweig] 901
gynecologic significance of, [Graves] 1192
Gibson-Mikulicz tampon in, [Farr] 1367
kidney infections with, [Harbin] 682
latent, liver symptoms from, [Poenaru-Caplesco] 755
nasal sinus infection as cause of, [Watson-Williams] 1280
pathogenesis of, [Fischer] 1805
poliomyelitis with onset suggesting, [Dubs] 1284
trichocephalus responsible for, [Echeverria] 623
APPENDIX, calculi of, and roentgenography, [Kleeblatt] 762
carcinoma of, primary, in sisters suffering from tuberculosis, [Primrose] 202
diverticulum of, causing intestinal obstruction, [Wilkie] 1798
foreign body (pin) in, as cause of appendicitis, [Mahoney] 615
hemolytic streptococci in, [Kraft] 819
undescended cecum and, report of cases, [Jonas] *1821
with suppuration, in femoral hernia, [Hoidale] *930
APPETITE, vitamin, and digestion, 40—E, [Karr] 66
ARCHER, damage suit again dismissed, 944
ARGYRIA, case of, [Smith] 135
localized, case of, [Beeson] *1006
ARIZONA state board January examination, 1520
state board October examination, 263
ARKANSAS eclectic November examination, 675
state board November examination, 471
ARMY: See also Soldiers
ARMY, measles statistics in, 390
Medical Department in world war, achievement of, [Ireland] *763
Medical School graduation, 1586
Medical School to enlarge, 1114
medical schools and reserve corps officers, 665
medical schools, new rules for, 1508
office of Surgeon-General reduced, 738
records, simplification of, 532
rejections compiled in report, 738
report of Surgeon General, 122
AROMATIC carminatives, how do they affect the organism? 248—E
ARRHYTHMIA, [Viton] 1804
auto-observation, [Vetlesen] 78
serum sickness, taking form of, [Weill-Halle & Levy] 1200
ARSENIC and mercury compounds in syphilis, scientific background for, 1501—E
perforations of nasal septum due to inhalation of arsenuous oxid, [Dunlap] *568
pharmacology of arsenicals, 595—E
poisoning, value of magnesium sulphate in, [Hansen] 960
preparation, sudden deaths from, 321
ARSENOBENZENE, Arsenobenzol: See Arsphenamin
ARSPHENAMIN, administration of, in the tropics, [Nunez] 1697—C
adulteration of, 1588
and jaundice, [Milian] 143
aplastic anemia following, [Gorke] 625
apparatus for alkalization of solutions of, [Lane] *175
arsphenamized serum treatment, [Paulian] 343
by-effects, [Gastou] 71
daily injections of, [Minet] 552
dermatitis from, 1420
dosage of, 797—E
effect of intravenous administration of arsphenamin, neo-arsphenamin and mercury on Wassermann test in normal serums, [Kilduffe] *1489
effect on renal function, [Elliott & Todd] 65
elimination of, [Romaret] 143
erythrodermia following, [Brin] 143
fall of blood pressure after injections of, [Kanoky] 1419—C
fatalities, 189
histologic changes produced by, [Kolmer & Lucke] 1274
ARSPHENAMIN, intratracheal administration of, [Bruzzone & Vecchia] 345
kidney block under combined mercury and arsphenamin treatment, [Eicke] 1715
Lowy 1 per cent. solution, 859
nerve injuries due to errors in technic in making intravenous injections, [Lewis] *1726
question of positive Wassermann reactions caused by intravenous administration of arsphenamin, [Katsainos] 195—C, [Beeson] 195—C
reaction, prevention by antianaphylaxis and atropin, [Bushman] *1302
reactions following intravenous administration in nonsyphilitics, [Strickler & others] 65, 183—E
silver, 1312
Silver-Salvarsan, 1654
silver salvarsan and luargol, [Danysz] 757
sodium, toxicity and trypanocidal activity of, [Schamberg & others] *1823
Squibb, 1007
therapeutic value of various brands of neo-arsphenamin and, [Voegtlin & Smith] 547
toxic action of, [Hunt] *854
tribute we paid Germany for, 729—E
ART, medical emblems, [Van Gils] 1544
medical prints, [Van Rijnberk] 902
medical subjects in Dutch art, [Van Rijnberk] 78, 1807
neurology in, 1105—E
psychanalysis of a Greuze painting, [Stocker] 1135
science and art in primitive Peru, [Escomel] 1138
ARTERIOSCLEROSIS, abdominal, [Fernández Martínez] 1375
and cardiovascular disease, their relation to infectious diseases, [Ophüls] *700
and kidney disease, [Evans] 1861
blood pressure in, [Janowski] 208
cerebral, tests of internal ear functioning in diagnosis of, [Stein] 829
emaciation preceding, [Kiralyfi] 625
in relation to dementia praecox, [Lie] 78
of brain, [Vianna] 826
of kidneys, [Rosenthal] 557
pathogenesis of, 1260
pulse rate in, [Janowski] 823
silica in, [Scheffler & others] 1864
ARTERY, amyl nitrate and vascular reactions, [Richard] 341
arterial tension, [Enebuske] 1426
carotid, and hemorrhages of tonsils, 532
carotid, ligation of, [Perthes] 971
hepatic, ligation of, [Holst] 348
ligation of, before roentgen irradiation, [Wieting] 1622
method for study of early arterial changes, [Brooks] 1606—ab
pulmonary, syphilitic aneurysm of, [Letulle & Jacquelin] 341
vitelline, persistent, [Fraser & McCartney] 1798
ARTHRITIS: See also Gout; Rheumatism
ARTHRITIS, [Harding] 405
acute, infective, [Steward] 1799
deformans and Dupuytren's contracture, [Ledderhose] 1326
deformans, treatment of, 262
endocrine factors in arthritism, [Arias Schreiber] 827
etiology of, [Harding] 616
gonococcus, [Costa & Garcin] 1538
gonococcus, autotherapy of, [Dufour & Debray] 411
in infants, acute, [Johnson] 678
intra-articular serotherapy, [Netter] 1801
meningitis with, [Weissenbach & Merle] 554
nonspecific protein therapy in, 56, [Cowie] *310
of focal origin, [Ramón Torres Casanovasa] 970
pneumococcus, [Plisson & Brousse] 825
purulent, active mobilization of, [Charrier] 966
rheumatoid, vaccine treatment of, [Crowe] 69
treatment, [Coon] 1604—ab
treatment by drugs, [Lambert] 1604—ab
treatment by injecting anti-pyrin, [Lampronti] 1374
ARTHRODESIS, operation for, [Lexer] 1715
ARUNDO DONAX, dermatitis from, [Timpano] 689
ASCARIASIS, [Palermo] 1540, 1804
ASCARIS lumbricoides caught in eye of shoe-button, [Stiles] *239
in liver and pancreas, [Eberle] 341
ASCITES, continuous drainage in, [O'Connor] 139
lymphatic drainage of abdomen through paraffined veins, [Behan] 1705
milky, [Guldmann] 1622
ASCOLI, Professor, tribute to, 1508
ASEPSIS of field of operation, [Sorel] 966
ASPHYXIA, discharge of meconium during delivery and its connection with intrauterine asphyxia, [Gejrot] 418
surgical aspects of, [Graham] 890
ASPIRIN: See also Acid, Acetylsalicylic
"ASPIRIN BAYER" and the Sterling Products Company, 1697—P
copyright protection of proprietary remedy denied, 321
or acetysalicylic acid—an important court decision, 1356—E
ASSOCIATED Advertising Clubs of the World, aim of, 525—E
ASTHENIA of syphilitic origin, [Merklen & others] 967
ASTHMA and anaphylaxis, [Coke] 1045
bronchial, etiology of, [Piness] 616
bronchial, response to pilocarpin and epinephrin, [Alexander & Paddock] 750
in fur dye-workers, [Gerdon] 147
roentgen-ray treatment of, [Ascoli & Fagiuoli] 270
sensitization in hay-fever and, [Caulfield] *1071
sputum in diagnosis of, [Bezancon & de Jong] 341
treatment of, [Marino & Barilari] 1139, [Van Leeuwen] 1544
ATAXIA, symmetric, of fingers, [Verger & de Cardenal] 1862
Locomotor: See Tabes Dorsalis
ATELECTASIS, pulmonary, [Sewall] 474
ATHLETICS, albuminuria from sports, [Frenkel-Tissot] 829
gaseous interchanges in rowers, [Dirken] 1053
ATHREPSIA and hypothrepsia, [Marfan] 553
in infants, [Marfan] 1372
morbid conditions associated with, [Marfan] 1802
ATROPIN, action of, in encephalitis, [Radovici & Nicolesco] 825
and the infant eye, [Ehrenreich & Reisenfeld] 1544
effect of small doses of, on heart rate, [McGuigan] *1338
in treatment of hypertonic infant, [Kaiser] 138
influence of, on action of epinephrin, [Schiff & Balint] 972
poisoning, an adventure in atropism, [Jones] 813—C
AUDITION, colored, [Ribon] 346
AUDITORY nerve, tumor of, [Fumarola] 1137
AUSCULTATION at open mouth, [Lura] 1374
over clavicle, [Hildebrandt] 625
AUSTRALIA, creation of a ministry of health for, 1112
AUSTRIA, aid for medical education in, 1032
statistics as to practicing physicians in, 535
AUTHORS, medical, request for data on, [Kelly] 1594—C
AUTOHEMAGGLUTINATION: See Hemagglutination
AUTOMOBILE inner tubes made into Esmarch tourniquets, [Dermott] *590
medical radiator caps, 1585
AUTOPSY: See Necropsies
AUTOSEROTHERAPY: See Serotherapy
AVIATORS, application of certain physical efficiency tests to, [Scott] *705
ear tests for aviators, [Seibert] 195—C
AYERZA'S DISEASE, [Elizalde & Arrillaga] 1540

B

BABINSKI'S phenomenon, mechanism of, [Salmon] 1865
BACILLUS, acid-fast, differentiation of, [Schlossberg & Ptannenstiel] 691
aerogenes capsulatus infection in diabetic dogs, [Wishart & Prichett] 269
BACILLUS, acid resisting bacillus infection, [Marchoux] 1199
acidi-lactl meningitis, [Greenthal] 678
carrier, mechanism of bacillus carrier state, [Bloomfield] 474
Castellani's, pathogenic power of, [Dopter] 1199
coli infection of kidney, [Cabot] 962
colon, rôle of, in induced peritonitis, [Gal] 417
enteritidis, enteric fever caused by, [Rosher & Wilson] 410
enteritidis infection, fatal, [McNee] 685
faecalis-alkaligenes, lesions of typhoid fever produced by, [Ravenel] *720
lepisepticum (dissociation of microbic species) [De Kruif] *651
Morgan's, pathogenic power of, [Dopter] 1199
Pfeiffer: See Influenza Bacilli
BACKACHE and anatomic variations of lumbosacral region, [O'Reilly] 1796
gynecologic, [Bullard] 1529
BACTERIA, action of certain oils on, [Fontes] 1138
aerobic, destruction of cellulose by, [Groenwege] 279
dependence of growth of bacteria on reaction of culture medium, [Johanson] 974
enumeration of blood cells and, [Dreyer] 685
preserving original types of new species of, [Winslow] 617
thermal death point in relation to time of typical thermophilic organisms, [Bigelow & Esty] 204
variation of bacteria to agglutination, [Arkwright] 822
BACTERICIDE, chlorinated lime as a bactericide for raw fruits and vegetables, 1511
BACTERIOPHAGUM, [Puntoni] 621
d'Herelle's, [Ameuille] 1800
intestinale, [Ojørup] 1808
BAILEY, PIERCE, awarded distinguished service medal, 601
BAKERIES, inspection of, 1360
BALDY-WEBSTER operation, modification of, [Bagley] *791
BANDAGE for thorax, [Oden] *174
muscular contracture under immobilizing bandage, [Meyer] 1716
BANTI'S DISEASE: See Anemia, Splenic
BARBITAL poisoning simulating encephalitis, [MacLeod] 138
BASEDOW'S DISEASE: See Goiter, Exophthalmic
BATH, daily, 42—E
BAZY, PIERRE, election of, to Academy of Sciences, 601
BEANS, making beans better, 1580—E
BED, semisitting position for patient in bed, [Burkhardt] 1437
BEER, draft regulations on, 1111
is beer a medicine? 805
regulations to be issued by Government, 944
BEETHOVEN, cause of deafness of, and necropsy findings, [Schweisheimer] 1205
BÉHAL, election of, to the Academy of Sciences, 665
BELGIUM, dental crisis in, 1260
England revokes reciprocity with, 461
memorial to medical victims of world war in, 1692
statistical study on population of, 1511
total number of physicians in, 1588
BENCE-JONES protein, specific precipitin for, [Hektoen] *929
BENEDICT apparatus, basal metabolism determinations with, and a simplified method of calculation, [McCaskey] *978, 1263—C
BENETOL Suppositories, 326—P
Vaginal Suppositories, 1263—P
BENZOIN reaction and hemoclasis, [Gastinal & Jacob] 1537
reaction in spinal fluid, [Duhot & Crampon] 1281
BENZYL benzoate, 1252—E
Benzoate-H. W. and D., 245
Benzoate, H. W. and D., Sterile Ampules of, 1353
benzoate in pertussis, 330 [Ruhräh] 474
benzonate in pertussis, 330
benzoate in protozoal dysentery, [Haughwout & others] 68
esters, pharmacology of, [Nielsen & Higgins] 1426

BERIBERI, liver in, [Suzuki] 1802
test for antiberiberi vitamin and its practical application, [Funk & Dubin] 67
BERLIN, reorganization of public health service of, 881
session of surgical congress, 1589
vital statistics of, during recent years, 809
BIBLIOGRAPHY, Italian institute for medical bibliography, 389
medical, and perpetuation of error, [Weller] 538—C
BICEPS flexor cubiti, rupture of tendon of insertion of, [Nutt] *1825
B-I-F Combination and B-I-F Capsules, 671—P
BILE, acid in, estimation of, [Schmidt & Dart] 892
and behavior of fats in alimentary tract, 42—E
bacteriostatic properties of, [Neilson & Meyer] 1858
concentration of, in gallbladder, 385—E
danger of confusing bile, blood pigments and carotinemia, 114—E
ducts, injection of, with barium, [Beal & Jagoda] *1483
excretion of tubercle bacilli in, [Marchisotti] 1203
peritonitis, [Donovan] 1804
pigments in serum, clinical importance of examination for, [Meulengracht] 904
salts, effect of saponin and, on respiration, [Brooks] 1130
salts, influence of, on gastric function, [Pannet & Wilson] 1614
tract, surgical aspects of disease of gallbladder and, [Wilensky] 1602—ab
BILHARZIASIS of bladder, treatment of, [Petillo] 1369
BILIRUBIN in blood serum, [Lepehne] 1051
BILLINGS, FRANK, named president of Congress of American Physicians and Surgeons, 459
and compulsory health insurance and health centers, 1757
BIOGRAPHY, biographic write-up, 526—E
BIOLOGIC mediums, reaction of, [Blanc & Pozerski] 823
research, institute for, in French Africa, 122
therapy, [Flexner & others]; *33, *108, *176, *241, *308, 318—E
therapy, appreciation of articles on, 879
BIRTH control, [Ottow] 1805
control, clinic for, 1181
control, effect of, on income of physicians, 128
injuries and feeblemindedness, [Schott] 415
relation of total number of males and females born since the war, 394
BISMUTH to expel oxyuride, [Nieves Gonzáles Barrio] 1050
BITE, black spider, report of 4 cases, [Louis] *99
BLACKWATER FEVER, 451—E, [Herrera Vegas] 827
causes of, [Delgado Palacios] 622
BLADDER and kidney reflex, [Pico] 277
anesthesia of, [Noguès] 966
bilharziasis of, treatment of, [Petillo] 1369
calculus, largest, [Randall] 1427
cancer, report of case in which cystogram aided in diagnosis and prognosis, [Coppridge] *1496
capillary puncture of, [Berne-Lagarde & Ramos] 142
epithelioma of, metastatic in kidney, [Haessler] *446
exstrophy of, in female, [Burke] 475
exstrophy of urinary bladder and carcinoma, [Lower] 1129
foreign body in, unusual, [McCune] *1654
implanting of ureter in, [Pennisi] 555
mobilization of lower bladder, [Thévenot] 142
papilloma, [Harris] 1800
reconstruction of neck of, in female, [Ach] 482
retractor, self-retaining, [Walther] *1574
surgical affections of, [Rochet] 1801
tumor, aid in diagnosis of, [Melen] *782
tumor, anilin, [Hamilton] 1707
tumor from cystoscopist's standpoint, [Kirkland] 1703-ab
BLADDER tumors, indications for intravesicular intervention, [Janssen] 1141
tumors of, [Aievoli] 1865
tumors of neck, [Player & Mathe] 1796
ulcer, surgical treatment of so-called elusive ulcer [Kretschmer] *990
BLASTOMYCOSIS, [Lozada] 1138
of axilla, [Condorelli] 1374
in Peru, [Lozada Benavente] 622
study of, [Lutz] 212
BLIND, books for, 1361
BLINDNESS, transient, after puncture of lung, [Schlaepfer] 828
BLOOD, acetone in, concentration of, [Widmark] 903
acid-base equilibrium of, in disease, [Means & others] 893
acid-base exchange between plasma and cells, [Collip] 1276
action of electrical treatments on blood and blood pressure, [Bain & others] 1536
albumoses in, under normal and pathologic conditions, [Wolff] 903
alkali and leukocytosis, [Hirsch] 1042
alkali, effect of morphin on, [Gauss] 547
alkaline reserve of body, determination of, [Prentice & others] 66
alkaline reserve of, of insane, [Suitsu] 64
alkalinity of, [Kuhlmann] 827
ammonia in, and alkali reserve, 1698
bilirubin in, [Lepehne] 1051
bilirubin in human serum in health and disease, [Botzian] 761
bromide in, photographic test for, [Merke] 1284
buffer action of, 397—ab
calcium and calcium therapy, [Von Meysenbug] 678
calcium in, [Richter-Quittner] 1327
calcium in, of children, [Denis & Talbot] 404
carbon dioxid tension of, [Peters & others] 892
carbon dioxid tension of, in cardiac dyspnea, [Peters & Barr] 892
carbon monoxid in, determination of, 1588
cells, enumeration of, [Dreyer] 685
cells, red, experiments on production of antihuman hemolysin with special reference to immunization with erythrocytes sensitized with heated serum, [Matsumoto] 136
cells, red, function of, in transport of carbon dioxid, 796—E
cells, red, number of, at different ages and under different conditions, [Bing] 904
cells, red, resistance of, to hypotonic saline, [Brieger] 828
cells, red, resisting power of, [van Spanje] 974
cells, red, sedimentation rate of, [Linzenmeier] 1204
cells, red, variations in count in normal, [Bierring] 280
cells, red, variation in size of, [Price-Jones] 339, 1688-E
cells, reticulum in, [Cowdry] 477
cells, volume of, [Reich] 1719
changes in, with diet, [Utheim] 1206
chemical changes in, in experimental traumatic shock, [Aub & Wu] 269
chemistry, diagnostic value of, [Bigelow] 1531
chemistry, value of, in acute abdomen, [Rabinowitch] 1041
chlorid in, in infants, [Scheer] 1716
chlorids, determination of, [Whitehorn] 892, [Smith] 892
cholesterin content of, [Strathmann-Herweg] 76, [Sisto] 759
cholesterin in pneumonia, variation in, [Kipp] 66
circulation in infectious diseases, [Nelson] 208
circulation, modification of, under muscular exercises, [Barlocco] 345
coagulating time, determination of, [Gelera] 1137
coagulation, [Mason] 680, [Fonio] 1137
coagulation, acceleration of, by raying liver, [Tichy] 1053
coagulation, effect of secretions of nematodes on, [Schwartz] 1323
BLOOD coagulation, promotion of, [Szenes] 1140
comparison of venous and capillary blood, [Bogendörfer & Nonnebruch] 828
creatinin, prognostic value of, in nephritis, [Rabinowitch] 1705
culture medium, citrated, [Weissenbach] 72
defensive ferments in, Gronberg] 830
diastatic ferments of, [Lewis & Mason] 67
difference value of, in relation to liver, [Cammidge & others] 1710
effect of quinin on liver and, [Sipernstein & Litman] 1320
effect on, of intravenous injection of hypertonic solution of gum acacia and glucose in normal, asphyxiated and shocked dogs, [White & Erlanger] 63
endothelial cells in blood stream, [Bittorf] 486
fat, variation of blood fat constituents of rabbits under normal conditions, [Horiuchi] 66
fate of India ink injected into, [Nagao] 204, 1042
fate of foreign particles in blood stream, 794—E
flow in capillaries, regulation of, 1842—E
formula with retention of chlorids, [Pruche] 620
gases in arterial blood, [Meakins] 822
germ carriers, [Escomel] 144
glucose in, 609
glucose in, microchemical method for analysis of, 954
grouping in malignant disease, [Alexander] 1614
groups, suggestions for identification of, [Belknap] *724, 953—C
hemoglobin and erythrocyte count in venous blood, [Gram] 418
in malignant disease, [Loeper & others] 1712
nitrogen, clinical significance of residual nitrogen, [Stransky] 76
nitrogen, residual, [Bertolini] 1864
nitrogen, residual nitrogen of blood in newly-born, [Balint & Stransky] 75
occult, slight diagnostic value with gastric and duodenal ulcer, [Peiper] 213
occult, tests for, [Boas] 346
oxygen content of, in experimental traumatic shock, [Aub & Cunningham] 269
picture in disturbances of vegetative nervous system, [Schenk] 624
picture under calcium, [Rösler] 1327
pigment, transformation of, into porphyrin, [Snapper & Dalmeyer] 1807
pigments, danger of confusing bile, blood pigments and carotinemia, 114—E
plasma, constancy of volume of, [Bock] 475
plasma volume, significance of, 726—E
platelet count, [Van Herwerden] *723, [Gram] 1328
platelet formation, vicarious, [Bunting] 336
platelets as indicators of hemorrhagic diathesis, [Gram] 904
platelets, studies in properties of, with new method for counting platelets, [Buckman & Hallisey] *427
potassium in, quantitative determination of, [Kramer & Tisdall] 1368
pressure, action of electrical treatments on, [Bain & others] 1536
pressure, acute paroxysmal hypertension, [Vaquez] 209
pressure apparatus, a sphygmometrograph, [Amblard] 1048
pressure, arm and leg pressure in aortic incompetence, [Williamson] 1799
pressure, arterial tension, [Enebuske] 1426
pressure, behavior of, during use of stomach tube, [McKinlay] *431
pressure, capillary, [Kylin] 903
pressure, capillary, measurement of, [Hill & McQueen] 1044
pressure during intravenous injection of quinin, [Brahmachari] 479
pressure, effect of digitalis on, [Harris] 1861
pressure, effect of epinephrin on, [Connet] 64
BLOOD pressure, effect of excessive fluid intake on, [Miller & Williams] 1128
pressure, effect of papaverin on increased blood pressure in man as induced by epinephrin, [Csepai] 1806
pressure, effect of surgical operations on, [McGlannon] 1195
pressure, fall of, after injections of neoarsphenamin, [Kanoky] 1419—C, [Luzadder] 1594—C
pressure, high, and kidneys, [Monakow] 557
pressure, high blood pressure stasis, [Elliott] *1467
pressure, high, nature of, [Christian] 1528—ab
pressure, high, symptoms of, [Stengel] 1528
pressure, high, treatment of, [Leconte] 1283, [Alsever] 1528—ab
pressure in arteriosclerosis, [Janowski] 208
pressure in newborn, [Seitz & Becker] 1053
pressure in obstetrics, value and significance of, [Schulze] 138
pressure, influence of protein food on, [Mosenthal] 334
pressure, influence of soft parts on measurements of, [Hering] 827
pressure, low, significance of, [Hoxie] 1533
pressure, lowering of, under serotherapy, [Jousset & Binet] 1433
pressure, relation between water intake and, [Dorner] 486
pressure, relation of brain stem to arterial blood pressure, [Rogers] 269
pressure, sinistrality and high blood pressure, [Quinan] 750
pressure, studies on, [Erlanger] 748
pressure, venous, measurement of, [Fuchs] 1051
race identification by tests of, 674
reinfusion (autohemic therapy), [Sen] 1431
reinfusion, red cell refusion in production of therapeutic serums, 1580—E
relations between blood and organs, [Kottmann] 210
research on, [Liebreich] 1373
serum, flaking power of, [Hélouin] 1434
speed of arterial blood wave, [Laubry & others] 1862
streptococcus hemolyticus infection, a case study, [Johnson] 68
sugar, clinical method for determination of, in minute quantities of blood, [Kleiner] *172
sugar, estimation of, [Maclean & de Wesselow] 754
sugar, fluctuations of, in mountain climate, [Tissot] 827
sugar in children, [Mertz & Rominger] 1804
sugar, reduction of sugar in blood and urine by roentgen irradiation of suprarenals in diabetes, [Dresel] 760
sugar, relationship of, to furunculossis [Thalhimer] *295
sugar, test for, [Reist] 1803
sugar tolerance test as aid in diagnosis of gastro-intestinal carcinoma, [Friedenwald & Grove] 1606—ab
sugar, variations in, [Strouse] 134
to detect carriers of microorganisms in blood, [Maris] 144
Transfusion: See also Blood Grouping
transfusion and its therapeutic uses, [Fletcher] 1424—ab
transfusion, hemoglobinuria after second transfusion with same donor, [Thalhimer] *1345
transfusion in pulmonary tuberculosis, [Freilich & others] 891
transfusion, iso-agglutinins and isohemolysins with reference to, [Zimmermann] 488
transfusion, laboratory problems of, [Karsner] *88, 260—C
transfusion, Lewisohn's method of transfusion of citrated blood, 1595
transfusion of citrated blood, [Hoffman & Habein] *358
transfusion, precautions necessary in selection of a donor for, [Unger] *9
transfusion, reactions following, [Clough & Clough] 682
transfusion, recommendation that Jansky classification be adopted for universal use, 130

BLOOD, urea nitrogen in acute intestinal obstruction, [Louria] 1794
urie acid content of, excessive, [Chauffard & others] 412
urie acid in, in toxemias of pregnancy, [Williams] *1297
vessels, eonstrieton of, by epinephrin, [Meltzer & Auer] 1427
vessels, nonsyphilitie disease of large vessels, [Deusch] 1719
vessels, suture of, [Ibanez] 1139
viscosity, increased, and transient attacks of hemiplegia, [Holmes] *1640
volume, effect of acacia on, [Matill & others] 337
volume, pathologic relationships of, in Infancy, 795—E
BOECKEL, tribute to, 1411
BONE, alimentary disease of, [Chelmonski] 898
bleaching of, 1595
cavities, septic, closure of, with muscle flaps, [Wood] 1798
changes after scurvy, [Frank] 1376
disease of joints and, [Borzini] 1285
formation, heteroplastic, experimental studies on, [Asami & Dock] 136
fragility, [Bolten] 1288
fragility, idiopathic, [Ruggeri] 145
grafting, [Henderson] 682
growth anomalies and atrophy in skeleton, [Schubert] 1205
marrow, infectious irritation of, [Löwy & Dimmel] 1327
marrow, phagocytes in, [Wislocki] 1532, 1771—E
tubereulosis, [Allison] 1530
tuberculosis, limits of conservative and surgical treatment of, 1779
tuberculous disease of, [Sorrel] 897
tumors, benign bone cysts and osteitis fibrosa, [Bloodgood] 206
tumors, relations of multiple vascular tumors of bone to myeloma, [Wells] 1530
tumors, secondary, malignant, [Delbet] 140
typhoid, vaccine therapy of, [Sicard & Robineau] 1537
BONKOCINE, 126—P
BOOKS for Europe, 1021
BORAX poisoning, [Potter] *378, 385—E
BORDET-GENGOU reaction in aortic lesions, [Goynaroff] 1043
BORDET, JULES, [Renaux] 823
tribute to, 121
BORO not accepted for N. N. R., 538—P
BOTHRIOCEPHALUS, fixation of complement in carriers of, [Becker] 830
BOTRYOMYCOSIS of lung, [McJunkin] 1320
BOTULISM, [Marie] 1712
anesthesia in treatment of, [Bronfenbrenner & Weiss] *1741
baeillus botulinus toxin, [Orr] 1322
bacillus, influence of varions chemical and physical agencies on B. botulinus and its spores, [Wyant & Normington] 135
baeillus, heat resistance of, [Weiss] 406
case of, [Marie] 552
differentiation of type A and type B botulinus toxins in food, rapid and simple method, [Graham & Schwarze] *1743
from eheese, [Nevin] 1042
in cattle, [Graham & Schwarz] 617
in man, and limberneck in poultry, 1580—E
treatment of, [Burke & others] 1039
BOUCHARD Pills, 743—P
BOURQUELOT, Professor, death of, 601
BOWDOIN medical school, 321
BOWEL: See Intestine
BOWEN'S DISEASE, 1122
BOW-LEGS: See Genu Varum
BRACHIAL PLEXUS, blocking of, [Reding] 1617
surgical treatment of injuries of, [Adson] 1603—ab
BRACHYDACTYLIA, familial, [Renvall] 148
BRAIN: See also Cerebellum; Cranium; Pituitary Body
BRAIN abscess of otitic origin with epileptiform attacks, [Sautter] *378
BRAIN abscesses, innumerable, [Claude] 342
anglomas, [Castex & Romano] 484
arteriosclerosis, [Vianna] 826
arteriosclerosis, tests of internal ear functioning in diagnosis of, [Stein] 829
concussion, [Duret] 555
eating and drinking arcs in, [Shaklee] 748
echinococcosis of, [Cardenal & Castella] 556
edema, toe sign in, [Edelmann] 1205
hemangioma cavernosum of, [Uyematsu] 137
hemorrhage in infant, [Conti] 1137
hemorrhage, injury held cause of death from apoplexy, 1038—M
hemorrhage, multiple, cortiospinal, [Raeder] 1040
hemorrhage with failing respiration, [Nathan] 272
influence of roentgen rays on, [Brunner] 971
involvement of, in shock and exhaustion, [Crile] *149
natural protective devices for, 1406—E
porosis, histopathologie report, [Hassin] 135
relation of brain stem to arterial blood pressure, [Rogers] 269
sarcoma, neural origin of, [Perdrau] 1799
stem, comparative anatomy of, [Fuse] 624
stem in Japanese, [Fuse] 1541
surgery, [Houssay & others] 623
surgery, accomplishments of, [Frazier] 1602—ab
syphilis, [McKendrie] 1612
temporal lobe and sphenoidal sinus, [Schaeffer] *1488
thrombosis in, from puerperal infection, [Crémieu & Gauthier] 1284
tumor, [Lenoble & others] 686
tumor, aeoustic neuromas, [Cushing] 1611
tumor, cause of epileptic seizures in tumors of temporosphenoidal lobe, [MacRobert & Feinier] *500
tumor, homonymous hemanopia as early symptom of, [Throckmorton] *1815
tumors, crossed hemiplegia from, [Obarrio] 277
tumors, diagnosis of cerebellopontine tumors, [Stenvers] 280
tumors, natural history of, [de Monakow] 1862
tumors, posterior fossa tumors as cause of convulsions, [MacRobert & Feinier] 1040
tumors, what can be expected from surgery of, [Berie] 482
BREAD, actions of various salts in bread making, 1260
poisoning from, [Silberschmidt] 621
BREAST cancer, chemical removal of inoperable cancer and metastasized axillary lymph nodes, [Strobell] 1605—ab
cancer, diagnosis of breast lesions at exploratory incison, [Bloodgood] 133—ab
cancer, life expectancy following radical amputation for, [Sistrunk & MacCarty] 133—ab
cancer, operations for, [Brattstorm] 974
cancer, subsidence of, after castration, [Reynès] 1432
cancer, surgery of, [Handley] 684
cancer, survival after mammectomy for, [Potherat] 411
infections due to influenza, [Baer & Reis] 1370
supernumerary, on buttock, [Perkins] *792
surgery of, [Aievoli] 969
tumors and intestinal toxemia, [Bainbridge] 889
tumors, diagnosis of, [Cheatle] 894
BRÈS, MADELINE, touching history of, 1023
BRILL'S DISEASE: See Typhus Fever
BRISSEAU memorial, 880
BRITISH Medical Association, annual meeting of, 1585
Medical Association, colonial objection to increased subscription of, 1511
Medical Association, protest by, against "dangerous drugs regulations," 738
tribute to American physicians and nurses, 390
BROCQ, tribute to, 1411
BROMIDS in blood serum, photographic test for, [Merke] 1284
BROMIN poisoning of infant from nostrum taken by mother, 1012—E
BRONCHIAL glands, nontuberculous enlargement of, [Gähwyler] 1538
BRONCHIECTASIS and bronchitis associated with accessory sinus disease, [Webb & Gilbert] *714
restriction of fluids in, [Vogelius] 1807
roentgenographic study of, [Lynah & Stewart] 959
BRONCHIOLITIS, influenzal, and bronchopneumonia, [Malloch & Rhea] 754
BRONCHITIS and bronchiectasis associated with accessory sinus disease, [Webb & Gilbert] *714
chronic, vaccines in, [Klugh] 1704—ab
neo-arsphenamin in putrid bronchitis, [Schroeder] 904
BRONCHOMONILIASIS and pulmonary tuberculosis, [Macfie & Ingram] 1860
BRONCHOPNEUMONIA and influenzal broncholitis, [Malloch & Rhea] 754
BRONCHUS, foreign body in, [Voegelin] *1230
BRSCO, 672—P
BURKHART'S Vegetable Compound, 1263—P
BURNS, effect of, on menstruation and pregnancy, [Beckey] 417
extensive, [Lenormant] 412
BUTTER, temperature control as related to improvement in, [Kitchen] 1195

BOOK NOTICES

Abt, I. A., Pediatries, 332
Aerzte-Briefe aus vier Jahrhunderten, 1599
Agote, L., La Litiasis Biliar en la República Argentina, 1421
Aikens, C. A., Clinical Studies for Nurses, 1365
Alger, F. M., Refraction and Motility of Eye with Chapters on Color Blindness and Field of Vision, 1788
Altitude and Health, 264
American Red Cross in Italy, 131
Anatomía Patológica y Patogenia de la Sifilis Pulmonar, 1855
Anatomic Illustration, History and Bibliography of Anatomic Illustration in Relation to Anatomic Science and Graphic Arts, 60
Anatomie des Menschlichen Gehirns und Rückenmarks aus Myelogenetischer Grundlage, 676
Anatomy, Fundamentals of Human Anatomy, Including Its Borderland Districts from the Viewpoint of a Practitioner, 331
André Demonchy, R. H., Manuel d'Urétroscopie, 1855
Anesthesia, Nitrous Oxid-Oxygen Analgesia and Anaesthesia in Normal Labor and Operative Obstetrics, 815
Anesthesia, American Year Book of Anesthesia and Analgesia, 1787
Annals of Roentgenology, 1700
Anthology, A Physician's Anthology of English and American Poetry, 1365
Ashhurst, A. P. C., Surgery: Its Principles and Practice, 1037
Bainbridge, F. A., Physiology of Muscular Exercise, 131
Bakewell, C. M., The Story of the American Red Cross in Italy, 131
Bandler, S. W., The Endocrines, 1268
Barr, M. W., Types of Mental Defectives, 1522
Bejarano, J., La Madre Y su Primer Bebe, 886
Billings, F., General Medicine, 332
Black, A. D., Index of Periodical Dental Literature, 1788
Biochemistry, Principles of, 401
Block Anesthesia and Allied Subjects, 886
Boas, I., Diagnostik und Therapie der Magenkrankheiten, 746
Boothby, W. M., and Sandiford, I., Laboratory Manual of Technic of Basal Metabolic Rate Determinations, 746
Borchard, A., Die Deutsche Chirurgie im Weltkrieg 1914 bis 1918, 263
Bordet, E., and Vaquez, H., Heart and the Aorta, 815
Boyd, M. F., Practical Preventive Medicine, 612
Boyd, W. Physiology and Pathology of Cerebrospinal Fluid, 957
Brown, W. L., Sympathetic Nervous System in Disease, 1599
Brues, C. T., Insects and Human Welfare, 1268
Cancer, Some Conclusions on Cancer, 198
Carman, R. D., Roentgen Diagnosis of Diseases of Alimentary Canal, 1036
Carpenter, G. D. H., A Naturalist on Lake Victoria, 957
Case, J. T., Annals of Roentgenology, 1700
Cerebrospinal Fluid, Physiology and Pathology of, 957
Chemistry and Analysis of Drugs and Medicines, 542
Chemistry, Creative, Descriptive of Recent Achievements in the Chemical Industries, 1855
Chemistry, Physiological, A Text-Book and Manual for Students, 676
Chemistry, Public Health Laboratory Work (Chemistry), 131
Chirurgie, die Deutsche Chirurgie im Weltkrieg 1914 bis 1918, 263
Choulant, L., History and Bibliography of Anatomic Illustration in Its Relation to Anatomic Science and Graphic Arts, 60
Christian, H. A., Oxford Medicine, 1421
Clark, W. M., The Determination of Hydrogen Ions, 1190
Clayton, E. B., Medical Gymnastics in Medicine and Surgery, 886
Cobb, I. C., Manual of Neurasthenia (Nervous Exhaustion), 401
Cœur, Radiologie des Vaisseaux de la Base du Coeur, 332
Cohn, T., Leitfaden der Elektrodiagnostik und Elektrotherapie, 1522
Collis, E. L., Industrial Clinic, 1036
Communicable Diseases, Hygiene of, 676
Consulting Surgeon in Near East, 542
Coriat, I. H., Repressed Emotions, 1269
Craig, C. F., Wassermann Test, 1788
Creighton, C., Some Conclusions on Cancer, 198
Crossen, H. S., Operative Gynecology, 61
Curtis, T. S., High Frequency Apparatus, 332
Darmträgheit, Studien über Darmträgheit (Stuhlverstopfung) ihre Folgen und ihre Behandlung, 1701
Defectives, Types of Mental Defectives, 1522
Dental Literature, Index of, 1788
Dermatology, Essentials of Cutaneous Medicine, 1190
Diabetes: A Handbook for Physicians and Their Patients, 401
Diabetes Insipida, Nuevas Orientaciones sobre la Patogenia y Tratamiento, 1788
Diagnostiche Winke für die Tägliche Praxis, ein Nachschlagebuch für Aerzte und Studierende, 886
Diathermy in Medical Practice, 472
Doughboy in France, 131
Drugs, Chemistry and Analysis of Drugs and Medicines, 542
Duhrssen, A., Geburtshifliches Vademekum, ein Kurzes Lehrbuch der Geburtzhilfe für Studierende und Aerzte, 1855
Dühressen, A., Gynäkologisches Vademekum für Studierende und Aerzte, 1855
Duns, M. A., Practical Care and Feedng of Children, 197
Duodenal Tube and Its Possibilities, 332
Ear, Handbook of Disease of Nose, Throat and Ear for Students and Practitioners, 61
Ebstein, E., Aerzte-Briefe aus vier Jahrhunderten, 1599
Einhorn, M., Duodenal Tube and Its Possibilities, 332
Electrical Treatment, 332
Elektrodiagnostik, Leitfaden der Elektrodiagnostik und Elektrotherapie, 1522
Elizalde, P. I., Anatomia Patológica y Patogenia de la Sifilis Pulmonar, 1855
Elliott, R. H., Tropical Ophthalmology, 815
Elwyn, A., Laboratory Course in Histology, 472
Embryology, Laboratory Manual and Text-Book of, 542
Endocrines, 1268
Erben, S., Diagnose der Simulation Nervöser Symptome auf Grund einer Differential-diagnostischen Bearbeitung der Einzelnen Phänomene, 402

Estomago, Enfermedades del, 956
Evolution, Initiative in, 611
Exercise, Physiology of Muscular Exercise, 131
Fife, G. B., Passing Legions, 131
Flatau, G., Kureus der Psychotherapie und des Hypnotismus, 177
Flechsig, P., Anatomie des Menschlichen Gehirns und Ruckenmarks aus Myelogenetischer Grundlage, 676
Food Inspection and Analysis, 401
Frank M., History and Bibliography of Anatomic Illustration, 60
French-English Medical Dictionary, 1125
Freyer, P. J., Clinical Lectures on Enlargement of Prostate, 1700
Fuller, H. C., Chemistry and Analysis of Drugs and Medicines, 542
Futcher, T. B., Outlines of Physical Diagnosis of Circulatory and Respiratory Systems, 886
Galloway, T. W., Sex Factor in Human Life, 1365
Garrison, F. H., A Physician's Anthology of English and American Poetry, 1365
Geburtshilfliches, ein kurzes Lehrbuch der Geburtzhilfe für Studierende und Aerzte, 1855
Gennerich, W., Die Syphilis des Zentralnervensystems, 1522
Gilchrist, T. C., Outline of Common Skin Diseases Including Eruptive Fevers, 747
Göppert, F., Prophylaxe und Therapie der Kinderkrankheiten, 1600
Gordon, A., French-English Medical Dictionary, 1125
Graetzer, E., Diagnostische Winke für die Tägliche Praxis, ein Nachschlagebuch für Aerzte und Studierende, 886
Grippe, La Epidemia de Grippe de 1918-19, 1269
Guilliermond, A., The Yeasts, 60
Gymnastics, Medical Gymnastics in Medicine and Surgery, 886
Gynäkologisches Vademekum für Studierende und Aerzte, 1855
Gynecology, Operative, 61
Harris, W., Electrical Treatment, 332
Harrow, B., Vitamines: Essential Food Factors, 1600
Haut- und Geschlechtskrankheiten, 1855
Heart Affections, Their Recognition and Treatment, 612
Heart and the Aorta, 815
Hess, A. F., Scurvy: Past and Present, 331
Heuser, C., Tratado Práctico de Radiologia, 1125
High Frequency Apparatus, 332
Highman, W. J., Dermatology, 1190
Histology, Esentials of Histology, Descriptive and Practical, 1599
Histology, Laboratory Course in, 472
Hollingsworth, H. L., Psychology of Functional Neuroses, 1787
Horowitz, P., Diabetes: A Handbook for Physicians and Their Patients, 402
Hungerford, E., With the Doughboy in France, 131
Hydrogen Ions, Determination of Hydrogen Ions; an Elementary Treatise on the Hydrogen Electrode, Indicator and Supplementary Methods with an Indexed Bibliography on Applications, 1190
Industrial Clinic, 1036
Infants, Practical Care and Feeding of Children, 197
Innere Sekretion und Dementia Praecox, Eine Studie, 1421
Insects and Human Welfare, an Account of More Important Relations of Insects to Health of Man, to Agriculture, and to Forestry, 1268
L'Iris, Étude Physiologique sur la Pupille et ses Centres Moteurs, 956
James, S. P., Malaria at Home and Abroad, 676
Jones, W., Nucleic Acids, Their Chemical Properties and Physiological Conduct, 472
Kenwood, H. R., Public Health Laboratory Work (Chemistry), 131
Kidd, F., Common Infections of Kidneys with the Colon Bacillus and Allied Bacteria, 746
Kidd, W., Initiative in Evolution, 611
Kidneys, Common Infections of Kidneys with Colon Bacillus and Allied Bacteria, 746
Kinderheilkunde, Kompendium der, mit Besonderer Berücksichtigung der Saüglingskrankheiten, 1037
Kinderkrankheiten, Diagnostik und Therapie der, 264
Kinderkrankheiten, Prophylaxe und Therapie der Kinderkrankheiten mit Besonderer Berücksichtigung der Ernährung, Pflege und Erziehung des Gesunden und Kranken Kindes Nebst Therapeutischer Technik, Arzneimittellehre und Heilstättenverzeichnis, 1600
Kleinschmidt, H., Therapeutisches Vademekun für die Kinderpraxis, 1037
Knochen und Gelenktuberkulose (Chirurgische Tuberkulose) mit Einem Anhang: Die Tuberkulose des Ohrs, des Auges und der Haut, 1522
Langstein, L., Prophylaxe und Therapie der Kinderkrankheiten, 1600
Leach, A. E., Food Inspection and Analysis, 401
Lessing, O., Innere Sekretion und Dementia Praecox, 1421
Levinson, A., Pediatrics, 332
Lewin, L., Die Gifte in der Weltgeschichte, 1701
Lincoln Life Sketches, 542
Lipoides dans L'Infection et Dans L'Immunité, 1855
Litiasis Biliar en la República Argentina, 1421
Löwenstein, E., Vorlesungen über Bakteriologie, Immunität, Spezifische Diagnostik und Therapie der Tuberkulose, 472
Lust, F., Diagnostik und Therapie der Kinderkrankheiten, 264
MacCallum, W. G., Text-Book of Pathology, 332
McConnell, G., Manual of Pathology, 612
McDonagh, J. E. R., Venereal Diseases, 1365
Mackenzie, J., Oxford Medicine, 1421
McMechan, F. H., The American Year Book of Anesthesia and Analgesia, 1787
McMechan, F. H., Nitrous Oxid-Oxygen Analgesia and Anæsthesia in Normal Labor and Operative Obstetrics, 815
Madre, La Madre y au Primer Bebe, 886
Magenkrankheiten, Diagnostik und Therapie der Magenkrankheiten, 746
Magen-und Darmkrankheiten, Taschenbuch der, 264
Magitot, A., L'Iris, 956
Malaria at Home and Abroad, 676
Maloncy, E. F., Types of Mental Defectives, 1522
Marañon, G., Nuevas Orientaciones Sobre la Patogenia y Tratamiento de la Diabetes Insipida, 1788
Massage: Its Principles and Practice, 1035
Masters, W. E., Essentials of Tropical Medicine, 815
Materialization, Phenomena of, 676
Maternitas, 198
Mathews, A. P., Physiological Chemistry, 676
Mayr, F. X., Studien über Darmträgheit (Stuhlverstopfung) ihre Folgen und ihre Behandlung, 1701
Medical Treatment, notes on Medical Treatment of Disease, 1855
Medicine, A Synopsis of Medicine, 1421
Medicine, General, 332
Medicine, Tice's Practice of, 1125
Mennell,, J. B., Massage, 1035
Mental Disorders Briefly Described and Classified with a Few Remarks on Treatment and Prevention, 472, 1125
Metabolism, Laboratory Manual of the Technic of Basal Metabolic Rate Determinations, 746
Military Urology, Manual of, Including Venereal Diseases, Skin Diseases and Wounds of Genito-Urinary Organs, 1855
Miller, H. C., Functional Nerve Disease, 263
Munson, F. M., Hygiene of Communicable Diseases, 676
Naturalist on Lake Victoria with an Account of Sleeping Sickness and the Tsetse-Tse Fly, 957
Nerve Disease, Functional, 263
Nerves, Injuries of Peripheral Nerves, 611
Nervöser Symptome, Diagnose der Simulation Nervöser Symptome auf Grund einer Differentialdiagnostischen Bearheitung der Einzelnen Phänomene, 402
Nervous System, Sympathetic, in Disease, 1599
Neurasthenia, Manual of (Nervous Exhaustion), 401
Neuroses, The Psychology of Functional Neuroses, 1787
Newborn, Diseases of, 1421
Newkirk, G., Lincoln Life Sketches, 542
Niemann, A., Kompendium der Kinderheilkunde mit Besonderer Berucksichtigung der Saülingskrankheiten, 1037
Nose, Handbook of Diseases of Nose, Throat and Ear for Students and Practitioners, 61
Notzing, Von S., Phenomena of Materialization, 676
Nucleic Acids, Their Chemical Properties and Physiological Conduct, 472
Nurses, Clinical Studies for Nurses, 1365
Ochsner, A. J., General Surgery, 332
Ophthalmology, Clinical, 1700
Ophthalmology, Tropical, 815
Opie, E. L., Epidemic Respiratory Disease, 1598
Orrin, H. C., X-Ray Atlas of Systemic Arteries of Body, 472
Orthopedic Surgery, 332
Otis, E. O., Pulmonary Tuberculosis, 1700
Overend, W., Radiography of Chest, 1701
Oxford Medicine, 1421
Paddock, C. E., Maternitas, 198
Passing Legions, 131
Paterson, M., Shibboleths of Tuberculosis, 1522
Pathology, General, 1701
Pathology, Manual of, 612
Pathology, Text-Book of, 332
Pediatrics, 332
Physical Diagnosis, Outlines of Physical Diagnosis of Circulatory and Respiratory Systems, 886
Pitzman, M., Fundamentals of Human Anatomy, Including Its Borderland Districts from the Viewpoint of a Practitioner, 331
Plants, an Introduction to Bacterial Diseases of, 542
Prentiss, C. W., Laboratory Manual and Text-Book of Embryology, 542
Presno y Bastiony, J. A., Clínica Quirúrgica y Técnica Operatoria, 611
Preventive Medicine, Practical, 612
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Public Health Laboratory Work (Chemistry), 131
Pulvermacher, L., Grundzüge der Behandlung von Haut- und Geeschlechtskrankheiten, 1855
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Radiologia, Tratado Practico de Radiologia, 1125
Radiologie des Vaisseaux de la Base du Cœur, 332
Ramsay, A. M., Clinical Ophthalmology, 1700
Raulston, B. O., General Medicine, 332
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Repressed Emotions, 1269
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Retraining Canada's Disabled Soldiers, 1701
von Reuss, A. R., Diseases of the Newborn, 1421
Ritter, R. O., Orthopedic Surgery, 332
Robertson, T. B., Principles of Biochemistry, 401
Roentgen Diagnosis of Diseases of Alimentary Canal, 1036
Roget, F. F., Altitude and Health, 264
Rudolf, R. D., Notes on the Medical Treatment of Disease, 1855
Ryerson, E. W., Orthopedic Surgery, 332
Saberton, C., Diathermy in Medical Practice, 472
Sandiford, I., and Boothby, W. M., Laboratory Manual of Technic of Basal Metabolic Rate Determinations, 746
Sanitation, Theory and Practice of Sanitation in Country Places Including the Bacteriolytic Tank System, 61
Schafer, E. S., Essentials of Histology, Descriptive and Practical, 1599
Schmieden, V., Die Deutsche Chirurgie im Weltkrieg 1914 bis 1918, 263
Schwermann, H., Taschenbuch der Knochen-und Gelenktuberkulose (Chirurgische Tuberkulose) mit Einem Anhang: Die Tuberkulose des Ohrs, des Auges und der Haut, 1522
Scurvy: Past and Present, 331
Segsworth, W. E., Retraining Canada's Disabled Soldiers, 1701
Sex Factor in Human Life, A Study Outline for College Men, 1365
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Smith, A. E., Block Anesthesia and Allied Subjects, 886
Smith, B. S. C., Heart Affections, Their Recognition and Treatment, 612
Smith, E. F., An Introduction to Bacterial Diseases of Plants, 542
Smith, W. R., Theory and Practice of Sanitation in Country Places Including the Bacteriolytic Tank System, 61
Souttar, H. S., Injuries of the Peripheral Nerves, 611
Surgery, General, 332
Surgery: Its Principles and Practice, 1037
Syme, W. S., Handbook of Diseases of Nose, Throat, and Ear for Students and Practitioners, 61
Syphilis, Die Syphilis des Zentralnervensystems: Ihre Ursachen und Behandlung, 1522
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Thompson, C. B., Mental Disorders Briefly Described and Classified with a Few Remarks on Treatment and Prevention, 472, 1125
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Tice, F., Tice's Practice of Medicine, 1125
Tidy, H. L., Synopsis of Medicine, 1421
Tobias, J. W., La Epidemia de Grippe de 1818-19, 1269
Tropical Medicine, Essentials of, 815
Tubby, A. H., Consulting Surgeon in Near East, 542
Tuberculosis, Pulmonary, 1700
Tuberculosis, Shibboleths of Tuberculosis, 1522
Tuberkulose, Vorlesungen über Bakteriologie, Immunität, Spezifische Diagnostik und Therapie der Tuberkulose, 472
Twining, E. W., Injuries of the Peripheral Nerves, 611
d'Urétroscopie, 1855
Urrutia, L., Enfermedades del Estomago, 956
Vaquez, H., Radiologie des Vaisseaux de la Base du Cœur, 332
Vaquez, H., and Bordet, E., Heart and the Aorta, 815
Venereal Diseases: Their Clinical Aspect and Treatment, 1395
Vitamins: Esential Food Factors, 1600
Wassermann Test, 1788
Weltgeschichte, Die Gifte in der Weltgeschichte, 1701
Wolf, W., Taschenbuch der Magen- und Darmkrankheiten, 264
Wood, C. A., A Physician's Anthology of English and American Poetry, 1365
X-Ray Atlas of Systemic Arteries of Body, 472
Yeasts, 60
Ziegler, E., General Pathology, 1701

C

CACHAR SORE, treatment of, [Sen Gupta] 753
CACTACEOUS PLANTS, habit indulgence in, among the Indians, [Blair] 1033
CAFFEIN, action of theobromin, theophyllin and, [Heathcote] 337
CALCANEUM reflex, [Ravà] 1203
CALCIUM, action of, on vegetative nervous system, [Usener] 1437
as a thromboplastic, 1364
Cacodylate-Ipco, 655
chlorid and magnesium sulphate intravenously in influenzal pneumonia, [Hogan] 1279

CALCIUM deficieney, constitutional, [Stheemann] 972
in Blood: See Blood, calcium in
in treatment of "iow fever," [de Langen] 279
intravenous injections of calcium chlorid in hemorrhages and diarrhea, [Neumann] 762
liming a nation, 38—E
metabolism and pulmonary infections, [Palacios] 1043
metabolism in tetany, [Klein] 1287
therapy and blood calcium, [Von Meysenbug] 678
therapy, blood picture under, [Rösler] 1327
CALCULI: See under names of Organs
CALIFORNIA state broad October examination, 399
CALOMEL diuresis, [Høst] 348
CANADA balsam, neutral, 1364
CANADIAN physique drops, 1583
CANCER: See also Tumor and under Organs and Regions
CANCER, advertising to public the curability of, 532
alleged cancer cures, 459
American Society for Control of, 1551—ab
blood in, [Loeper & others] 1712
campaign against, 258
cause of, 314—E
diagnosis from tumor cells in exudates of serous cavities, [Quensel] 903
effect of cellular reaction induced by roentgen rays on cancer grafts, [Murphy & others] 1194
effect of roentgen ray on resistance to, [Chambers & others] 339, [Nakahara & Murphy] 1368
experimental production of, 1404—E
Franco-Anglo-American league against, 1413
immunity of bovine udder to, [Butts] 1429
in animals, [Roussy & Wolf] 1047
increase of, 1116
infection, [Ochsner] 132—ab
influence of cancer inoculation on lymphoid stimulation induced by small doses of roentgen rays, [Nakahara & Murphy] 1368
lymphocytes in defense against, [Noel] 825
lymphoid stimulation increases resistance to, [Murpny & others] 1368
lymphoid stimulation induced by small doses of roentgen rays in, [Nakahara & Murphy] 1368
metastasis of, 32—ab
mortality at Basel, [Jessen] 210
mortality in New York, [Bulkley] 548
prevention of, [Jordan] 339
prize for work on, 664
problem, [Haggard] 821
radiotherapy of, [Nordentoft] 692
radiotherapy of, remote results with, [Treber] 1326
radium treatment of, [Levin] 201, [Da Costa] 1138
report of Cancer Commission of Harvard University, 1111
roentgen irradiation of skin cancer, [Thedering] 213
roentgenotherapy in, [Sittenfield] *99
Russell's fuchsin bodies in, [McConnell & Lang] 1322
serodiagnosis and immunotherapy as applied to, [Drügg] 278
theory of, [Clarke] 410
tissue resistance in malignant disease, [Boyd] 1369
transmission of, to mice, [Keysser] 760
transplantation cancers, [Schaanning] 1206
youthful blood in treatment of, 300—ab
CANTHARIDES poisoning, ease of, 50
CAPILLARIES and acidosis, 1012—E
circulation in, [Leriche & Policard] 825
functional activity of capillaries and venules, [Hooker] 63
regulation of blood flow in, 1842—E
CAPILLAROSCOPY, [Weiss] 898
CARBOHYDRATES in boiled vegetables, [O'Reilly & McCabe] 1276
in food, determination of, [Myers & Croll] 1706
metabolism and diabetes, [Wishart] 67
metabolism, intermediate, [Stepp & Lange] 901, [Stepp & Zumbusch] 901
CARBOHYDRATES to promote flow of milk, [Eyzaguirre] 1138
CARBON dioxid absorption curve in anemia, [Barr & Peters] 892
dioxid, administration of carbon dioxid after anesthesia and operation; acid-base regulatory mechanism, [Reimann & others] *437, [Henderson & others] 672—C
dioxid, distribution of, between cells and plasma, [Means & Woodwell] 617
dioxid, function of red blood cells in transport of, 796—E
dioxid snow in dermatology, [Vignat] 898
monoxid asphyxia, management of, 693—E
monoxid, effects of, on eye, [Wilmer] 817
monoxid in blood, determination of, 1588
monoxid poisoning, [Legry & Lermoyez] 72, 1022, [Laignel-Lavastine & Alajouranine] 1616, [Forbes] 1706
CARBUNCLES, [Phillips] 479
CARCINOMA: See Cancer
CARDIORENAL DISEASE: See under Heart and Kidney
CARDIOSPASM with enormous dilation of esophagus, [Snodgrass] 1275
CARDIOVASCULAR DISEASE and arteriosclerosis, their relation to infectious diseases, [Ophüls] *700
cardiovascular pathology in 1920, [Ribierre] 1282
etiology of, [Barach] *1211
syphilis plus febrile rheumatism as factor in, [Minet & others] 1863
CARIES of symphysis and pubic bone, [Speyer] 415
of upper vertebrae, [Rümke] 626
CARLIER, VICTOR, death of, 257
CARLSBAD and other health resorts, 1590
CARMINATIVES, aromatic, how do they affect the organism? 248—E
CARNEGIE Library at University of Paris, dedication of, 257
CAROTINEMIA, danger of confusing bile, blood pigments and, 114—E
CAROZZI, head of department in Labor Bureau, 664
CARPAL scaphoid, dislocation of, [Ewing] *1078
CARREL-DAKIN technic, army experiments with, 1727—ab
CARRIERS: See under names of diseases, as Dysentery carrier, Typhoid carriers, etc.
CARRIERS, blood germ carriers, [Escomel] 1286
mechanism of bacillus carrier state, [Bloomfield] 474
CARVACROL, toxicity of, [Livingston] 1610
CASCARA sagrada, action of, [McGuigan] *513
CASEINOGEN, a simplified culture medium, [Norris] 69
CAST, plaster rope cast, [Gordin] 1196
CASTOR BEAN as poison, 1364
CASTOR OIL, action of, on uterus, [Cooper] 335
in induction of labor, 814
CASTRATION, effect of nursing and, on uterus, [Kuramitsu & Loeb] 1608
subsidence of breast cancer after, [Reynès] 1432
CATALASE in intestinal diseases, determination of, [Norgaard] 904
CATAPHRENIAS, [Austregesilo] 969
CATARACT, medical treatment of, [Mezzei] 73
CATGUT, Muscatella method of sterilizing catgut and silk suture material, [Greco] 1713
production of surgical catgut at London hospital, 1587
CATHETER, gastroduodenal, new, [Levin] *1007
injection, new, [White] *931
CATHETERIZATION of ureters through open bladder, [Phelip] 1712
to facilitate, [Tilli] 413
CAUSALGIA, [Tinel] 1434
treatment of, [Turco] 1435
CECUM and colon stasis, [Duval & Roux] 685
dilatation of, from incontinence of pylorus, [Dargein] 756
undescended cecum and vermiform appendix, report of cases, [Jonas] *1821
CELIAC infantalism, [Miller] 1371
CELLULOSE, destructon of, by aerobic bacteria, [Groenewege] 279
CEREBELLUM, cysticercus in, [Hausmann] 344
disease, planes sign of, [Söderbergh] 1439
vascular lesions of both cerebellar hemispheres, [Schaller] 475
CEREBROSPINAL FLUID and blood in general paresis, [Levaditi & Marie] 825
benzoin precipitation reaction in syphilitic spinal fluid, [Guillain] 208
benzoin reaction in, [Duhot & Crampon] 1281, [Guillain & others] 1324
benzoin reaction in, and hemoclasis, [Gastinel & Jacob] 1537
colloidal gold test, value of paretic curve in, [Thompson] 818
colloidal reaction in, [Bonsmann] 901
colloidal gold reaction, effect of antisyphilitic treatment on, [Warwick] 750
drainage, priority in use of, [Stokes & Osborne] 954—C
in cerebrospinal fever, [Shearer & Parsons] 754
in disseminated sclerosis, [Adams] 964
in 52 cases of congenital syphilis, study of, [Kingery] *12
in treated syphilis, [Moore] *769
iodin in, [Osborne] *1384
pressure of, [Kiely] *517, [Barre & Schrapf] 896
provocative reactions in, in neurosyphilis, [Solomon] 65
test for changes in protein content of, based on flocculation of lipoids, [Noguchi] *632
xanthochromia of, [Leschke] 1541
CEREBRUM: See Brain
CERIUM salts in tuberculosis, [Renon] 481
CERUMEN, medicolegal aspects of, 1693
CESAREAN SECTION in infected cases, [Brouha] 1283
or symphysiotomy, [Schwarz] 1806
pregnancy after, [Couvelaire] 552
repeated, [Titus] 1857
spontaneous delivery after, [Grosse] 141
technic of, [Martius] 75
CHADDOCK'S sign, [Ingram] 962
CHALMERS, ALBERT J., memorial library, 531
CHANCRE, extragenital, [de Almeida] 690
of cervix of gravid uterus, [Lantuéjoul] 142
on tonsil, [Maselli] 1374
spurious, [Stokes] 1039
CHANCROID, accurate diagnosis of, 317—E
serotherapy of, [Reenstierna] 277
CHAULMOOGRA OIL, constituents of, effective in leprosy, [McDonald & Dean] *1470
esters of, in leprosy, 248—E
influence of, on tubercle bacillus, [Kolmer & others] 1042
CHEESE, botulism from, [Nevin] 1042
poisoning from, [Hylkema] 148
CHEMISTRY, influence of, on medicine, 155—ab
examination in, [Johnson] 1854—C
physiological, some influences of French science on, [Lusk] *1
war in relation to, 532
CHENOPODIUM, technic of administration of, in hookworm disease, [Darling & Smillie] *419
CHEST: See Thorax
CHEWING versus smoking, 1579—E
CHICAGO, nutritional work in public schools of, [Rich] *998
CHICKENPOX, and herpes, [Carver] 895, [Harris & Dunderdale] 1535
atypical, [Iankoff] 341
in adult, [Rossen & Woodruff] 961
CHILD labor, juvenile employment, 256
right of child to damages for prenatal injuries, 1270—ML
CHILD-BEARING: See Labor; Obstetrics
CHILDREN, abandoned, in Paris, 879
curative play system for, [Schauffler] 1277
deaths due to accidents among, 955
defective, duty of parents to support, 613—M
development of Cuban children, 393
doses for, [Heering] 148
food and the child, 727—E
CHILDREN, food requirements of, [Holt & Fales] 404
hygiene, pamphlets on, 254
nutrition of, in Saxony, 881
orthopedics and surgery for, [Mouchet & Roederer] 411
physical and mental examination of schoolchildren, 948
recommendations on health provisions for, 955
schoolchild and his problems, [Johnston] 1703—ab
subnormal and psychopathic child, treatment of, [Lurie] *1386
welfare, children's seashore sanatorium, [Ausset] 140
welfare congress in Brazil, 1584
welfare, exposition on child welfare and maternity work, 1414
welfare in Belgium, 47, 393
welfare, international, 1585
welfare work in Poland, 1257
welfare work in Rio de Janeiro, 530
CHILE, practice of medicine in, 600
CHILEAN physician, feliowship offer to, 531
CHIMPANZEES, Teneriffe, 394
CHINA, first minister of public health in, 1585
medical education in, 330—ME
CHINESE physician visits association headquarters, 389
"CHIROPRACTIC" 184—E
an alleged conspiracy to enforce medical law, 403—MI
Bill for District of Columbia, 254
case of Miriam Rubin, *654, 659—E
chiropractors not licensed in West Virginia, 1021
fiction and medical facts, 659
Michigan turns down chiropractors, [Warnshuis] 1363—C
peculiar practitioners and medical freedom, [Diller] 398—C
problem, [Pinkham] 938—ab
taking chiropractic seriously, 385—E
CHLORIDS, blood formula with retention of, [Pruche] 620
content of blood serum in infants, [Scheer] 1716
in pneumonia, [Segura] 623
influence of thyroid treatment on elimination of water and chlorids in infants, [Schiff & Peiper] 1716
CHLORIN concentration of milk, effect of diet on, [Denis & Sisson] 1706
nature of, in urine, [Cameron & Hollenberg] 66
CHLOROFORM modifies action of epinephrin on heart, [Heinekamp] 271
CHLOROMA in children, [Mensi] 210
CHOLECYSTECTOMY, pancreatic cyst following, [Ballin & Saltzstein] *1484
with modified drainage, [Mayo] 406
CHOLECYSTITIS, [Ribas] 1286
association of hepatitis and, [Peterman & others] 545
chemically induced, [Mann] 475
clinical and surgical study of 40 cases of, [Warr & Sanders] 1424—ab
frequent coexistence of duodenal ulcer, appendicitis and, [Zweig] 901
CHOLELITHIASIS: See Gallbladder Calculus
CHOLEMIA and nitrous oxid, [Desmarest & Lascombes] 1200
CHOLERA, measures against, 1589
pathogenesis of, [Sanarelli] 210
permanganate pills in, [Mojumdar] 753
serologic study of cholera immunity, [Umemura] 67
vaccine, [Teagus] *243
CHOLESTEATOMA of pituitary gland, [Lockwood] *1218
CHOLESTERIN and gout, [Chauffard & Troisier] 1800
cycle in organism, [Chauffard & others] 273
in Blood: See Blood, Cholesterin in
local deposits of, [Chauffard & others] 823
CHONDRODYSTROPHY, hydrocephalus in, [Dandy] 616
CHONDROITURIA in pulmonary tuberculosis, [Dietl] 1543
CHONDROMA, [Deibet] 275
CHORDITIS fibrinosa, [Kelly] 479
CHOREA, [Wall] 70 [Moleen] 1129
eosinophilia in, [Berger] 1607
fatal, [Morquio] 1435
gravidarum, [Zachariae] 214

CHOREA, rheumatism and endocarditis, [Vinals] 73
Thornwaldt's disease and, [Yerger] *166
CHORIO-EPITHELIOMA, [Geist] 1708, [Colístro] 1865
ectopic, after vesicular mole, [Zimmermann] 415
CHUTRO, DR., in Madrid, 1116
CINCHOPHEN-CALCO, 245
neocinchophen and novaspirin in rheumatic fever, comparative therapeutic efficiency, toxicity and renal functional effects, [Hanzlik & others] *1728
CINNABAR for contrast suspension in roentgen-ray work, [Kopp] 418
CIRCUMCISION, ulcerated meatus in circumcised child, [Brennemann] 404
CIRRHOSIS of Liver: See Liver, Cirrhosis
CITY not liable for negligence at hospital, 1523—MI
not liable for wrongful acts of officers, 1126—MI
CLAUDICATION, intermittent, thermopenetration in, [Grünbaum] 829
CLERKSHIPS in surgery, [Webb] 56—ME
CLEVELAND hospital aud health survey, 383—E
medical education and practice in, 541—ME
survey and credit to Propaganda Department, 384—E
CLIMATE as adjuvant in treatment of pathologic metabolism, [Oswald] 1284
CLONORCHIOSIS, [Mebius] 974
COD LIVER OIL, 1009—E
effect of, on rickets, [Shipley & others] 617
COLD drinks, absorption of, [Boigey] 1047
COLDS, bacteriology of, [Bloomfield] 1532
catarrhal colds in relation to tuberculosis, [Warnecke] 1438
etiology of influenza and, [Schmidt] 624
etiology of acute nose, pharynx and tonsil inflammations, [Mudd & others] 1130
menthol and peppermint in acute catarrhal conditions of respiratory tract, [McGuigan] *303
modern substitute for shot gun prescription: polyalent vaccines for colds, 182—E
COLITIS, chronic, with secondary endocrine disturbances, [Grote] 1541
mucomembranous, [Lyon] 1281
postoperative intestinal diseases, especially colitis, [Goldschmidt & Mullcder] 762
ulcerative, complicating tuberculous meningitis, [James & Shuman] *240
COLLEGES, medical, recognition of, 1507
COLLES' LAW, value of Wassermann reaction in obstetrics and validity of, 1171—E
COLON, cancer of, [Lane] 273
cancer of, resection for, [Pauchet] 1199
dilatation, congenital, [Popper] 205, [Ladd] 545, [Provinciali] 1435, [Hoffmann] 1436, [Viscoutini] 1804
dilatation, congenital, in adult, [Johnson] 546
dilatation, spasm of sphincter ani as cause of, [Goebel] 761
fixation of right colon, [Duval & Grégoire] 1284
hernia of stomach, transverse colon and small intestine, [Lincoln] 818
inflation of, with carbon dioxide for roentgenography, [Béclère] 966
microcolon with atresia of ileum, report of case, [Kahn] *721
prolapse of, through anus, [Cassanello] 899
ulcer, [Soupoult] 825
COLORADO state board January examination, 1596
state board October examination, 263
COLORS perceived from sounds, [Ribon] 346
COLOSTOMY operation, [Burrows & Burrows] *647
COLOSTRORRHEA in pregnancy, [Del Vecchio] 1202
COLUMBIA, practice of medicine in, 1256
COLUMBIA SHORT STOP, 126—P
COMFORT station, 1174—E
COMMUNICABLE DISEASES: See Contagious Diseases
COMPLEMENT, preservation of, [Hammerschmidt] 973
COMPRESSED AIR motor, new occupational pain from handling, [Moren] 820
CONGO REGION, native population of, 807
public health in, 807
CONGRESS, Argentine medical congress, 531, 1020
Berlin session of surgical congress, 1589
child congress in Mexico, 188, 255, 462
child welfare congress in Belgium, 47
first Paraguayan medical congress, 1020
French medical congress, 879, 1585
hygiene, abandoned, 663
in Uruguay, 1584
inter-allied meeting of neurology society, 1256
international conference for nomenclature of diseases, 390
International congress of ophthalmology, 459, 1584
International congress of ophthalmology, dates changed for, 736
international congress on history of medicine, 188, 664, 666, 1507
interuational congress on physiotherapy, 121
international, on eugenics, 663
international, of medicine and pharmacy as applicable to army and navy, 124, 1021
International Sanitary Congress at Montevideo, 393
international urologic society, 601, 644
Italian Congress of Radiology, 390
national medical congress in Peru, 1508
National Public Health Congress, 1410
next Pan-American sanitary congress at Havana, 322
of American Physicians and Surgeons, Dr. Billings named president of, 459
of hygiene and demography, Greek, 664
of medical jurisprudence, 876, 1512
of radiology and physiology, 876
of surgeons held in Prague, 1590
on comparative pathology, 600
on comparative pathology, postponement of, 737
on pediatrics, of the Northland, 945
on school hygiene, 807
Spanish-Portuguese congress, 1257
surgical and medical congresses of Northland, 188
third Venezuelan Congress of Medicine, 255
world meeting on tuberculosis, 804
CONJUNCTIVA, infestation with filaria loa; report of case of filaria beneath conjunctiva and microfilariae in peripheral blood stream, [Bcgle] *1301
CONJUNCTIVITIS from hydrogen sulphid, 1031
molluscum, [Giffords] 1795
CONNECTICUT homeopathic November reciprocity examination, 330—ME
state board November examination, 471
CONSTIPATION: See also Intestine, Stasis
CONSTIPATION, action of cascara sagrada in, [McGuigan] *513
chronic, pain in iliac fossa with, [Donati & Alzona] 1201
colon functions and, [Soper] 682
CONSUMPTION: See Tuberculosis, Pulmonary
CONTAGIOUS DISEASES and medical curriculum, [Robinson] 1594—C
contamination of hands and other objects in spread of, further observations on secondary infections in hospitals, [Matousek] *1490
fumigation following, 745
situation in Prague, 394
CONTRACT practice among state officials, 948
practice in Germany, 188
practice, statistics of, 741
validity of, for services, 1269—MI
CONTRACTION RING dystocia, [Holzberg] *1654
CONTRACTURE, organic, arsenical treatment of, [Magaudda] 899
spastic adductor, [Debrunner] 1713
Volkmann's, of forearm, [Collins] 135
CONVALESCENCE, time of, 1793—MI
CONVULSIONS, decerebrate rigidity in man and occurrence of tonic fits, [Wilson] 409
posterior fossa tumors as cause of, [MacRoberts & Feinier] 1040
CORNEA, transplantation, study of, [Fleisher] 1322
CORPUS CALLOSUM, tumor of, [Tenani] 1619
CORPUS LUTEUM extract, [Näslund] 1054
extract in vomiting of pregnancy, [Cheinisse] 1538
intravenously, in nausea of pregnancy, [Hirst] *772
CORPUS STRIATUM, functions of, [Souques] 483
CORTEZO, C. M., monument to, 1411
COTTON seed meal, [Macy & Mendel] 337
COUGH, rubber-ball sound after, as sign of a cavity, [Bergmark] 1054
COUNCIL on Pharmacy and Chemistry in Netherlands, 737
COURT medical service, [Oliver] 1265—C
COUTO, Professor, tribute to, 1507
COXA plana, [Calve] 1863
CRAMPTON'S and Schneider's test, comparison of, [Scott] *705
CRANIOTOMY, decompressive, for pituitary symptoms, [Giannettasio] 1203
CRANIUM, fracture of, [Caldwell] 132—ab
fracture of, decompressive operation with, [Luccarelli] 1202
gaps in skull, [Mauclaire] 1049
hypertrophy of, unilateral, [Leri] 141
splinters of glass in face and, revealed by roentgen ray, [Sutherland] *1749
surgery, control of hemorrhage in, [Soules] *1826
CREAM, preparation of sugar-free cream for diabetic patients, [Smith & Sansum] *792
CREATIN and muscle tonus in man, [Hammett] *502
CREATININ coefficient in tuberculosis, [Raphael & Eldridge] 1794
CREATINURIA, and acidosis in diabetes, [Lauritzen] 903, 1719
in urine, determination of, [Goeckel] 1130
CREEPING ERUPTION, [Klauder & Green] 1274
CREMATION of human bodies, 600
CREOLE Female Tonic, 606—P
CRESOL, new method of adding cresol to antiserums, [Krumwiede & Banzham] 1322
CRIMINOLOGY, school of, 604
CROUP and measles, [Morquio] 413
syphilitic, [Arocena] 414
CROZIER, JOHN BEATTIE, 391
CRYOLOGY, [Lortat-Jacob] 1373
CRYOTHERAPY in dermatology, [Vignat] 898
CUBAN children, development of, 393
Medical Association, foundation of, 665
requirements for licensure, 470
CULTS, medical, menace of, 1677
medical science and publicity, 470—ME
tribute to, 1692
CURET, use and misuse of, [Fothergill] 479
CURIE, Marie, visit of, 530
CYANOSIS, cause of, [Lundsgaard] 903
congenital, [Moucalvi] 72
CYST, epidermoid, [Sherk] 265—ab
gas, of intestines, [Zuccòla] 1374
omental pseudocysts, [de Andrade] 622
CYSTICERCUS in cerebellum, [Hausmann] 344
subretinalis, case of, [Pillat] 625
CYSTIN, excellent results of supplementing deficiencies of beans by addition of, 1580—E
CZECHOSLOVAKIAN census, 1590
commission, 121, 187

D

DACTYLITIS, syphilitic, [Sellin] 1428
DAIRY, industry in the Netherlands, government control of, 1114—ab
DAMAGES allowed for loss of an eye, 888—MI
allowed physician for injury to knee, 265—MI
care required of an injured person, 131—MI
for unjustified seizure, 1692
right of child to damages for prenatal injuries, 1270—MI
DANGEROUS DRUGS ACT, 536
protest by British Medical Association against, 738
DARMACILIA Eye Remedy and Ointment, 52—P
DARWIN'S theory of orlgin of man, 1115, 1181, 1776
DAYLIGHT in schoolroom, [Jackson & others] 1785—ME
DEAF and dumb in Portugal, 1257
electric hearing devices for, 469
DEAFMUTISM, war, [Podestà] 72
DEAFNESS, fulminating, in inherited syphilis, [Portmann] 144
of Beethoven, [Schweisheimer] 1205
widely advertised "cure" proved untrue, 814
DEATH, method of determining approximate time of, [Vaughan] 608—C
DEFECATION, postprandfal, [Carnot] 1434
DEFECTIVES: See Feeblemindedness
DEFICIENCY DISEASES other than those due to a lack of vitamins, [Hess] *693
DEFORMITIES, developmental, [Noronha] 753
postural, [Bankart] 1534
DEGENERACY: See Feeblemindedness
DELAWARE state board November examination, 746
DELINQUENCY, juvenile, and mental defect, [Clarke] 270
DELIRIUM, acute, of emotional origin, [Benon] 412
in pneumococcus infection, [Damaye] 141
DELIVERY: See Labor
DEMENTIA praecox, arteriosclerosis in relation to, [Lie] 78
praecox, familial, with myoclonus, [Krabbe] 1544
praecox, fixation of complement in, [Magaudda] 146
praecox, heredity of, [Smith] 1720
praecox, pathology of, [Garin] 1375
præcox, phenolsulphonephthalein absorption in paresis and, [Weston] 476
DENTISTRY, dental crisis in Belgium, 1260
for all, 189
DENTITION, connection between pyretic conditions and, [Abels] 902
DEPILATORIES: See Hair, superfluous
DEPURATIVO D. C., 743—P
DERMATITIS from arsphenamin, 1420
factitious, 1854
recurring, of cheek, [Revaut & Rabeau] 755
DERMATOLOGY and venereology, progress in, [Milian & others] 1136
dermatologic case for diagnosis, 1517, 1854
dermatologic etymology, [Fox] 1274
film treatment in, [Kissmeyer] 1439
outline of an adequate training for specialty of syphilology and, [Pusey] 798
DERMATOSES in the emotional, [Brocq] 755
DERODIDYMUS, case of, (Dicephalus), [Beach] *1748
D'ESPINE SIGN, significance of, [Balyeat] *988
DEXTRIN in infant feeding, [Clsmondi] 1539
DEXTROSE, intraperitoneal injection of, in marasmus, [Moore] 1612
DIABETES INSIPIDUS a hypopitultary syndrome, [Marauon] 1321
and infantilism of pituitary origin, [Antonelli] 73
and puberty, [Silvestri] 1864
tissues in, 596—E
with glycosuria, [Evans & Wallis] 479
DIABETES MELLITUS, acidosis in, Labbe] 824
alimentary hemolysis in, [Widal & others] 967
and cold, 797—E
and gout in 1921, [Rathery & Glénard] 1802
aud infections, [Castronuovo] 211
and trauma, [Diez] 1435
angina pectoris of, [Kahn] *570

DIABETES MELLITUS, carbohydrate metabolism and, [Wishart] 67
carbohydrates in, [Labbe] 1802
coma in, [Høst] 346
coma, massive doses of alkali in, [Cary] *1393
creatinuria and acidosis in, [Lauritzen] 1719
diet and exercise in, [Allen & Wishart] 817
diet, high fat diet in, [Newburgh & Marsh] 134
diet, objects and method of diet adjustment in, [Woodyatt] 1605—ab
diet, protein and carbohydrate equivalents in diabetic dietary, [Ewing] *300
etiology and treatment, [Padilla & Paz] 277
experimental; influence of age on function of pancreas, [Allen] 614
experimental; influence of pregnancy on, [Allen] 614
experimental studies, [Allen] 269, 334
familial, [Landis] 1606—ab
fasting treatment of, [Rathery] 1199
fat metabolism in, [Blau & Nicholson] 134
glycosuria threshold in, [Faber & Norgaard] 1142
glycuronic, [Weber] 554
influence of menstruation on food tolerance in, [Rosenbloom] *1742
operations on diabetics, [Berkman] 407
outlook in study of, 382—E
polyuria in, 1122
preparation of sugar-free cream for diabetic patients, [Smith & Sansum] *792
prevention of, [Joslin] *79
quantitative tests for diabetic urine, [Claudius] 1439
raying suprarenals in, [Baumer] 1718
reduction of sugar in blood and urine by roentgen irradiation of suprarenals in, [Dresel] 760
relation of hyperthyroidism to, [Fitz] 1040
relations between creatinuria and acidosis in, [Lauritzen] 903
retinal blood vessels in, [Williamson] 619
retinitis of, [Wagener & Wilder] *515
significance of, in mental disorders, [Pike] *1571
sodium lactate in, [Curatolo] 484, 674
tonsil infection as cause of, [Blodgett] 1132
treatment of, [Mason] 203, [Bulbrich] 970, [Motzfeldt] 1439
treatment, present status of, [Richter] 624
with hirsutism, [Emile-Weil & Plichet] 1282
DIAGNOSIS, physical, plea for better understanding of, [Tieken] *1734
pulse rate in relation to metabolism and, 181—E
through small particles, [Josefson] 903
DIARRHEA and anhydremia in infancy, 794—E
choleriform, in infants, [Marfan] 343
choleriform, kidney lesions in, [Slobozlano] 1711
due to flagellate, [Boeck] 893
fat, in an infant, [Woringer] 553
intravenous injections of calcium chlorid in, [Neumann] 762
resulting from biliary insufficiency, [Lewis] 206
DIARSENOL, Silver, 1353
DIET: See also Nutrition and under names of diseases
DIET, changes in blood with, [Utheim] 1206
effect of restricted diet on health, 668
ophthalmia and, [Osborne & Mendel] *905
ophthalmia associated with a dietary deficiency in fat soluble vitamin, [Wason] *902
qualitative and quantitative errors of, 640—ab
DIGESTION, disturbance of, treatment of, [Blenfalt] 1281
DIGESTIVE TRACT: See Gastro-Intestinal Tract
DIGIFOLIN-CIBA not admitted to N. N. R., 952—P
DIGITALIS, action of, [Vaquez] 1282
effect of, on blood pressure, [Harris] 1861
Fat-Free Squibb, Tincture of, 655
in diphtheria contraindicated, [McCullough] 682
new digitalis body, [Dooley] 1610
therapy, [Luten] *26, [Eggleston] 268
tincture of digitalis and the infusion in therapeutics, [Weiss & Hatcher] *508
DIPHTHERIA, abnormal forms of, [Darré] 1324
antitoxin, free, [Walker] 1704—ab
among immunized children, [Blauner] 1607
and measles, [Ponce de Leon] 484
antitoxin and diphtheria bacilli, 41—E
antitoxin in, use of, [Park] *109
antitoxin to ward off complications in mumps, [Bonnamour & Bardin] 483
bacilli, avirulent, not pathogenic, [Moss & others] 819
bacilli, classification of, based on toluidin blue-iodin method of staining, [Albert] 201
bacilli, modification of stain for, [Albert] *240
bacillus, bactericidal activity against bacilli of whole coagulable blood of immunized animals, [Solis-Cohn & Solis-Cohn] 1605—ab
carrier of unusual type, [Allen & Wood] 69
carriers, [Weaver] *831, [Simmons & others] 1322, [Moss & others] 1532
carriers, hot air treatment of, [De la Riviere] 1800
carriers, treatment with mercurochrome, [Gray & Myer] 1321
diagnosis by rapid cultural method, [Frost & others] *30
digitalis contraindicated in, [McCullough] 682
effect of injection of nonspecific protein on diphtheria virulence, [Calhoun] 678
heart block in, [Allen] 895
immunization against, active, [Jeidell] 1429
immunization, committee seeks data on, 321
immunization tests with Behring's diphtheria toxin-antitoxin mixture, [Bieber] 624
in new-born, [Rominger] 1543
in Philippine Islands, [Gomez & others] 68
in young infants, [Hermann] 147
lessons in management of, as suggested by study of 147 fatal cases, [Weaver] *1651
of middle ear, [Van Horn] *32
of wounds, [Lör] 346
paradoxic Schick reaction in children, [Opitz] 1716
paralysis following, [Lozano] 73, [Halleck] 1429
prophylaxis of, in boarding school, [Martin & Loiseau] 1324
Schick test, [Zingher] 271, [White] 960, [Chown] 1705, [Bauer] 1859
toxemic stage of, [Harding] 1371
toxin and antitoxin, testing of, [Glenny & Allen] 822
toxin-antitoxin as prophylactic, 196
toxin-antitoxin immunization in, [Park] 1859
DIPLOMA and licenses stolen, 1111
doctor robbed of, 1111
for sale, 461
DISEASES, nomenclature of, 1199
seen through treatment, [Leven] 1049
sex as factor in pathogenesis of, [Ehrström] 1288
DISINFECTION office of Japanese Government, 664
picric acid as skin disinfectant and antiseptic, [Hewitt] 1529
DISODIUM ethyl arsinate (nonarsone), spirocheticidal value of, [Nichols] *1335
DISSECTION, method of preparing bodies for, 1595
DISTRICT OF COLUMBIA January examination, 1365
Medical Society, dedication of building of, 454
October examination, 262
DIURESIS, calomel, [Høst] 348
effect of sodium chlorid on, [Brunn] 77
DIVERTICULA and diverticulitis of sigmoid, [Pickens] 1423—ab
duodenal, [Lewis] *783
of jejunum, [Terry & Mugler] 1192
open Meckel diverticulum, [Bókay] 972
DOCIMASIA, pulmonary, [Carrara] 969
DRESS, a matter of, 935—E
DRINKING and eating arcs in brain, [Shaklee] 748
DROPSY: See also Edema
DROPSY, differential diagnosis of fetal hydrops universalis, [Krafka] 1053
DRUG addict, [Neff] 961
addict, problem of, [Prentice] *1551
addicts under care of physicians in Pennsylvania, some statistics of, [Blair] 608—C
biochemical tests for active principle of plants, [Bourquelot] 341
Dangerous Drugs Act, 533
energy-generating, [Bardet] 824
habit indulgence in certain cactaceous plants among the Indians, [Blair] 1033
narcotic, abuse of 601
narcotic, campaign against, 1025
narcotic, exportation of, 189
narcotic, report of committee on narcotic drugs of Council on Health and Public Instruction, 1669
narcotic, resolution on, 1684
poisonous plants as household medicines and charms, [Van Andel] 902
prices in Hungary, 464
ready-made medicines, 1347—ab
sale of, by physician issuing prescriptions, 333—MI
DRUGLESS cult, university chair for, 737
healer, and Dr. Mayo, [Mayo] 814—C
DUBOIS' IODOLEINE, 655
DUCTLESS GLANDS: See also Secretions, Internal
DUCTLESS GLANDS constituents, chemical influence of, [Kendall] 1196
heart findings in pathologic conditions of, [Zondek] 760
radiotherapy of, [Beclere] 897
DUODENUM, adhesions between stomach, gallbladder and, clinical picture from, [Agote] 277
adhesions, disturbances from, [Foerster] 1140
anatomy of pancreas and, [Aberberry Oneto] 277
atresia of, congenital, [Koos] 75
atresia or enterospasm, [Schaefer] 691
bacteriology of fasting stomach and, [Poppens] 817
carcinoma of, [McGuire & Cornish] 64
experiences with Lyon test (magnesium sulphate lavage of duodenum) for determination of gallbladder disease, [Crohn & others] *1567
introducing salts into, [Einhorn] 681
obstruction, chronic, [Kellogg & Kellogg] 1858
ptosis of third portion of, with obstruction at duodenojejunal junction, [Quain] 64
sarcoma of, [Salis] 972
secretion, reflux of, after period of activity of the empty stomach, [Jarno] 559
secretion, urobilin in, [Strauss & Hahn] 762
study of isolated duodenal segment, [Hammett] 1608
Ulcer: See also Stomach Ulcer
ulcer, chronic, [Rovsing] 900
ulcer, frequent coexistence of cholecystitis, appendicitis and, [Zweig] 901
ulcer, hard, [Schalij] 902
ulcer in infancy, [Palmer] 1857
ulcer, indications for operation in, [Finsterer] 558
ulcer of second portion of, [Parturier & Aimard] 824
ulcer, strain causes rupture of, [Ewart] 1197
ulcer, syphilitic, [Spence] 1536
DUPUYTREN'S CONTRACTURE and arthritis deformans, [Ledderhose] 1326
pathogenesis of, [Krogius] 148
DURET, HENRY, death of, 1414
DUST in expired air, 1360
relation of mineral dusts to tuberculosis, [Gardner] 201
DUVAL'S conference on emergency surgery, 603
DWARFISM, renal, [Barber] 1861
DYES, asthma in fur dye-workers, [Gerdon] 147
DYSENTERY, amebic, appendicular syndrome in, [Bonnet & Michon] 1372
amebic, complement fixation in, [Scalas] 969
amebic, in Siam, [Mendelson] *305
amebic, in young boy, [Young] 550
atypical ameba causing dysenteric lesions, [Chatterjee] 1132
bacillary, serum treatment of, [Flexner] *108
bacillary, vaccination against, [Vincent] 964
bacillary, with diphtheritic membrane in vagina, [Lemann] 1274
bacillus in urine of infant, [Creighton & others] 819
benzyl benzoate in protozoal dysentery, [Haughwout & others] 68
carriers of pathogenic amebas of, 1405—E
ipecac in, [Smith] 127—C
pancreatic disturbances in, [Glaessner] 213
sequels of, [Ohly] 1287
vaccine therapy in, [Karström] 1054
DYSMENORRHEA and helminthiasis [Léo] 1199
of appendicular origin, [Cortés Lladó] 1286
DYSPEPSIA, [Ramond & Jaquelin] 1800
DYSPNEA, carbon dioxid tension of blood in, [Peters & Barr] 892
cardiac, respiratory mechanism in, [Peters & Barr] 269
from stenosis in children, [Schäfer] 1204
in cardiorenal disease, [Bezançon & others] 1802
paroxysmal, [Lhermitte & others] 620
DYSTHYMIA, constitutional, [Benon] 825
DYSTOCIA, case of contraction ring dystocia, [Holzberg] *1654
cervical, [Carlevaro] 1713
DYSTROPHY, primary genital dystrophy, [Castex & Waldrop] 277
progressive, muscular, of long duration, [Rice] 1613
vulvar, [Stajano] 1051

DEATHS

Abbott, Alfred Wells, 465
Ablett, Joseph Henry, 1120
Abraham, Phineas Simon, 1775
Abston, John Thomas, 1853
Ackley, Lloyd, 396
Adams, John Franklin, 395
Aguilu, Jorge, 1185
Aiken, Hugh Kerr, 325
Albu, A., 531
Aldrich, Flora L. S., 1028
Allaben, John Elmer, 670
Allan, Benjamin A., 1120
Allbritain, James Way, 882
Allen, Bradford, 1513
Allen, Charles Aden, 1362
Allen, Larned Van Patten, 1119
Allen, Thomas Potts, 1591
Allis, Oscar Huntington, 1591
Allyn, George Washington, 810
Ambler, Samuel B., 606
Ambrose, Jacob T., 395
Andersen, Carl H. Lowell, 951
Anderson, Charles Alfred, 950
Anderson, Frank, 1119
Anderson, Paul Jerome, 1417
Andrews, Oren, 1262
Arbery, William Buchanan, 395
Armitage, Thomas L. F., 1853
Armstrong, John Monroe, 1417
Arner, Alfred Louis, 192
Arnold, Carl Anderson, 1184
Arnold, Harry J., 1318
Ashworth, John Paul, 395
Atherton, Alfred Bennison, 951
Atkins, Will T., 742
Ayer, Alveno Dorrance, 1513
Bailey, John A., 1696
Bains, Louis W., 882
Baker, William H., 1184
Baldwin, Frederick R., 259
Ballard, D. J., 395
Ballintine, Eveline Phebe, 1853
Barefoot, Julius Jackson, 742
Barker, William L., 1416
Barrena, Avelino, 1775
Barron, William Marshall, 1318
Bartlett, William Allen, 259
Baruch, Simon, 1696
Baskin, Herschel Virgil, 1262
Battle, Robert I., 537
Baxter, J. H., 1185
Bayley, Guy Carlton, 1696
Beardsley, Edmond Joseph, 882

Beasley, Hamer S., 537
Beattie, Henry Osborne, 1028
Beauchamp, Edward Douglas, 1318
Beauclerk, William Preston, 1028
Becerra, León, 877
Beckh, Gustavus C., 1696
Beckley, Chester Charles, 605
Behla, R., 601
Behm, K. S., 945
Behrens, W., 945
Beiin, J., 1259
Bell, Frank, 536
Bellwood, William S., 192
Benninghoven, W., 390
Béraneck, E., 877
Berge, Philip, 605
Bergeron, Pierre Norbert, 1416
Bernasconi, L., 806
Berry, Irwin, 536
Berry, William P., 1028
Berti, G., 1411
Bettingen, Joseph W., 395
Betts, Joseph Barton, 537
Biedler, Hampson Hubert, 465
Bierwirth, Julius Carl, 1416
Bilis, Joseph T., 951
Bingham, Hugh Smith, 810
Binkley, Thomas G., 465
Bird, John Clifton, 192
Black, Robert Alexander, 605
Black, Stanley P., 810
Blagborne, Fletcher, 1028
Blake, Madison LeGrande, 1417
Blalock, Yancey C., 1591
Blanchard, Benjamin Seaver, 326
Blayney, Frederick Hamilton, Capt., M. C., U. S. Army, 882
Bloch, I., 1021
Block, William Saphus, 670
Blough, Albert S., 1853
Blumenthal, Mark, 396
Boardman, William Elbridge, 326
Boddie, Newton D., 125
Boe, Alfred N., 1262
Boisvenu, Phillias H., 537
Bolin, Jesse Albert, 1780
Bolink, Elbertus, 1120
Bomberger, George L., 882
Bongartz, Joseph, 1185
Bonnet, William Mervin, 465
Booker, William David, 950
Boone, Frank C., 1513
Borelius, Jacques L., 1179
Borsody, Frank, 1591
Bourquelot, Elie, 531
Bowbly, Frederick E., 192
Bowen, William Henry, 1262
Boyce, William Thomas, 1262
Boyd, Frank Putnam, 259
Brady, Eliot Thomas, 1362
Brady, James Francis, 1513
Bragdon, George Albert, 882
Branch, Hilem E., 810
Brandon, George W., 259
Breckington, Mary A. Seymour, 326
Breitenfeld, Siegismund, 1513
Brennerman, Michael B., 670
Brickley, Edward W., 396
Brindle, Archie Clarence, 326
Briner, Charles D., 1696
Brooks, James E., 1696
Brooks, William Allen, 1591
Brother, Ferdinand, 259
Brown, Charles M., 1262
Brown, Edward Floyd, 396
Brown, George W., 192
Brown, Hemon Hampton, 1119
Brown, John Parley, 536
Brown, Luther, 1362
Brown, Robert Merida, 1362
Brown, William Dickison, 1513
Brown, William McFarland, 606
Brownfield, James H., 465
Brownfield, Robert Roy, 1416
Bruce, William John Ironside, 1775
Brunner, H., 664
Bryant, Frank Augustus, 1591
Brydon, John F., 192
Bucher, P., 737
Buckley, Willis Vincent, 1185
Buechner, William Herman, 51
Buell, Bernard Blaine, 882
Bullitt, Thomas W., 1185
Bumps, Wilbur Allerd, 1120
Burch, John Alfred, 1591
Burge, William J., 1696
Burgess, John Louis, 326
Burman, Henry Frank, 536
Burnell, John J., 605
Burton, Isom, 810
Bushnell, Edward Henry, 465
Buster, Oliver C., 125
Buys, Thomas Alexander, 1318
Byron, Edward Herbert, 810
Cadwallader, Mary Emma, 1853
Caffee, Bennet V., 259
Caldwell Charles, 882
Caldwell, Daniel Greenlee, 1696
Caliaway, James Edwin, 1184
Callinan, Daniel F., 951
Camara, Octacilio, de Dr., 664
Cameion, Thomas Patterson, 1184
Cameron, Charles Alexander, 805
Camors, Dr., 255
Campbell, George M., 258
Campbell, William T., 882
Capps, Melville B., 1853
Cardeza, John Martinez, 1120
Carlier, Victor, 257
Carney, Albert Clayton, 882
Carpenter, Elbridge Gerry, 1184
Carr, Henry H., 1185
Carrico, Lewis C., 951
Carroll, Henry Colistus, 1120
Carter, John Battle, 1780
Cartwright, George Arthur, 1513
Case, Charles Elijah, 1028
Casto, Okey Johnson, 1362
Castro, P. N., 189
Catta Preta, L. A. de O., 122
Cavazzani, A., 1021
Cecikas, J., 390
Chairuttini, E. Dr., 1775
Chamberlin, Henry Harrison, 52
Chamberlin, Jehiel Weston, 1853
Chandler, Charles Mount, 742
Chapman, George Memory, 396
Chapman, William E., 537
Chase, George W., 1262
Chase, Robert Howland, 950
Cherry, Emil T., 396
Child, Edward Moses, 742
Chilson, Benjamin, 882
Chisholm, Lawrence Chesley, 1262
Chisolm, Alfred Thomas, 670
Choppin, Arthur R., Capt., M. C., U. S. A., 882
Clark, Elbert Judson, 1591
Clark, Nimrod T., 1781
Close, George Hastings, 951
Coan, Titus Munson, 1513
Coburn, Charles Wilmot, 1119
Cochran, William G., 1513
Coe, John A., 1513
Coffin, George Oliver, 125
Cogan, Philip, 125
Colony, Frederick Elmer, 465
Commiskey, Leo John Joseph, 1262
Concetti, L., 189
Condon, Amasa S., 395
Conn, Joseph, 951
Connor, Henry J., 1781
Conrad, Andrew O., 192
Conson, Augustus H., 1028
Conway, Francis Philip, 882
Cook, John Wallace, 258
Coons, Llewellyn, 1185
Cooper, Harrison Free, 259
Cooper, Marcus Lindsay, 810
Cootey, Thomas Albert, 396
Corbett, Vander K., 1028
Cornwell, Benjamin Willis, 125
Costello, William Joseph, 1028
Cott, George Ferdinand, 1027
Cottell, James Ruffin, 882
Couch, Louis Bradford, 1417
Coveny, Matthew J., 536
Covert, Rynear Beach, 1417
Cowardin, William James, 1591
Cowie, Walter Armstrong, 742
Cox, George Howell, 396
Coy, Lewis D., 1362
Craig, Thomas Harwell, 670
Craig, Willis Parker, 258
Crawford, Albert C., 950
Crawford, David Agnew, 1028
Criado, Louis Fernandez, 605
Cristman, Harvey J., 1262
Crocker, Louis Allen, 1185
Crowe, Pink P., 465
Crowley, James F., 1028
Crozier, John Beattie, 391
Cummings, Harry Joseph, 1696
Cummings, William Willis, 1591
Curtis, James Webb, 1417
Currier, David M., 1120
Cutright, Dennis M., 1184
Dade, Waller Holladay, 258
Daels, O., 601
Dale, Wallace H., 950
Daly, James M., 1318
Daniels, C. E., 737
Darling, Abner M., 742
Davenport, Henry L., 465
Davis, George Henry, 1120
Davis, Jerome M., 1184
Davis, John, 192
Davis, John Howard, 670
Davis, Oscar, 1780
Davis, Theodore Garrison, 606
Day, James Merton, 465
Day, Robert Bolt, 1513
Dean, Frank Edward, 1028
De Bengoa, B. Becerro, 1411
Dchoff, John Wesley, 742
DeLap, William L., 396
Delfin, M., 1412
Del Gaizo, M., 1021
Demarest, Cornelius Lydecker, 1318
De Nancrédc, Charles Beylard Guérard, 1262
Dessau, Solomon Henry, 1853
De Vilhiss, Frank, 259
DeWees, Leander, 1780
De Weese, John M., 1185
Dewees, Nathan Moody, 670
DeWitt, James D., 951
Dice, James P., 1696
Dicker, Willard Woodard, 742
Dickerson, James W., 1262
Dickson, Albert Pickett, 1416
Dillon, John Francis, 536
Dinkelspiel, Edgar Meyer, 1696
Dobbins, George S., 396
Dodds, Benjamin Claude, 742
Donald, James Marion, 1417
Donaldson, Austin Ira, 882
Donovan, Jeremiah, 465
Douglas, Orlando Benajah, 125
Doyle, Thomas C., 1853
Drake, Alfred T., 1185
Dreibelbis, Samuel L., 1362
Dreifus, Emanuel, 52
Drewry, Henry N., 1318
Drexler, William, 465
Duboff, William Samuel, 605
Dudley, William Jenks, 1185
Duggar, Reuben Henry, 1591
Dulaney, Joshua Lambert, 1853
Dulles, Charles Winslow, 1513
Duncan, James Edward, 810
Dunlop, James Donad, 882
Dunn, Charles E., 192
Dunn, Cornelius B., 742
Duret, H., 1412
Dutton, Charles F., 395
Dutton, Frank A., 52
Dutton, Julius Maltby, 810
Eastman, Fred Ward, 325
Eckelman, Frederick C., 192
Edgar, Lambert Holland, 537
Edmunds, Ira Leslie, 396
Edmundson, Van O., 1781
Edwards, Franklin Wallace, 1513
Egeberg, Julius Columbus, 951
Ehlinger, Otto, 810
Eichberg, Stanley Beckwith, 1028
Elder, John G., 465
Ellard, William F., 1696
Elliot, Charles Frederick, 1262
Elliott, Remus G., 1513
Elliott, William, 396
Ellis, Charles Arthur, 951
Ellis, Ellsworth S., 258
Ellis, George E., 1185
Ellison, George W., 465
Elridge, Cornelius S., 1262
Ely, Lucien C., 1591
Emerson, George, 1262
Emmet, Bache McEvers, 1780
English, Edward W., 258
English, Robert B., 1028
Enloe, Isaac N., 670
Escobar, E. A., 737
Escudé, F., 1112
Ess, George V., 670
Esterly, Daniel Edward, 1417
Evans, Allen D., 1853
Everhart, Oliver T., 1513
Ewing, James H., 537
Eyman, Joseph L., 810
Fahey, Daniel Vincent, 951
Fairly, Peter, 537
Falconer, Alexander Henry, 742
Farmer, John Coy, 1119
Farmer, John L., 52
Farr, Henry M., 951
Faxon, Eudora Meade Draper, 670
Federn, J., 122
Ferguson, James, 1184
Ferguson, Kenneth M., 1362
Ferguson, Joseph Jerome, 882
Ferguson, Roy Harrison, 1028
Ferguson, Walter Perry, 742
Fernández Chacón, A., 601
Fernlund, Abraham, 882
Ferris, Charles A., 536
Fetter, Samuel Prichard, 950
Few, Ignatius S., 396
Fewsmith, Joseph, 1262
Ffoulkes, Bruce, 950
Finch, John B., 1781
Fields, Jacob A., 1696
Fiery, Samuel V., 1262
Finley, Eugene F., 326
Fisher, G., 1775
Fitch, Alpheus B., 951
Fitch, Willard Rodney, 1120
Fitzgerald, John Edward, 537
Fleming, David Gibbs, 1120
Floyd, Alvah Giles, 125
Foltz, Tobias H., 606
Forrest, John H., 670
Fort, John Irving, 192
Fortunati, A., 390
Foster, Barzillai Bean 670
Foster, J. C. B., 1120
Foulk, Clara Ferguson, 606
Foutche, Charles Russell, 1362
Fox, Joseph F., 1513
Fraenkel, E., 1179
Frame, Clarence N., 326
Franklin, David, 1318
Freeman, Roscoe E., 192
Freeman, Walter Jackson, 125
Freise, E., 1179
Frei, Emil, 1853
Frenz, Wihelm D., 192
Froatz, Charles E. J., 125
Frost, Edward S., 1513
Fuchs, Frederick Louis, 259
Fuller, John Markle, 1028
Fuller, William T., 742
Gabbert, William Thaddeus, 1119
Gaertner, G., 1021
Gaines, Adelbert M., 1028
Galeotti, Gino, 1411
Garcia, Juan Pablo, 255
Garten, Frank, 1184
Gardiner, George Washington, 882
Garlick, Henry Stow, 670
Garrett, Edward H., 742
Gavino, Angel, 189
Gelb, Morris Joseph, 192
Gentes, L., 1179
Gerhart, Tobias S., 810
Gibson, Henry C., 326
Gibson, William F., 465
Gilbert, George B., 1362
Gilbert, Richard B., 1591
Gilchrist, Rosetta Luce, 810
Gillette, Arthur J., 1027
Gilliatt, William B., 606
Giovannini, S., 460
Gladney, Samuel M., 1318
Glass, Miles Minor, 1318
Glass, Montgomery W., 192
Glaubit, Robert William, 1028
Goeringer, Raymond F., 465
Goodale, Addison W., 1513
Goodman, Erastus G., 1417
Goodman, Thomas B., 1513
Goodwin, William Henry, 606
Gordon, Bernard George, 1591
Gordon, John Stewart, 325
Gordon, Leigh R., 1513
Gottman, Charles Augustus, 882
Gourley, Andrew J., 1853
Grabill, John Franklin, 1591
Grady, Eliza, 1781
Graffin, John Cochran, 1513
Graham, Charles Everett, 396
Graham, Marcus Clay, 1591
Graham, William Beer, 1513
Grant, Henry Horace, 395
Grant, James Henry, 259
Gray, Thomas, 810
Green, Elijah V., 1853
Green, George Spaulding, 810
Green, John D., 882
Green, John H., 1417
Green, Peyton B., 326
Greene, Frances Marx, 606
Greene, Henry Harper, 1781
Greer, Julius Manson, 396
Gregory, Idris Helen Briggs, 537
Griffith, William Willis, 396
Grimes, Honora Robbins, 52
Groedel, Dr., 1775
Groom, Evan L., 742
Grünhut, Dr., 737
Guella, L., 531
Guinan, William James, 465
Gunn, Malcom, 326
Guthrie, Alexander, 326
Haeckel, H., 737
Hager, John Ford, 1262
Haines, Charles Chandler, 1362
Hakanson, Alfred, 951
Halberstadt, George H., 1362
Hall, John B., 259
Hall, William Charles, 52
Hall, William Fletcher, 810
Hallager, F. K., 1411
Halsey, Luther M., 950
Halterman, Charles W., 1591
Hamer, Safford R., 1120
Hammack, W. F., 1262
Hanchett, Juliet E., 1028
Happel, William Henry, 52
Harmon, Robert W., 465
Harper, John Erasmus, 258
Harper, John James, 1591
Harris, Bartlett Yancy, 1853
Harris, William, 52
Harrod, Nelson Gaddy, 1780
Hartman, John C., Jr., 1318
Hartz, Harry J., 1120
Harvey, Austin L., 1262
Harvey, Cyrus C., 670
Hatfield, Frank Proal, 605
Hausman, Joseph, 606
Hawkins, Alexander Boyd, 1362
Hawley, George W., 1262
Hawley, Henry Warren, 951
Hay, Rilla Grafton, 1185
Hayden, John H., 742
Hayes, George Douglass, 465
Hays, John Edward, 1781
Hazelwood, Lee, 1120
Heath, Edward Allen, 52
Heath, Joshua M. S., 670
Hedges, Thomas M., 742
Hedges, William L., 396
Helbig, Oscar H., 742
Held, Henry F., 1417
Hellenstein, Herman, 192
Helm, Squire LaRue, 51
Helme, Thomas, 395
Hemphill, Sharp Wilson, 882
Hendee, Leslie Horatio, 326
Henderson, Archibald, 810
Hendricks, William S., 1591
Henkel, Haller H., 536
Hensel, Eugene A., 1028
Hepburn, Sewell S., 1262
Hermann, Christian H., 1781
Hershman, Charles Edward, 52
Hess, Henry Beemokes, 395
Hess, Nelson D., 1781

Heym, Rudolph, 1513
Hicks; Harvey Van Ness, 1362
Hierstein, William Joseph, 326
Hill, George R., 1262
Hill, Hugh, 606
Hill, Laurlston Hardin, 1591
Hill, Morris Jasper, 1185
Hill, Russell S., 1591
Hillman, Walter Benedict, 605
Hines, Leo J., 1513
Hoadley, William J., 1513
Hobbs, Arthur G., 951
Hobbs, Charles Louis, 1185
Hochrein, George Walter, 951
Hofmann, Theresa Chestora Snyder, 125
Hoisholt, Andrew William, 125
Holgate, Charles Ernest, 52
Holl, M., 531
Hollingsworth, John H., 395
Hollister, Samuel A., 1853
Holman, Thomas Aaron, 1028
Holmes, Joses B. S., 465
Holmes, Benjamin Franklin, 810
Holmes, Benjamin Franklin, 882
Hook, Orlando Camellia, 326
Hopkins, Hiram, 465
Horne, William N., 192
Horton, George Elmer, 1780
Horton, Jackson David, 537
Hossack, Thomas, 810
Hough, Joseph W., 52
House, Charles R., 606
Houwink, Joseph J., 192
Houze, Dr. E., 1692
Howard, Amasa, 882
Howard, David Fount, 1318
Howard, Robert Jared Bliss, 390
Howell, Ellen Woodward, 1853
Howser, Frank Pease, 1262
Hoyt, Benjamin Rush, 1696
Hubbell, James A., 1262
Hudson, Virgil W., 1591
Huffaker, John R., 537
Hugelshofer, A., 1411
Hughes, Jesse Hicks, 1185
Hughes, John Harrison, 1028
Huizinga, Thomas G., 882
Hulen, William Ambrose, 537
Humphreys, Victor O., 810
Hunt, William Augustus, 537
Husted, Horace Lee, 1318
Hutchinson, George L., 325
Hvoslef, John Christian, 52
Hyde, Loren A., 605
Igoe, Owen Ambrose, 1591
Imas, Escolastico, 1112
Inge, Harry Tutwiler, 1513
Ingles, John Anderson, 1591
Inglish, John E., 1185
Irwin, James Willoughby, 1513
Irwin, Willis, 1028
Iszard, Walter Reed, 670
Jack, Harvey P., 258
Jackson, David A., 1417
Jackson, James Albert, Sr., 606
Jackson, Katherine Johnson, 742
Jacobs, H. L., 1318
Jacobs, Louis, 192
Jameson, Leo Lake, 810
Jamin, 1179
Janeway, Henry Harrington, 465
Jay, John G., 1184
Jenks, Clarence A., 326
Jenner, Norman Richards, 1262
Jessup, Nathan Joseph, 950
Jeter, Robert, 1696
John, Adelbiert Allen, 882
Johnson, Joseph Taber, 950
Johnson, Samuel Robert, 192
Johnson, William T., 1781
Johnston, James Scott, 742
Johnston, Orange Anderson, 396
Johnston, Samuel Andrew, 1696
Jones, Alexander Franklin, 51
Jones, D. M., 192
Jones, Thomas Almon, 742
Jones, William B., 465
Jones, William Joseph, 742
Jordan, Burton Henry, 1513
Jordan, Minos C., 1853
Juat, Francis, 810
Juquelier, Dr., 1775
Just, Adolph A., 1028
Justice, John Dectur, 1028
Kanzler, Reinhold, 670
Keeler, Richard S., 1362
Kellogg, Edward Wilberforce, 395
Kelly, John Baker, 1853
Kelsey, John Edson, 1028
Kelsey, Percival Gates, 537
Kemp, Howard M., 951
Kennedy, James Price, 259
Kenny, Lawrence, 951
Kenyon, Frank Pierce, 1591
Kenyon, Owen Thomas, 326
Kepke, John, 1416
Kermorgant, Dr., 390
Kerr, Adolphus F., 1362
Kerr, Clinton S., 1696
Kerr, William Edmund, 125
Kiernan, Edward Charles, 1028
Kilbourn, Harvey B., 1853
Killian, Gustav, 945, 949
Kimball, Edward S., 1318
Kimball, Samuel Ayer, 259
Kindleberger, David, 1027
King, Dennis W., 1591
King, George F., 742
King, John Sumpter, 810
Kingsman, Richard, 259
Kirkland, Edward, 1513
Kjellberg, K., 1411
Klemm, P., 1411
Klepser, Ralph C., 810
Kline, Moulton J., 1780
Klose, E., 1112
Klotz, Max Otto, 810
Knapp, Herbert J., 1028
Knight, Eva Helen, 396
Knipe, George, 259
Knott, John McCurdy, 1591
Knowles, Joseph K., 1028
Koder, Charles A., 1318
Kohlmann, William, 950
Kolbenheyer, Frederick, 1262
Koster, Dr. W., 1692
Kramer, Jost Durst, 951
Krozer, John I. R., 742
Kunkel, Oscar Franklin, 125
Kurtz, Samuel L., 1362
Labenburg, Charles A., 125
Lacey, Seth Ward, 1185
Ladd, Alfred Greeley, 1696
Lain, Elizabeth, 1591
Laird Busrod Foley 1591
Lamar H. L., 1318
Lambert, Charles Curtis, 951
Lambert, Stinson, 536
Lamont, Thomas Jasper, 52
Lancaster, Joseph Rial, 1416
Landau, Leopold, 463
Landers, Franklin Pearce, 742
Landgraf, W., 460
Laney, William F., 465
Langham, John Donald, 951
Lanphaer, Charles Howard, 1417
Lards, Charles Henry, 192
Larkin, Peter Ambrose, 742
Latimer, Alfred W., 810
Launay, L., 1257
Lavin, George F., 882
Laws, Samuel Spahr, 396
Lawson, B. Howard, 1318
Lay, Albert C., 326
Leary, John Joseph, 1028
Leix, Frederick, 396
LeMaistre, Helen Josephine, 125
Lemon, Charles H., 670
Leonard, Duncan Moore, 258
Leonard, Edward Leroy, 882
Leray, A., 945
Leslie, Robert Murray, 1508
Leveridge, Silas Pierson, 951
Lewis, James S., 670
Lewis, Levi, 259
Lewitt, William Breakey, 1362
Libby, David, 606
Libotte, 1586
Lichty, Albert M., 742
Liebman, Samuel J., 1853
Ligget, John J., 950
Liggett, Wilbur Truman, 606
Lindley, Mahlon, 1696
Link, Walter Scott, 951
Little, John Calvin, 259
Little, Wharton, D., 1120
Littlefield, Harrie Augustus, 1318
Livingstone, Henry Drummond, 606
Lockridge, James Bedford, 125
Lomas, Courtney Ernest, 1775
Londoner, Jacob, 1362
Long, Daniel George, 1185
Longyear, Howard Williams, 1780
Loughbridge, William K., 1696
Lovel, John N., 1696
Lowry, George W., 1262
Lucas, Herman E., 1262
Lusby, David E., 1696
Lush, Herbert B., 1362
Lussler, Waldo James, 810
Lynch, Lawrence Andrew, 882
MacAniff, Hugh Philip, 670
Mack, Hugh P., 537
MacKenzie, Thomas H., 465
Mackintosh, Norman, 951
MacLean, Archibald Malcolm, 1417
MacLean, Malcolm B., 536
Magnus, Dr., 255
Mahler, Everard William, 325
Malmgren, Carl Victor, 810
Mandlebaum, Abraham, 1696
Mandri, Alfred R., 1179
Manghinas, S., 390
Manker, Rives Andrew, 1696
Mann, Charles Maitland, 882
Mann, Matthew Derbyshire, 810
Mannar, Claiborne H., 1318
Mansfield, Job Robert, 1781
Manson, Almon Augustus, 537
Maranda, Joseph Cone, 1591
Marble, John Oliver, 51
Marcks, Willoughby Mandes, 1853
Margulies, A., 1412
Markoff, Aaron, 1318
Marsh, Harrison Stephenson, 882
Marshall, Matthew, 465
Martin, Edward Hamilton, 1513
Martin, Thomas Francis, 537
Mason, George Franklin, 1781
Mather, Edward Elias, 1853
Mathewson, Arthur, 325
Mathis, William H., 1781
Matlock, Philip N., 1120
Matteson, Joseph, 1781
Maurer, Elmer Harold, 1185
Mauzey, Warner Hugh, 1696
May, Elkanah K., 1362
Mayr, E., 1112
McAlpin, Mark Russell, 670
McAvoy, James Bertrand, 465
McBride, Marion G., 951
McCallum, Hugh A., 465
McCarthy, Charles Florence, 1696
McCarthy, John George, 951
McCausland, John W., 1781
McCaw, William J., 258
McClain, John D., 606
McClelland, Robert W., 1591
McClendon, Jacob William, 1262
McClintock, Albert, 1362
McComas, George Upton, 1417
McComas, James Milton, 810
McCornack, Edwin A., 1318
McCoy, Ambrose, 192
McCoy, George Loren, 1318
McCrimmon, John, 951
McCrory, Charles Robert, 951
McCully, James, 1028
McDevitt, Edward P., 951
McDonald, James H., 326
McDonnell, Mathew C., 1513
McDougall, Joseph Henry, 1028
McElroy, James Clancy, 192
McFadden, James Johnston, 326
McFadden, William, 325
McFarland, Sam W., 125
McFaul, James W. 1185
McGalliard, William Millen, 465
McGettingan, Robert Joseph, 258
McGill, Henry Gordon, 537
McGuire, Frank A., 742
McIlhaney, William Henry, 1120
McIlvain, William H., 51
McIlwaine, Charles H., 1362
McKee, James Anderson, 1318
McKendree, Marcus A., 882
McKneely, Johnson Franklin, 537
McLaughlin, Eugene F., 192
McLaughlin, Thomas Notley, 258
McLean, John, 1318
McLeay, Donald, 1853
McMillan, William T., 259
McNair, Oliver Hazard Perry, 1262
Meek, James Albert, 1780
Meffert, William M., 537
Meier, Gottlieb Charles H., 192
Meilike, Hasse A., 1028
Meisch, August F., 951
Meloy, Carl R., 1184
Mengel, John S., 1853
Menger, Rudolph, 951
Mercer, James B., 1028
Merchant, Joseph Milford, 1417
Meredith, James C., 52
Merrell, Charles Goodwin, 52
Merriam, Laureston A., 537
Merrill, Joseph Porter, 52
Merritt, Leonidas H., 1513
Messenger, Joseph Ellis, 258
Metheny, Samuel Alexander Sterrett, 1028
Meyers, John Klemanz, 1262
Milecky, 1412
Miller, Anna Laura, 1781
Miller, Clark I., 1028
Miller, Colley J., 125
Miller, George Washington, 1591
Miller, Gregory S., 810
Miller, Horace C., 1362
Miller, William Hinton, 465
Miles, Robert G., 258
Milot, Alphonse F., 52
Miner, Worthington Warner, 125
Mobley, Robert H., 537
Monod, Charles, 1179, 1259
Montelius, Ralph W., 1362
Montgomery, Martin Van Buren, 1262
Montgomery, William Abraham Dawson, 192
de Montmollin, G., 189
Moore, James Herbert, 325
Moran, Sheldon Arthur 259
Morehouse, James Thomasson, 125
Morel, Dr., 1692
Morgan, William E., 1120
Morong, Arthur Bennett, 1416
Morris, John Gavin, 1262
Morris, Wilbur Burton, 125
Morse, Newton B., 1417
Morselli, A., 1586
Morton, Dwight Frans, 536
Mosher, Burr Burton, 465
Moss, Joseph Mora, 1318
Mosse, Fred R., 606
Moyano Cruz, R., 664
Muir, George Edward, 1028
Muirhead, Archibald Lawrence, 1362
Munson, LeRoy D., 465
Murphy, George W., 125
Murphy, Thomas C., 258
Murray, William P., 1318
Muth, Carl, 326
Neathery, Allen G., 1853
Neel, John M., 1262
Neely, M. E., 1780
Nelson, Archibald B., 1027
Nevinger, Martin J., 1696
Newcomb, James J., 259
Newell, William Augustus, 1362
Newkirk, Garrett, 1184
Neyman, Hiram P., 259
Nicholson, John C., 1185
Neilsen, Neils Nicolai John, 1513
Niemann, A., 1259
Niswonger, Henry Wilson, 396
Nixon, Alfred Westland, 1417
Noble, Herbert F., 1853
Nolan, Daniel Joseph, 396
Nolan, Edward J., 326
Nordlander, Anders Gustavus Emilus, 465
Norton, Francis B., 125
Nunn, Joshua H., 1318
Oberholtzer, Morris B., 606
O'Brien, William T., 125
O'Connell, Daniel Joseph, 742
O'Connor, Byron R. 882
O'Dea, James J., 395
O'Dell, Samuel, 1028
Odriozola, Ernesto, 1112
Oglesby, Willis W., 259
Olcott, Arthur W. Wellesley, 1362
Old, Frederick James Thorpe, 325
Oliver, Mildred Lusk, 951
Olmstead Russel T., 1028
O'Neil, George C. D., 258
OReilly, Edmund Francis. 1185
Orleman, Eliza Louise, 1120
Oro, M., 460
O'Sullivan, William J., 396
Ousley, Samuel P., 606
Ovidin, Melamed, 1780
Owens, Darius W., 536
Owens, Owen Walter, 605
Page, James M., 951
Page, Robert Stevens 125
Paine, Bartlett L., 951
Palmer, Frank A., 1853
Palmer, Neely McCoy, 1028
Palomo, Thomas S., 1179
Parisot, Albert A., 1185
Park, John Franklin, 1362
Parker, Albert, 1591
Parkhurst, Gabriel Harrison, 537
Parks, Clarence Milton, 536
Parks, M. W., 1853
Parmele, George Luther, 396
Parsons, Charles H., 951
Parsons, Edgar U., 125
Patterson, Harry Byron. 882
Patterson, Myron Alanson, 465
Patterson, Walter Scott, 395
Peachee, Harrison, 1591
Pechmann, Henry W. A., 882
Peck, Albert Fred, 1262
Peltz, Benjamin R., 1513
Pfeiffer, Dr. L., 1692
Pharr, Theordore Franklin, 670
Philips, David A., 125
Phillips, James T., 259
Pierce, William Seldon, 1318
Pierret, Dr., 601
Pilcher, Francis Nelson, 1696
Pinero, A. F., 1257
Pinto Nunes Cintra, A., 189
Pisek, Godfrey Roger, 325
Pitts, James R. S., 192
Plaine, Charles L., 52
Pöch, R., 1021
Pollom, Moses Reginald, 1591
Pollosson, M., 531
Ponson, Dr., 601
Pope, Arch Edwin, 465
Pope, Paul Green, 742
Porst, E. P., 945
Portela, F., 1411
Porter, William Allen, 258
Porterfield, Daniel Lewis, 1591
Porter, Edward O., 1513
Post, George Hazleton, 1120
Potter, Alfred M., 1591
Powell, William Chambers, 1416
Powers, A. W., 1853
Price, Adam, 606
Price, Laura Colby, 810
Pugh, Charles E., 1513
Puricelli, A., 255
Purman, Louis C., 606
Putnam, William B., 670
Pye-Smith, Rutherfoord John, 1508
Quincy, Mary A., 125
Radebaugh, John M., 52
Ramer, Daniel William, 1696
Ramirez Santibanez, Ramon, 882
Ramsey, George P., 396
Randolph, Robert Lee, 326
Ransohoff, Joseph, 810
Ratner, Leo, 670
Ray, Davis Scott, 1318
Reed, Jesse Hall, 810
Reid, Fremont, 1591
Reis, Mello, 737
Rendleman, J. M., 882
Rentschler, Henry D., 950
Rex, Jesse P., 1696
Reynolds, William George, 125
Ribbing, S., 877

Riberio, Dario, 1586
Rice, Andrew Thomas, 951
Rice, Arthur Hopkins, 465
Rice, John Scott, 882
Rice, William H., 1185
Richeson, William, 1120
Richle, Joseph Henderson, 606
Richmond, William Dickle, 125
Richter, Otto F., 259
Ridgman, Arthur L., 326
Riegel, William A. L., 465
Riegle, Richard Mowrey, 1417
Rieves, Joseph T., 326
Ringolsky, Sol, 1362
Ritchour, Winfield Scott, 606
Rivelli, Dr., 805
Robb, John A., 537
Robbins, Elliott Daniel, 192
Roberts, Hudson Morton, 465
Roberts, Isaac E., 670
Roberts, Wayland Dewees, 951
Roberts, William H., 1591
Roberts, William Owen, 1119
Robinson, Anslem C., 395
Robinson, Charles Moore, 1362
Robinson, Joseph F., 1780
Robinson, Ralph Elmer, 810
Robinson, Stephen Thomas, 1513
Rochester, Haydon, 951
Rode, E., 1412
Rodney, Oscar D., 1416
Rodríguez, 1412
Rodríguez, Abaytua, N., 601
Rodríguez, J. María, 390
Roe, John Benjamin, 1184
Rogers, Ardel C., 259
Rohmer, J., 877
Romm, Maxim D., 1318
Rooney, Arthur P., 125
Root, Arthur Lewis, 1362
Rosende, J., 1112
Rossini, L., 877
Rossmann, David, 1318
Resson, Frank Bond, 51
Rouse, John DeLoss, 396
Row, George T., 951
Rowe, Frank H., 1591
Royer, Samuel M., 395
Royster, William, 465
Ruby, Samuel, 1696
Ruddock, Edward Josiah, 605
Ruiz de Artcaga, Dr., 189
Rusca, C., 390
Rushing, John G., 537
Rusk, George Glanville, 1362
Russell, Adelbert N., 1362
Sala, St. Elmo Morgan, 605
Sally, A. E., 1362
Sanders, Andrew J., 742
Sanderson, Francis L., 670
Sappington, Wallace L., 1696
Sargent, Jacob Preston, 1853
Sauer, Frederick William, 1027
Saunders, James, 1696
Saunier, Andrew Jackson Crosby, 1513
Sawyer, Zenas Blish, 52
Schafmeister, John A., 1416
Schalck, Ernest, 1262
Schnepp, Leo, 396
Schoenith, Julius, 1119-1120
Schweitzer, Richard S., 259
Schwing, Samuel P., 810
Scott, J. Lorentz, 1853
Scott, Noble Winfield, 465
Scott, William, 742
Scrimgeour, Arthur, 1591
Seagers, Murray Wisner, 1318
Sears, Frank Walker, 882
Sedgwick, William T., 459
Seelig, A., 601
Seiberling, Frederick Christian, 1184
Selberg, F., 877
Sellards, Abram G., 605
Semon, Felix, 877
Seneff, John H., 1781
Settle, Howard Edwin, 192
Seufert, Edward Constant, 1318
Sewall, Francis Bates, 1853
Seymour, Mary A., ???
Shafer, George W., 326
Sharpless, Edward S., 125
Shaw, Lawrence Drew, 1508
Shearer, Robert D., 259
Sheehan, James Dennis Vincent, 1513
Sheehan, John Peter, 125
Shell, James Jefferson, 1185
Shelton, Samuel Eugene, 192
Shepard, Orlando Tyler, 1028
Sherman, Harry Mitchell, 1591
Sherwin, Aurelius Calvin, 1318
Sherwood, Elmer T., 810
Sherwood, Harry I., 951
Shiley, Joseph Riegel, Lieut., M.C., U.S.N., 742
Shirk, William Schneider, 606
Sholars, Augustus Bryant, 1417
Shultz, John Thomas, 192
Sichel, C. Clarence, 325
Sicotte, Rudolph, 52
Siguad, C., 1692
Silberstein, L., 737
Sill, Ralph Henry, 125
Sillin, Cyrenius William, 192
Sims, Claude Edison, 325
Simpson, William Preston, 1591
Sims, Luther Monroe, 1185
Sites, Johnson McKee, 1780
Skelton, Leslie Sherman, 606
Skillern, Samuel Ruff, 670
Slaughter, Robert F., 1513
Slemons, Albert T., 1028
Sligh, James M., 1853
Sloan, William J., 882
Smith, Alden E., 1416
Smith, Charles E., 1028
Smith, Clark, 192
Smith, Edwin Fayette, 125
Smith, George Lewis, 1417
Smith, James C., 537
Smith, James W., 810
Smith, John Lehman, 192
Smith, Robert Weightman, 1028
Snyder, George Bowers, 670
Snyder, John Francis, 1513
de Soldati, A. L., 531
Solger, E., 255
Solomon, John J., 465
Solotaroff, Hillel, 1513
Southern, John N., 1362
Sowers, William Francis M., 125
Sparks, John Wilson, 396
Sparling, William R., 1417
Spath, E., 1692
Spaulding, Leander A., 1696
Spencer, James Richard, 537
Spicer, William Henry, 1780
Spitler, John H., 810
Spitta, Edmund Johnson, 531
Spratt, George R., 1696
Sproles, Henry Franklin, 951
Squier, George E., 951
Squire, Henry D., 882
Starr, George Leander, 192
Steade, James Milton, 951
Stealy, Jeremiah H., 325
Steele, Edmond Harris B., 1513
Stepp, John Broadus, 810
Stevens, Andrew Jackson, 742
Stevens, Byron N., 605
Stevens, Frank E., 951
Stevens, George Thomas, 465
Stevens, James Franklin, 670
Still, David Vedder, 1853
Stillwagen, Charles A., 1780
Stites, George M., 1417
Stockert, Charles Frederick, 1853
Stonestreet, Reginald, 951
Stout, John C., 396
Stuart, Charles Colline, 1262
Stuart, Spencer Howell, 742
Suddarth, James L., 1853
Suits, Peter Langrave, 1362
Sullivan, Walter Green, 605
Summer, Nelson P., 742
Sunburnt, Walter Israel, 1362
Sutton, John H., 1591
Swain, William Dexter, 192
Swancott, John, 1513
Swasey, Charles Edwin, 670
Sweeny, Henry Lee, 951
Swetnam, James M., 606
Swett, William Plummer, 1318
Swift, Charles L., 326
Swift, William Jonathan, 125
Taber, James Russell, 742
Tague, Lewis F., 125
Tandlich, Samuel, 1853
Tate, John Scott, 326
Taylor, Asa P., 1781
Taylor, E. A., 810
Taylor, Sir Frederick, 531
Taylor, Harry Ferris, 1119
Taylor, Horace Furness, 192
Taylor, John Clayton, 1119
Teague, Rufus J., 882
Teschan, Rudolf C., 465
Theiss, Gustav Adolph, 325
Therrien, Eugene Joseph, 882
Thiemich, M., 877
Thigpen, Frank Lafayette, 1119
Thomas, Charles F., 395
Thomas, Edward A., 1417
Thomas, Edward H., 1781
Thomas, Eli J., 810
Thomas, Frank E., 396
Thomas, Roland Fisher, 1781
Thomasson, Joseph B., 1417
Thompson, Albert W., 125
Thompson, Arnon Lynn, 326
Thompson, Dunlop, 325
Thompson, Edward Herbert, 125
Thompson, George B. 1262
Thompson, James, 465
Thompson, James R., 1120
Thompson, John Remington C., 742
Thompson, Samuel George, 810
Thomsen, W. B., 945
Thornburg, Mathew Watson, 950
Thornton, Frank Johnson, 465
Thulstrup, W. C. M. C., 737
Tincher, Charles Frank, 326
Tindall, Morris H., 606
Tobon, C., Jorge, 1412
Toledo de la Cueva, F., 601
Tolson, George R., 1853
Topp, Thomas M., 1028
Torchio, A., 805
Torrance, Robert Allan, Asst. Surg., Lieut. (j. g.) M. C., U. S. Navy
Townsley, Robert Hiram, 192
Trahan, John D., 1184
Trammell, William O., 537
Tucker, Frederick A., 1780
Tucker, William H., 1027
Turner, Augustus Walter, 951
Unterberger, F., 531
Uricoechea, L. J., 1412
Vaden, Joseph M., 1262
Valcour, Charles H., 1781
Van Den Berg, Peter Martin, 951
Van Geisen, Ransford Everett, 1119
Van Horne, Augustus Knapp, 882
Vanvleet, Peter P., 951
Vaughter, Samuel Paul, 1781
Vedder, Christian C., 1513
Vega, R. Fajardo, 1775
Vella, Vittore, 737
Venable, Joseph Alexander, 742
Venot, Dr., 1775
Vestergaard, C., 737
Vines, George Washington, 1853
Vogel, Frederick C., 1696
von Bachelle, Gideon, 1696
von Dall' Armi, Dr. G., 1692
Von der Smith, Pierre, 670
von Szily, A., 189
von Waldeyer, Wilhelm, 601, 669
York, John, 1028
Voss, Herman H., 1781
Waage, Charles T., 951
Waddy, Robert Burns, 1780
Wagner, Carl, 810
Wakely, Thomas Audley, 605
Walker, Alexander Lovette, 192
Walker, Frederick Earl, 1363
Walker, Joseph Colcman, 1362
Walker, Wilson Darlington, 1028
Wallace, Irving Francis, 1028
Wallace, Robert B. R. C., 259
Wallace, Walter Scott, 326
Walters, William W., 1417
Walton, George Taylor, 606
Wangelin, Hugo E., 325
Ward, Emza E., 1513
Ward, Lewis Americus, 537
Washington, Nelson W., 810
Washington, S. A., 606
Watkins, Frank L., 1591
Watson, Frederick Cushman, 605
Weaver, Robert D., 1781
Webb, Joseph H., 951
Webb, Samuel D., 951
Webb, Warren Sherman, 1262
Wechsler, T., 1411
Weeks, MacClarey, 1262
Weirick, Samuel Thomas, 1027
Welch, George Kellogg, 810
Welch, William M., 605
Weldy, Frank Monroe, 536
Weller, Martin, 742
Weller, Victor B., 325
Wentworth, Andrew Reginald, 1262
West, Eugene Francis, 1853
Westbrook, Major Herbert, 1028
Wheatley, Richard R., 882
Wheelwright, Daniel Winfield, 670
Whitaker, George Gary, 670
White, Albert D., 1781
White, Frederick J., 1416
White, James Albert, 1185
Whitley, Daniel P., 951
Whitney, Harlow A., 1696
Whitney, William Fiske, 742
Wilkins, David W., 192
Willard, Sylvester David, 122
Williams, Cordelia, 1513
Williams, Guy W., 1416
Williams, Perry Crittenden, 1262
Williams, Rufus G., 1781
Williams, Thomas Harvey, 1696
Williamson, William T., 1262
Wilson, Dora Green, 1318
Wilson, Henry Benjamin, 810
Wilson, Horace Plummer, 950
Wilson, James Fulton, 606
Wilson, Lawrence D., 192
Wilson, Robert James, 1120
Winge, Dr. P. E., 1775
Winslow, Charles W., 882
Winston John Nelson, 1120
Wisewell, Francis Henry, 1513
Witt, Erwin W., 951
Woehnert, Albert E., 52
Wolford, Martin Luther, 1513
Wood, John S., 1591
Wood, Warren C., 1853
Woodbury, Malcom Sumner, 258
Wooden, Charles D., 325
Wooden, George, 1318
Woodin, Irving J., 1696
Woodson, Andrew Maury, 742
Woodward, Robert B., 1591
Woodworth, John Bennett, 1028
Woodworth, Seymour A., 259
Wooten, Richard William, 1781
Worthington, Union, 1781
Wozencraft, Oliver O., 259
Wrenn, John Q., 465
Wrentmore, Ernest Llewellyn, 1120
Wright, Charles Lindsey, 1184
Wright, Francis Diwage, 1362
Wright, Henry J. B., 51
Wright, Shelby, 1781
Wunderlick, Frederick William, 1591
Wyant, Ira L., 52
Yenney, Robert Clark, 1362
Yost, George F. C., 192
Young, Daniel Webster, 1028
Young, Frank, 1184
Zoratti, G., 806
Zubiani, Dr. A., 1775
Zwart, Bernard Henry, 950

E

EAR: See also under Special Structures of Ear
EAR changes in gout, [Marx] 762
diphtheria of middle ear, [Van Horn] *32
eczema of, [De Carvalho] 1203
morphologic defects of, 1025
sarcoma in middle ear, [Bilancioni] 1285
swelling of pinna early sign of deficient antiscorbutic vitamin, [Sheasby] 1134
tests for aviators, [Seibert] 195—C
tests of internal ear functioning in diagnosis of cerebral arteriosclerosis, [Stein] 829
EATING and drinking arcs in brain, [Shakice] 748
ECCHYMOSES, clincal import of, [Bréchot] 968
ECHINACEA, 39—E
ECHINOCOCCOSIS, biologic test for, [Pontano] 145, [Luridiana] 689
infection of swine from human being, [Radcliffe] 406
intradermal test for, [Serra] 969
of brain, [Cardenal & Castella] 556
of heart, [Martin & de Craspigny] 1615
of lung, [Armand Ugon] 1713
serodiagnosis in, [Imaz Apphatie & Lorentz] 900, [Pesci] 1138
transient hemoclasis following puncture of hydatid cyst, [Berge & others] 1134
ECLAMPSIA, [Vignes] 1617
and stupor, [Heinrichsdorff] 1204
etiology of, [Young & Miler] 1279
gastric lavage in, [Davidson] 1708
kidney decapsulation in, [Lübbert] 973, [Brindeau] 1537
prophylaxis of, [Stratz] 1327
venesection in, [Chirie] 1616, [Nevermann] 1866
without convulsions, [Ranzel] 417
ECZEMA, bacterial invasion in eczema following deterioration of cutaneous surfaces, 524—E
etiology of, [Harris] 1425
metol dermatitis ("photographers' eczema"), 540
of ear, [De Carvalho] 1203
radium therapy of, [Sakdabolraksh] 1046
EDEMA, [Beckmann] 1051, 1287
acute, of arm, [Pavlovsky] 1619
after resection of tuberculous glands in right inguinal region, [Rocher & Lasserre] 1862
circumscribed, cause and cure of, [Mauriac] 551
experimental, and temperature, [de Almeida] 690
hereditary, [Painter & Bean] 1531
in a syphilitic, [Trémolières & Schulmann] 1048
malignant, report of fatal case, [Hoffman] *308
Pulmonary: See Lung, edema of
sodium, [Magnus-Levy] 1718
EDUCATION: See also Schools; Universities
EDUCATION, medical, and licensure in United States as viewed by European visitors, [Bierring] 936—ab
and practice in Cleveland, 541—ME
annual conference on medical education and hospitals, licensure and public health, 57, 730, 798
cost of medical education at College of Physicians and Surgeons, Columbia University, 399
effects of, 460
fellowship of medicine and Postgraduate Association, 49
French delegation to study medical education in U. S., 122
graduate courses in medicine, 390
higher medical education: true interest of public and profession, [Pepper] 869
in Australia, cost of, 531
in Austria, aid for, 1032
in China, 330—ME
Martin Luther of, 1170—E, [Pepper] 1515—C
introductory course in functional pathology for second year medical students, [Manwaring] 1188—ME

EDUCATION, MEDICAL, medical colleges and public health education, 594—E
Mercier's bequest for "chair of rational logic," 48
necessity for a good foundation in age of specialization, 316—E
nontechnical course in "anatomy and physiology of disease," for undergraduate college students, [Manwaring] *1824
postgraduate, in Glasgow, 262—ME
psychology and medical curriculum, [Morgan] 207
teaching of general medicine, [Emerson] 869
undergraduate medical curriculum, [Billings] 872
EFFUSIONS, opalescent, [Casaubon] 769
EGYPT, medicine in ancient Egypt, [Ebbell] 1439
ELECTRIC accidents, electropathologic station in Vienna, 536
current, suicides with, [Jaeger] 828
ELECTROCARDIOGRAPHY, rôle of, in prognosis, [Heard & Hein] 334
in angina pectoris, [Willius] 750
ELECTROTHERAPY, action of electrical treatments on blood and blood pressure, [Bain & others] 1536
ELEPHANTIASIS, expedition to investigate cause of, 946
in native Kentuckian, [Strother] 1533
EMACIATION, significance of, in physical diagnosis, [Moore] 1704—ab
EMBOLISM, air, following thoracentesis, 1314—E
from varicose veins, [Amaudrut] 274
in retina, [Lafon] 966
mesenteric, in hemophiliac, [Block & Goldberg] 891
EMBRYOLOGY, pioneers in, [Jackson] *497
EMETIN, syphilitic neuritis after, [Bourgin] 72
EMIGRATION to America, 880
EMMENAGOGUE oils, action of, on uterus, [Gunn] 547
EMOTIONS, dermatoses in the emotional, [Brocq] 755
in relation to suprarenal glands, [Kieley] 680
EMPHYSEMA, mediastinal, heart displacement by, [Fleischner] 679
traumatic, subcutaneous, with review of literature and report of cases, [Gardner & Jones] *503
EMPLOYEE, liability for injury to employee from influenza, 1191—MI
when entitled to medical and hospital aid, 1126—MI
EMPYEMA, [Mozingo] 266—ab
apparatus for closed method of drainage in, [Fox] *1653
attempt to produce experimental tuberculous pleural effusions and empyemas in rabbits, [Corper & Rensch] 202
complicating pneumonia, some difficulties in diagnosis of, [Morris] *1336
drainage device for, [Matthews] 1429
experimental, streptococcus, [Gay & Morrison] 405
following whooping cough, [Morrison] 1129
thoracis, [Wynn] 1128
ENCEPHALITIS, EPIDEMIC, [Meyer] 137, [Gaines] 203, [Hanns] 209, [Neuhaus] 270, [Cruchet] 274, 756, [Roger] 483, [Harvier & Levaditi] 552, [Denechau & Blanc] 756, [Morquio] 759, [Ely] 820, [Rorive] 823, [Nikula] 830, 878, [Gutmann & Kudelski] 896, [Claude & de Laulerie] 897, 946, [Rathery & Bordet] 1048, [Abente Haedo] 1051, [Palitzsch] 1052, 1199, [Happ & Mason] 1610, 1777, [Holmstrom] 1808
action of atropin in, [Radovici & Nicolesco] 825
and endocrine glands, [Howe] 1278
case of Miriam Rubin, *654, 659—E
changes in character and mind after, [Francioni] 1618
chronic, [de Massary & Boulin] 620
classification of, [Walshe] 408
colloidal gold curve in, [Davis & Kraus] 474
complicating pregnancy, [Banister & Sophianopoulos] 1046 [Turenne] 1713
contagion of, [Guillain & Lechelle] 471, [Roger & Blanchard] 897
ENCEPHALITIS, epidemic, etiology of, [Magglore & Sindoni] 276, [Micheli] 758, [Almasio] 1050
experimental studies, [Harvier] 554, 932—E, [Ewing] 1186—C
hiccup and, [Netter] 897
histopathology of, [Da Fano] 894
hyperglycorachia in, [Foster] *1300
ileus in, [Mauclaire] 824
immunologic distinction of poliomyclitis and, [Amoss] 893, 1251—E
in childhood, [Findley & Shiskin] 550
insomnia following, [Rütimeyer] 621, 934—E
labor in, [Haultain & Thornton] 1045
mental disorders in children following, [Leahy & Sands] *373
myoclonic, [Scott] 895
myoclonic, malarial, [Marinesco] 1371
neonatorum, [Harbitz] 560
obesity after, [Livet] 1862
ocular symptoms in, [Barré & Reys] 1615
optic neuritis in, [Symonds] 340
pandemicity of, 1012—E
Parkinsonian syndrome following, [Barré & Reys] 1615
polymorphism of, [Gordon] 67
protracted epidemic of, [Petit] 1711, [Turrettini & Piotrowski] 1712
psychiatric aspects of, [Jones & Raphael] 818, [Kirby & Davis] 1609
recrudescence in, [Blakeslee] 1612
results of, [Grossman] 1610
sequels of, [Hess] 1717
sialorrhea in, [Gelma] 1284
soil in, [Lepine] 140
Syndenham on epidemic encephalitis, [Cardenal] 1324
syphilis simulating, [Guillain & others] 966
treatment of, [Cheinisse] 967, [Marie & Bouttier] 1200
virus of, [Thalhimer] 818
Wassermann reaction in, [Duhot & Campon] 1801
with unusual features, [Strecker & Marsh] *777
ENCEPHALOMYELITIS of malarial origin, [Marinesco] 481
ENCYCLOPEDIA BRITANNICA and date of introduction of anesthesia, [Keen] 884—C
ENDAMEBA in tonsils, [Tibaldi] 621
ENDARTERITIS obliterans, [Pasman] 1540, 1856—MI
obliterans, prepulse disturbing stage of, [Strunsky] *519
ENDOCARDITIS, acute, in children, [Ledford] 678
infectious, transfusion with immunized blood in, [Levison] 680
malignant, [Ribeiro da Silva] 622
malignant, slow, [Fiessinger & Janet] 481
parietal, [Lutembacher] 754
puerperal, [Renaud & Gayet] 1200
rheumatism, chorea and, [Vinas] 73
subacute, infective, [Cotton] 139
ENDOCERVICITIS, relation of ectopic pregnancy to, [Magdid] 961
ENDOCRINE GLANDS: See Secretion, Internal
ENDOMETRIUM, possible invasion of, by spirochetes, [Belfield] 1363—C
ENDOSCOPY for general practitioner, [Escomel] 1540
ENDOTHELIOMA, [Kettle & Ross] 1710
ENDOTHELIUM, phagocytic power of, rendering capillaries permeable, 794—E
ENEMA of milk and molasses, 1187
ENERGY, physiologic expenditure of energy as measured by soldier on march, 604
ENTERO-ANTIGENS, nonspecific, [Danysz] 1802
ENTEROCOLITIS, analysis of 100 cases with especial reference to edema, dehydration and putrid odor of stools, [Albert & de Horilleno] 68
ENTERORADICULITIS and gastroradiculitis, [Bouchut & Lamy] 1047
ENTEROSPASM or duodenal atresia, [Schaefer] 691
ENTEROSTOMY, [Brunner] 1803
in peritonitis, [Dubs] 758
ENURESIS: See Urine, Incontinence
EOSINOPHILIA and albuminuria in scabies, [Hayman & Fay] 335
in chorea, [Berger] 1607
EPENDYMITIS, suppurative, of mesocephalus, [Loeper & Forestier] 1373
EPICONDYLITIS humeri, [Carp] 1196
EPIDEMIOLOGY, experiments in, [Flexner & Amos] 1525—ab
EPIDERMOPHYTON infection, picric acid treatment of, [Weiss] 1274
study of, [Wende & Collins] 335
EPIDIDYMITIS and orchitis from muscular strain, [Cathcart] 1133
gonorrheal, surgical treatment of, [McKay] 1797
EPILEPSY a symptom, not a disease, [Taylor] 409
brain abscess of otitic origin with epileptiform attacks, [Sautter] *378
cause of epileptic seizures in tumors of temporosphenoidal lobe, [MacRobert & Feinier] *500
climacteric, [Sanchis Banus] 74
congenital deformities and, [Tavernari] 212
experimental, [Amantea] 555
extirpation of suprarenal glands in, [Brünng] 692, [Bumke & Kuttner] 1141
extirpation of suprarenal in (unilateral suprarenalectomy) [Peiper] 1438
fate of epileptic children, [Husler] 1543
hystero-epilepsy with delayed puberty treated with testicular extract, [Graves] 70
intracranial pressure in, [Ebraugh & Stevenson] 336
Jacksonian, [Prat] 1375
Jacksonian, diagnostic significance of, [Wilson] *842
luminal in, [Sands] 1041, [Kirk] 1430
requisites to commitment to colony for, 1792—MI
roentgen-ray treatment of, [Kummer] 145
tuberculin in, [Crocket] 1197
urea in, [Boutter & Rodriguez] 823
worms and, [Block] 1129
EPINEPHRIN, chloroform modifies action of, on heart, [Heinekamp] 271
comparison of rectal with colon injections, with reference to pressor effects and to glycosuria, [Barbour & Rapoport] *492
constriction of blood vessels by, [Meltzer & Auer] 1427
effect of physostigmin on output of, [Stewart & Rogoff] 1427
effect of, on venous blood pressure, [Connet] 64
hypersensitiveness to, 1407—E
in heart block, [Lutembacher] 967
in resuscitation from apparent death, [Walker] 684
influence of atropin on action of, [Schiff & Bálint]
reaction of heart to, [Fulchiero] 555
reversal of depressor action of, [Collip] 1608
Test: See Goetsch Test
EPIPHYSES, separations of, treatment of, [Rocher & Lasserre] 1324
EPIPHYSITIS, [Vulliet] 484
congenital syphilitic epiphysitis in adolescence, [Gaenslen & Thalhimer] 546
growth, [Vullet] 484
EPITHELIOMA developing on lupus lesion, [Wander] 335
gastric, incipient, [Murayama] 74
of kidney pelvis, [Perrin & Argot] 275
of lip, [Sistrunk] 1857
papillary, of bladder, metastatic in kidney, [Haessler] *446
papillary, of kidney pelvis, [Miller & Herbst] *918
squamous cell, of skin, [Broders] 890
ERYSIPELAS in childhood, [Knox] 1612
in newly born, [Boidin & Tierny] 1049
local anesthesia in treatment of, [Gelinsky] 1288
ERYTHEMA, multiforme, hypochlorhydria a possible cause of [Schaler] *1005
nodosum and tuberculosis, [Stokes] 335
ERYTHREDEMA, [Wood] 1133
ERYTHREMIA, coagulation in, [Laubry & Doumer] 1049
with inherited syphills, [Schulmann & Weismann] 208
ERYTHROCYTES: See Blood Cells, Red
ERYTHRODERMIA, arsphenamin, [Brin] 143
ESCIDE, death of, from allergy caused by tuberculous antigen, 1777
ESMARCH tourniquets made from old inner tubes, [Dermott] *590
ESOPHAGUS, acute, postoperative esophagitis, 1536
cancer, radium treatment of, [Suter] 1716
congenital atresia of, report of 2 cases, [Hirsch] *1491
congenital malformations of, [Reynolds & Morrison] 1273
digestion of, 1413
dilatation, cardiospasm with, [Snodgrass] 1275
diverticula, [Bevan] *285
diverticulum, value of roentgenologic examination with elevated pelvis in, [Palugyay] 1621
foreign bodies in, [Schlemmer] 900
incomplete valvular stenosis of, [Guisez] 685
plastic reconstruction of, [Budde] 1205
successful, simplified antethoracic esophagoplastics, [Kirschner] 760
ESOPHYLAXIS of skin in relation to infectious diseases, [Menze] 213
ESTHESIOSCOPY, [Wernøe] 214
ETHER in whooping cough, [Genoese] 969
toxicity of, 1187
ETHICS, professional discipline and the General Medical Council, 602
ETHYL CHLORID, treatment of circumscribed pyogenic infections by refrigeration with, [Bockenheimer] 487
EUGENICS from veterinary standpoint [Bonansea] 1540
EXERCISE, curative play system, [Schauffler] 1277
gymnastic, abuse of, [Joland] 686
modification of circulation under, [Barlocco] 345
tolerance of children with heart disease, as determined by standardized test exercise, [Wilson] *1629
EXERTION, equivalent of ordinary exertion, [Wilson] *1213
EXHAUSTION, mechanism of shock and, [Crile] *149
studies in, [Crile] 1192
EXOSTOSIS, cartilaginous, hereditary, multiple, [Maynard & Scott] *579
multiple, [Casoubón & Bazán] 1325
EXPERTS, commission of, supersedes jury—"classical" insanity, 473—MI
EXTREMITIES: See Leg
EXUDATES, diagnosis of cancer from tumor cells in exudates of serous cavities, [Quensel] 903
EYE: See also Special Structures of Eye
EYE, atropin and the infant eye, [Ehrenreich & Reisenfeld] 1544
damages allowed for loss of, 888—MI
disease, paternal injections of milk in, [Argañaraz] 1051
diseases associated with influenza, [Fraenkel] 624
effects of carbon monoxid on, [Wilmer] 817
fatigue, [Jackson] 817
filaria in, [Parodi & Bonavia] 346
free transplant of costal cartilage as support for eyeball, [Esser] 1053
herpes zoster with complications, [Roelofs] 830
in pituitary disease with acquired syphilis, [Schweinitz] 1795
injury of anterior segment of eye, [Frenkel] 1863
pain on change to bright light, [Siegwart] 484
pathologic anatomy of, [Fuchs] 557
phlegmons of orbit and, [Rollet & Bussy] 342
reactions in anaphylaxis, [Kodama] 406
voluntary control of fusion faculty, [Barrett] 1133
EYELID, contralateral eyelid sign, [Pimenta Bueno] 1203
EYELIDS, necrosis of, in new born, [Satanowsky] 212
plastic operations on face and, [Imre] *1293
syringoma of, [Martinotti] 1285
EYE SIGHT CONSERVATION COUNCIL OF AMERICA, organization of, 600, 1664

F

FACE, plastic operations of eyelids and, [Imre] *1293
manometer mask, [Pech] 897
reconstruction of soft parts of, [Lindeman] 972
restoration of cheek and temporal region by pedicled and sliding grafts of skin and muscles, [Whitham] *448
recurring dermatitis of cheek, [Revaut & Rabeau] 755
splinters of glass in, revealed by roentgen ray, [Sutherland] *1749
support in facial nerve paralysis, [Yawger] 135
tuberculosis of, [Greenberg] 819, [Kafka] 1203
FALLOPIAN TUBES, sterilization by ligating tubes, [Kaliwoda] 1204
FASCIOLOPSIS BUSKI infestation, [Sweet] *1819
FASTING, [Carlson] 128—C
FAT, bile and behavior of fats in alimentary tract, 42—E
diarrhea in infant, [Woringer] 553
how much shall we eat? 656—E
implants, [Pennisi] 1202
in diet as affecting tumors in hens, [Akamatsu] 827
passage of fat to liver, [Geelmuyden] 1328
variation of blood fat constituents of rabbits under normal conditions, [Horiuchi] 66
FATIGUE as a test of the tuberculous, [Pietroforte] 689
charts, [Dausset & Boigey] 1538
industrial, in boot and shoe factories, 124
visual, [Jackson] 817
FAURE'S subtotal hysterectomy, 1182
FECES, fat acids and ammonia in, [Roux & Goiffon] 1047
obstruction, nonsurgical treatment of, [Willmoth] 1533
occult blood in, [Koopman] 901, [Adler] 1287
relation of, to feeding in infants, [Grover] *365
FEDERATION of State Medical Boards elects officers, 876
FEEBLEMINDEDNESS and birth injuries, [Schott] 415
ductless gland therapy in defective children, [Clarke] 546
in hereditary neurosyphilis, [Raeder] 959
lefthandedness in mentally defective, [Gordon] 1323
mental deficiency and disease, [Mundie] 270
FEEDING: See Diet; Nutrition
FEES demanded by expert witnesses allowed, 544—Ml
evidence of contract to pay for operation, 62—Ml
physician's bill should be probated separately, 473—Ml
validity and evidence of contract for service, 403—Ml
FEET: See Foot
FELLOWSHIP, traveling fellowships for Paris teaching force, 1257
FEMORAL CANAL, plastic closure of, [Indelli] 1803
FEMUR, fracture of, extension for, [Pendred] 1045
fracture of neck of, [Basset] 824
fracture of neck of, in elderly, [Judet] 685
fracture of neck of, in young, [Bloch] 1711
fracture of, treatment of, [Speed] 545
fractures at base of neck of, [Santy & Aigrot] 208
separation of head of, [Abrahamsen] 1054
FERRÁN'S tuberculosis vaccine, Castróman's lecture on, 1026
FETUS, absorption of true solutions and colloids from peritoneal cavity, [Wislocki] 1193
cleavage of fetal membranes, [Hoechenbichler] 1542
fetal deaths, [Ingraham] 1857
heart sounds, [Sachs] 417
hydrops universalis, differential diagnosis of, [Krafka] 1053
intra-uterine "drowning" of, [Duvor] 1616
prenatal infestation with parasitic worms, [Cort] *170
signs of death of, [Vignes] 757
stereoroentgenographic obstetric measurements, [Druner] 1622
survival of, after cord no longer pulsates, [Bermann] 552
syphilis in, diagnosis of, [Shipley & others] 1193
FEVER, connection between pyretic conditions and dentition, [Abels] 902
differential diagnosis of pyrexias in Porto Rico, [Torregrosa] 1132
hemolytic, [Kamakami] 339
in infants due to depletion of water reserve, [Grulee & Bonar] 959
low, calcium in treatment of, [de Langen] 279
slight, [Schiaffino] 1375
tropical pyrexias most common in Porto Rico, [Torregrosa] 1859
FIBRINOGEN, preparation of, [McLean] 336
FIBROID, Fibroma, Fibromyoma: See under names of organs, as Uterus, Fibroid of
FILARIA in eye, [Parodi & Bonavia] 346
loa infection, 1031, 1407—E, [Low & O'Driscoll] 1431
loa infection; report of case of filaria beneath conjunctiva and microfilariae in peripheral blood stream, [Begle] *1301
FILARIASIS, tartar emetic in, [Macfie] 139
FINGER, epithelioma of, [Razzaboni] 758
luxation of, [Borelli] 826
symmetric ataxia of, [Verger & de Cardenal] 1862
FISCHER, EMIL, foundation at Berlin, 664
FISTULA, anal, and periproctitis, [Moszkowicz] 900
between stomach and colon, [Cividali] 73
cervical, congenital, [Seelig] 1192
cervicovaginal, pathogenesis of, [Hiess] 1142
jejunocolic, [Ware] 64
of Stenson's duct, [Chubb] 684
rectal, rôle of tuberculosis in, [Thoss] 1141
sigmoido-uterine, [Kirchner] 1857
vesicosigmoidal, [Sutton] 1369
vesico-uterovaginal, [Nicolieff] 1285
FIXATIVE, decalcfying, [Jenkins] 1799
FLORIDA state board December examination, 955
FLUIDS, effect of excessive fluid intake on bood pressure, [Miller & Williams] 1128
FLUORIDS, toxicity of, 1688—E
FLY as distributor of intestinal protozoa, 1579—E
in court, [Marshall] 398—C
intestinal protozoa carried by, [Root] 1127
Lucilla Caesar: a plea for collecting its toxivirulent larvae for experimental purposes, [Saunders] 1030—C
FOOD and the child, 727—E
influence of aeration on stability of antiscorbutic factor, [Synge & Bigger] 1046
liming a nation, 38—E
FOOT, causes of weak and flat feet, [Rugh] 1367
disarticulation of, to heel, [Kuss & Houdard] 825
drop following laparotomy, [Duncan] *23
injuries, [Portmann & Warnshuis] *1214
twisted, operative treatment of, [Gaetano] 1285
FOOT-AND-MOUTH DISEASE in animals, local infections in man associated with, [Sieben] 624
prevention of, [Lisboa & da Rocha] 212
FORCEPS, improved, [Federer] *1499
FOREIGN BODY, court decision on gauze sponge in patient, 944
liability of hospital for gauze left in wound—as to evidence—damages, 199—Ml
sponge in abdomen, [Hartz] 1533
sponge in abdominal cavity for 14 years, with simulation of ectopic gestation, [Watson & Desnoes] *24
stereoscopic roentgenography: visualization of surfaces for better localization of foreign bodies, [Power] *645
FORMALDEHYD in urine, test for, [Pittanelli] 211
urticaria due to, [Guyot] 682
FOUNDLING'S asylum, infants in, [Steinert] 1718
FRACTURE: See also under names of bones as Femur, fracture, etc.
FRACTURE, apparatus for treatment of, [Wood] 1426
FRACTURE, "cerclage" or belting of, [Robert] 412
circular constriction in fractures of long bones, [Putti] 1801
improved technic for wiring, [Zur Verth] 1206
malpractice not shown in compound fracture case, 119—Ml
method of treating compound comminuted fracture—evidence—as to nurses, 61—Ml
new splint for treating fractures of long bones, [Cooke] *1162
reconstruction and fixation of, [Juvara] 342
serotherapy for delayed healing of, [Pétrault] 966
treatment of, [Hodgson] 1704—ab
treatment of fracture of long bones, [Colleu] 483, [Van der Elst] 685
undiagnosed, physicians not insurers—requirements—evidences, 62—Ml
walking splint with elastic extension for fractured leg, [Chatzkelsohn] 972
FRAMBESIA in France, [Lemann] 1273
FRANCE, association for the development of medical relations between France and allied and friendly countries, 1024
medical assistance for foreigners in, 1775
postgraduate work in France, 1775
FRANKING privilege of Pasteur Institute, 325
FREDET-RAMMSTEDT operation, new incision for, [Butler] 405
FRENCH Board of Public Charities, budget of, 392
delegation to study medical education in U. S., 122, 257
neurologists, annual meeting of, 1588
science, some influences of, on medicine, [Lusk] *1
treatise on practice of medicine, new, 49
FUCHSIN bodies, Russell's, [McConnell & Lang] 1322
FUMIGATION following contagious diseases, 745
hydrocyanic acid for, [Liston] 69
FURUNCLE on lip, [Lanz] 348
FURUNCULOSIS, relationship of high blood sugar to, [Thalhimer] *295

G

G .S. REMEDY, 671—P
GALACTOGOGUE, carbohydrates promote flow of milk, [Eyzaguirre] 1138
GALACTORRHEA, [Luzzatti] 413
GALLBLADDER, adhesions between stomach, gallbladder and duodenum, clincal picture from, [Agote] 277
calculi, ptosis of pylorus as cause of gallstone colic, [Losio] 1202
calculi, surgery of, [Eichmeyer] 416
concentration of bile in, 385—E
Disease: See also Bile Tract
disease, experiences with Lyon test (magnesium sulphate lavage of duodenum) for determination of, [Crohn & others] *1567
disease, report of 230 cases, [Adams] *710
distention of, [Nogueras] 623
draining of, by magnesium sulphate, [Neuhoff] 1797
incision for access to stomach and, [Linnartz] 278
infections, mechanisms of, [Meyer & others] 1858
removal of, without drainage, [Willis] *712
subperitoneal operation on, [Branham] 614
surgery, observations on, [Fox] 1424—ab
surgery, [Witherspoon] 200—ab, [Crisler] 1424—ab
surgical aspects of disease of biliary passages and, [Wilensky] 1602—ab
GALL-DUCTS: See Bile-Ducts
GALLSTONE: See Gallbladder Calculi
GALVANOPALPATION, [Kahane] 138
GAMMA RAYS, bone marrow changes caused by, [Mottram] 408
GANGLION connecting digestive and genito-urinary organs, [Gil Vernet & Gallart Monès] 1536
vital importance of sympathetic ganglions, 182—E
GANGOSA, antimony intravenously in, [Criehlow] 1280
GANGRENE from chilling, factors in, [Nagelsbach] 972
from thrombosis during arsenical treatment, [Oddo & Giraud] 1616
gangrenous dermatitis in newborn, [Tate] 1529
gas, micro-organisms of, 453—E
of leg, amputation of thigh for, [Lejars] 411
of lung: See Lung, gangrene of
of pharynx, Armand-Delille & others] 552
symmetrical, [Marcus] 1544
GAS Bacillus: See Bacillus Aerogenes Capsulatus
cysts of intestines, [Zuccòla] 1374
gases in arterial blood, [Meakins] 822
GASSERIAN ganglion, incision for operation on, [McEvoy] 1196
GASTRIC Juice: See Stomach Secretion
GASTRIN, response of stomach glands to, [Sutherland] 1608
GASTRITIS, painful, early in syphilis, [Botelho Vieina] 414
GASTRODUODENAL catheter, new, [Levin] *1007
GASTRO-ENTEROSTOMY, after-treatment of, [Von Norden] 1620
diet after, [MacLennan] 140
posterior, [Cernezzi] 899, [Toupet] 1712
ulcer of jejunum following, [Horsley] 200—ab, *354
GASTRO-INTESTINAL TRACT, baeteriology of, [Mutch & Mutch] 1707
cancer, blood sugar tolerance test as aid in diagnosis of, [Friedenwald & Grove] 1606—ab
disease, radiography in, [Sorel] 965
ganglion connecting digestive and genito-urinary organs, [Gil Vernet & Gallart Monès] 1536
roentgenography, use of an agar solution in, [Tucker] *1078
GASTROPTOSIS: See Splanchnoptosis
GASTRORADICULITIS and enteroradiculitis, [Bouchut & Lamy] 1047
from Pott's disease, [Ramond & Jacsuelin] 1803
GASTROSCOPY, [Maaløe] 1720
GASTROSTOMY, continent, [Souligoux & Bloch] 144
improved, [D'Agostino] 1618
GAUTIER, ARMAND, and ptomains, 38—E
GAUVIN'S Cough Syrup, 1417—P
GENITALS, afferent nerve supply of female genito-urinary organs and bowel, [Ogilvy] 140
dystrophy, primary, [Castex & Waldorp] 277
macrogenitosomia praecox, [Ambrozic & Baar] 1376
prolapse, [Hartmann] 1711
surgical treatment of acute pelvic infections in women, [Du Bose] 200—ab
traumatism of, in women, [Séjournet] 686
tuberculous adnexitis, [Mouchotte] 687
tuberculosis in women, [Driessen] 148
GENITO-URINARY TRACT, absorption of local anesthetics from, [Macht] 547, 658—E
ganglion connecting digestive and, [Gil Vernet and Gallart Monés] 1536
involvement of, in active pulmonary tuberculosis, [Peterson] 615
reflexes of, [Bartrina] 1617
GENTIAN VIOLET in pleural infection, [Waters] 890
GENU VARUM, anterior bow-legs, [Blanchard] 546
GEORGIA state board October examination, 197
GERMAN Psychiatry Institute, gifts to, 1692
GERMANY, aid for German science, 1508
birth rate and infant mortality in, since the war, 191
contract practice in, 188
financial need of Berlin student body, 191, 1361
number of students in, 188
relations with German men of learning, 461
requirements for admission of foreign students to German universities, 876
tribute we paid, 729—E
GERMICIDES, effect of, on gonococcus, [Swartz & Davis] 1797
GIBSON-MIKULICZ tampon in appendicitis, [Farr] 1367

GIGANTISM, experimental production of, [Uhlenhuth] 546
GINBERRY Capsules, 1263—P
GLANDERS, Mallein test in diagnosis of, [Mason & Emmons] 67
GLANDS, DUCTLESS: See Ductless Glands
GLASS blowers, effect of smoking on, [Baumberger & others] 1706
splinters of, in face and skull revealed by roentgen ray, [Sutherland] *1749
GLAUCOMA, surgical treatment of, [de Andrade] 146
GLIOMA, [Viets] 679
GLOTTIS, pilocarpin for edema of, [Arrigoni] 72
GLOVER'S Cancer Serum, 52—P, 396—P, [Wood] 885—C
GLUCOSE, determination of starch and, by alkaline potassium permanganate method, [Quisumbing] 68
effect on blood of intravenous injection of hypertonic solution of gum acacia and glucosa in normal, asphyxiated and shocked dogs, [White & Erlanger] 63
in blood, 609
in blood, microchemical method for analysis of, 954
renal threshold for, [Goto & Kuno] 750
to prevent acidosis following operation, [Farrar] 1369
GLYCEMIA and glycosuria, [Graham] 1709
in 1,860 infants, [Goetzky] 1376
influence of ovaries on, [Hürzeler] 1805
GLYCOSURIA and glycemia, [Graham] 1709, 1860
as an aid in early diagnosis of pregnancy, [Frank & Nothmann] 1141
cerebral, with neurosyphilis, [Urechia & Josephi] 1710
diabetes insipidus with, [Evans & Wallis] 479
sapremic, [Higginson] 963
slight, significance of, [Kast & others] 334
threshold, [Faber & Norgaard] 1142
threshold in diabetes, [Faber & Norgaard] 1142
GLYCURONURIA: See Urine, Glycuronic Acid in
GOETSCH TEST in relation to thyroid gland, 866—E
GOITER; See also Hyperthyroidism; Thyroid
GOITER, [Levin] 1320, [Jones] 1704—ab, [Berry] 1798
and thymus, [Haberer] 557
at base of tongue, [Köhl] 1617
classification of, [Williams] 817
diffuse colloid struma, [Hellwig] 761
endemic, [Monge] 1285
endemic, in Mexico, [Castillo Nájera] 1325
endemic, problem of, 1502—E
endemic, prophylaxis of, [Klinger] 621
endemic, tuberculosis in region of, [Coulaud] 896
etiology of, [Boitel] 209, [Zanoni] 1618
exophthalmic, [Roussy & Cornil] 620
exophthalmic, criteria of operability in, [Cheever] 545
exophthalmic, in pregnancy, [Pasman & Mestre] 1865
exophthalmic, in rural district, [Regnault] 1134
exophthalmic, medical treatment of, [Coulaud] 620
exophthalmic, present status of, [Schulte] 1622
exophthalmic, pulmonary tuberculosis simulating, [Janowski] 1047
exophthalmic, radiotherapy in, [Belot] 620
exophthalmic, relation of suprarenal cortex to, [Friedman] 681
exophthalmic, resection of thymus in, [Pribram] 900
exophthalmic, syphilitic origin of, [Smit] 1438
experimental, [Houssay] 970
in young, [Schlesinger] 1376
incidence of, in Wisconsin, [Blankinship] 1430
intratracheal, [Odermatt] 416
iodized sodium chlorid in prevention of, [Sloan] 962
radium emanations in, [Terry] *1821
substernal and intrathoracic goiters, [Pemberton] 545
GOITER sugery, [Sebileau] 687
surgery, ligation of all four arteries of thyroid in, [Kreuter] 692, [Lobenhoffer] 692
surgery, primary suturing of muscle to goiter stump after strumectomy without drainage, [Dubs] 559
surgical topography of growing goiter, [Klose] 416
GON-NOR, 671—P
GONOCOCCUS, action of mercurochrome-200 on, [Swartz & Davis] *844
classification of types of, [Thomsen & Vollmond] 214
cultivation of, [Jenkins] 1799
effects of germicides on, [Swartz & Davis] 1797
cultural characteristics of, [Swartz & others] 336
infections, precipitin reaction in diagnosis of, [Robinson & Meader] 337
demonstration of capsule-like appearance in staining gonococci, [Israeli] *1497
joint lesions in gonococcus rheumatism, [Dufour] 141
testing of germicidal substances against, [Davis] 204
GONOCOL, 743—P
GONORRHEA, acriflavine treatment of, [Mann] 406
antigonococcus serum in, [Ivens] 549
antigonococcus serum in complications of, [[Reenstierna] 751
bacteriologic aspects of chronic prostatitis following gonorrhea; effect of autogenous vaccines, [Messerschmidt & Walther] 1204
comparison of smear, culture and complement fixation in chronic gonorrhea in women, [Smith & Wilson] 136
determination of cure in gonorrheal infection of male, description of improved methods, [Herrold] *225
diagnosis in female by staining methods, [Norris & Mickelberg] *164
diagnosis of chronic genital gonorrhea in female, with reference to cutaneous and complement fixation tests, [Cherry & Palma] *1572
involvement of rectum in women, [Boas] 78
posterior urethra in, [Carle] 1136
treatment of, [Cattier] 1373
treatment of, in pregnant women, [Hobbs] 480
vaccines and serums in gonorrheal urethritis and its complications, [Geraghty] *35
GORGAS, congressional tribute to, 600
memorial, 530, 945
Panama purchases bust of, 1584
GOUT, [Gudzent & others] 1205
and cholesterin, [Chauffard & Troisier] 1800
arsonvalization in treatment of, [Andresen] 1720
atypical, [Weiss & Vogelsang] 1714
deafness in, [Scheibe] 762
ear changes in gout, [Marx] 762
in 1921, [Rathcy & Glenard]202 [Conn] 1805
in relation to nervous system, [Cohn] 1805
pathogenesis of, [Klinkert] 347
problem of, 1578—E
treatment of, [Guelpa] 345
uric acid in urine in, [Chauffard & others] 1049
GOVERNMENT department of public welfare proposed, 1180, 1258, 1359, 1412, 1507
reorganization of executive departments of, 530
Smoot-Reavis bill for reorganization of departments of, 123, 1412
GRADUATE courses in Italy, 1692
courses in Paris, 1692
courses in Vienna, special, 1118
postgraduate course at School of Medicine, in Mexico City, 534
Post-Graduate Medical Association and fellowship of medicine, 664
postgraduate scholarships, 663
postgraduate study, officers to have, 665
postgraduate work in France, 1775
GRAFTS, fascia implants, [Chironi] 1435
implants of fat tissue, [Pennisi] 1435
GRAFTS, osteoperiosteal transplants, [Delagénière] 1372
treatment of gaps in tendons, [Salomon] 759
GRANULOMA from indelible pencil, [Ballin & Saltzstein] *1333
inguinale, [Campbell] *648
GRANULOMATOSIS, [da Matta] 213
GRAVES' DISEASE: See Goiter, Exophthalmic
GREAT BRITAIN, medical records of insured persons in, 602
regional medical staff for panel practice, 190
GREENLAND, public health service in, [Bertelsen] 1866
GRINDING, wet grinding dangerous occupation, 1734—ab
"GROCCO'S left cap" or area of dulness in left chest in the healthy, [Minerbi] 555
GROUP MEDICINE, 540—ab, 631—ab, [Hollingsworth] 1189—ME
a menace or a blessing, 452—E
doctor's defense, [Reilly] 607—C, [Leonard] 744—C
essential factors for success in, [Morsman] 1123—ME
future of private medical practice, [Billings] *349
group consultation clinic experiment, [Boddy] 1527—ab
group diagnosis and therapy, [Barker] 338
significance of group practice in its relation to profession and to community, [Leonard] *421
GROWTH anomalies and atrophy in skeleton, [Schubert] 1205
apophysitis, [Froelich] 412
effect of alcohol on, [Sollmann & others] 271
effect of thyroxin on, [Cameron & Carmichael] 1276
in length of infants in health and disease, [Waser] 347
influence of brain tissue freed from cholesterol on, [Robertson & Ray] 66
influence of diseases on growth of prematurely born, [Frankenstein] 347
influence of pituitary on, [Sisson & Broyles] 616
GUAIACOL benzoate, 1575
Benzoate-Seydel, 1575
GUATEMALA Medical Society, 47
GÜEMES, Professor, resignation of, 1508
GUITERAS, tribute to, 1256
GUM ACACIA in prevention of acidosis following operation, [Farrar] 1369
GYNECOLOGY, diagnostic and therapeutic value of pneumoperitoneum in gynecologic practice, [Mayer] 1142
gynecologic backache, [Bullard] 1529
phototherapy in, [Recasens] 485
phrenic reaction in, [Stajano] 1375
radium in, 1529
recent progress in, [Devraigne] 1616
report of committee on graduate training in obstetrics and, [Williams] 800
stimulative roentgen-ray doses in, [Fraenkel] 902
teaching of obstetrics and, [Williams] 872
use of oxygen in gynecologic diagnosis, [Happel] 1534
GYNECOMASTIA, 41—E

H

HAIR, falling of, and alkali, [Sabouraud] 755
superfluous, in childhood, [Knowles] 1131
superfluous, with diabetes, [Emile-Weil & Plichet] 1282
superfluous, with psychopathy, [Laignel-Lavastine & Boutet] 208
HAND, chancres on, [Gaviati] 1285
contamination of hands and other objects in spread of contagious diseases, [Matousek] *1490
deformity of, [Nuzzi] 1435
flaccid paralysis of, [Pitres & Laffaille] 412
ossification of, [Stettner] 900, 1204
prophylaxis of traumatic disability of, [Fossataro] 968
reconstruction of, [Taylor] 1196
HARELIP and cleft palate, [Ritchie] 265—ab
uniiateral, [Veau & Ruppe] 1712
HARRISON NARCOTIC LAW, good indictions under, 816—MI
proposed amendment to, 114—E, 1665
HAWAII April examination, 1784
January examination, 1665
September examination, 611
HAY-FEVER, sensitization in bronchial asthma and, [Caulfield] *1071
HEAD, influence of position of, on muscles in limbs, [Reijs] 830
injuries, late results of, [Coleman, 132—ab
HEADACHE, interpretation of, [Haro] 346, [Edgerton] 1704—ab
pituitary, [Redwood] 1430
protcins as cause of, [Brown] 338
HEALTH activities in Virgin Islands, 738
activities, Mexican, 667
almanacs, 526—E
attitude of the administration on public health, 1663
center opened, 804
centers, [Billings] *349
centers in Prague, 534
centers, rural, as aids to general practitioners, [Vaughan] *983, 1013—ab
certificate, new type of, 1119
coordination in public health work, 864—E
coordination of voluntary public health activities, 1663
council in Prague, organization of, 534
creation of a Ministry of Health for Australia, 1112
education, 1654—ab
education and medical colleges, 594—E
education, obligation of medical organization in, [Warnshuis] 1015—ab
first minister of health for Roumania, 1588
measures before Congress, 1663
model health department makes report, 1584
national propaganda against the great social evils in France, 946
officer, board, not court, to fix salary of, 199—MI
officer, complaint for not obeying order of, 1269—MI
officers, courts favor prophylactic measures, 333—MI
organization of public for health work from standpoint of business man, [Frankel] 1016—ab
organization of public for health work from standpoint of health officer, [Harper] 1015—ab
organization of public for health work from standpoint of state public health association, [Sullivan] 1016—ab
organization of public for health work from standpoint of women's organizations, [Means] 1016—ab
organization of public for health work from standpoint of voluntary public health organization, [Hatfield] 1016—ab
provisions for children, recommendations on, 955
public, annual conference on medical education and hospitals, licensure and public health, 730, 798
public, decade of, in Ontario, 187
public, in Belgian Congo region, 807
public, review of laws on, 391
questions in California, referendum on, 1665
relation of public health work to physicians' reports, [Abercrombie] 1703—ab
relation of state department of health to medical profession, [Nicoll] 1527—ab
reorganization of federal public health activities, 1663
resorts, Carlsbad and other, 1590
service, nationalization of, in Prague, 394
survey of public health, 945
unification of federal health work promised by Republicans, 729—E
work, organization of public for, [Vaughan] 1015—ab, 1667
HEARING, colored, [Ribon] 346
objective test for power of audition, [Löwenstein] 1052
HEART and internal secretions, [Zondek] 760, 1206
angle between heart and liver, [Cantani] 899
aortic incompetence, arm and leg blood pressure in, [Williamson] 1799

HEART, aortic stenosis, [Gallavardin] 1284
area of dulness in left chest in the healthy, [Minerbi] 555
auricular fibrillation, [Brachman] 895
auricular fibrillation and angina pectoris, [Sandison] 1045
auricular fibrillation, quinidin for, [Jenny] 1373, [Faber] 1808
auricular fibrillation, restoration of normal cardiac mechanism by quinidin, [Levy] *1289
auricular flutter and fibrillation in pregnancy, [Thomas] *1227, [Greenberg] 1363—C
black heart disease, [Elizalde & Arrillaga] 1540
block, action of epinephrin in, [Lutembacher] 967
block, high grade, influence of posture, respiration and exercise, [Smith] *17
block in diphtheria, [Allen] 895
block, spontaneous and induced variations in beat with, [Lutembacher] 208
cardiorespiratory mechanism in health and disease, [Pearce] 749
congenital pulmonary regurgitation, [Cautley] 549
defects, congenital, [de Stefano] 276
diet in chronic heart insufficiency, [Rubow] 902
Disease: See also Cardiovascular Disease
disease, acute psychoses in, [Riesman] 817
disease, ambulatory patient with cardiac disease, with especial reference to digitalis therapy, [Pellini] *774
disease and altitude, [von Wyss] 688
disease, cerebral manifestations of cardioreual disease, [Higgins] 1133
disease, congenital, [Willius] 477
disease, dyspnea in cardiorenal disease, [Benzancon & others] 1802
disease; equivalent of ordinary exertion, [Wilson] *1213
disease, exercise in, [Brush] 681
disease, exercise tolerance of children with, as determined by standardized test exercises, [Wilson] *1629
disease, masked forms of rheumatismal heart disease, [Iossue] 1282
disease, physostigmin test in cardiology, [Mougeot] 1616
disease, points of contact between some surgical conditions and, [Levine] 1528—ab
disease, psychic management of persons with cardiac disorders in function or structure, [Babcock] *1067
disease, quinin in, [Clerc & Pezzi] 1282
disease, study of, [Poynton] 207
disease, sudden death in, [Lutembacher] 1201
disease, sugar infusion in, [Cheinisse] 1434
disease, syphilis in children with, [Donaldson] 1798
displacement by mediastinal emphysema, [Fleischner] 679
duration of systole, [Fridericia] 1328
effect of epinephrin on, [Fulchiero] 555
effect of small doses of atropin on heart rate, [McGuigan] *1338
factors modifying duration of ventricular systole, [Katz] 1130
failure, etiology of, [Barringer] *1143
first heart sound and presystolic murmur, [Reid] *432
foreign body in, operation for, [Matas] 1277
gallop rhythm in children, [d'Espine] 686
gallop rhythm, pathogenesis of, [Gallavardin] 341
hydatid of, [Marten & Crespigny] 1615
hypertrophy of heart and anemia in young infants, [Parodi] 1539
idoventricular rhythm, [Mackenzie] 1280
impulse and conduction, [Straubel] 557
influence of physical effort on, [Dedichen] 903
influence of physical exertion on size of, [Secher] 1328
HEART, insufficiency of left ventricle in valvular disease, [Gallavardin] 1371
interpolated contractions of, [Myers & White] 1320
massage of, [Gunn] 409, [Coleman] 684
modification of second pulmonary sound with carditis, [Turrettini] 480
palpation of right ventricle through epigastrium, [Harzer] 901
palpitation and its classification in certain cases, [Bishop] *787
pathologic anatomy of impulse system of heart, [Stiénon & Donzelot] 1862
peristalsis and mitral stenosis, [Samways] 1279
potassium ions and surviving heart, [Jannink & Feenstra] 347
reflex symptoms, [Sison] 1132
relation between autonomic heart center and heart inuervation, [de Haas] 347
roentgenoscopy of, [Houdmont & Dautrebande] 965
rupture of papillary muscle of, [Spalding & von Glahn] 616
sounds, auricular, [Reid] *928
sounds, fetal, [Sachs] 417
standstill with syncope following pressure on right vagus nerve, [Blanton & Blanton] *1220
tapping of pericardial sac, [Le Mounier] 821
tricuspid stenosis, [Cottin & Saloz] 754
valvular disease, diagnosis of, [White] *1207
ventricular fibrillation, experimental, [de Boer] 1052
ventricular fibrillation, initiated by localized warming, [Schlomovitz] 1608
water-wheel sound over heart, [Specht] 213
wound, [Moure & Soupault] 897
wound through both ventricles with recovery, [Freese] *520
influence of external heat on secreting function of stomach, [Fischer] 344
stroke, [Cheyrou] 966
stroke, immunity of negroes to, [Figueras] 1619
HEEL on boot, [Gibson] 1796
HEINE MEDIN DISEASE: See Poliomyelitis
HELIOTHERAPY, [Rollier] 1198
blood picture during, [Koster] 1140
in surgical tuberculosis, [Negri] 73, 555
in tuberculosis, [Hyde & Lo Grasso] 1530
scientific study of phototherapy and, [Rollier & Rosselet] 1201
sunlight and artificial light therapy in tuberculosis, [Mayer] 1529
HELMINTHIASIS, [Verschoor] 1807
and dysmenorrhea, [Léo] 1199
hemolytic jaundice in, [Bourges] 552
HELMINTHOLOGY and parasitology, researches in, [Leidy] 261—C
helminthologic fauna, [Travassos] 212
HELMITOL, 1029—P
omitted from N. N. R., 260—P
HEMAGGLUTINATION, autohemagglutination, [Bond] 272, 339
HEMANGIOMA cavernosum of brain, [Uyematsu] 127
HEMATEMESIS, differential diagnosis of, [Rowland] 1368
HEMATINEMIA, 114—E
HEMATOMETRA, [Eising] *31
and appendicitis, [Gutiérrez] 1619
HEMATOPORPHYRIA, acute, [Günther] 971
HEMATURIA, symptomless, [Macalpine] 1615
HEMIANOPIA, homonymous, as early symptoms of brain tumor, [Throckmorton] *1815
HEMIPLEGIA, crossed, from tumor in pons, [Obarrio] 277
relation of increased blood viscosity to transient attacks of, [Holmes] *1640
HEMOCHROMATOSIS, [Blanton & Healy] 1320
HEMOCLASIS and benzoin reaction, [Gastinel & Jacob] 1537
digestion, in recent syphilis, [Galliot & Gerbay] 1136
transient, following puncture of hydatid cyst, [Berge & others] 1134
HEMOGLOBINURIA after second transfusion with same donor, [Thalhimer] *1345
paroxysmal, [Weinberg] 1542
paroxysmal, from chilling, [Datta] 146
HEMOLYSINS, nature of, [Connell & Holly] 617
HEMOLYSIS, urine-hemolysis coefficient, [Amati] 1137
HEMOLYTIC fever, [Yamakami] 339
substances in human urine, [Ponder] 1044
HEMOPHILIA, mesenteric embolism in, [Block & Goldberg] 891
peptone treatment of, [Radovici & Iagnov] 967
sporadic, in woman of 28, [Montanus] 1435
HEMOPTYSIS, [Als] 148
artificial pneumothorax in treatment of, [Begtrup-Hansen] 1622
as equivalent for pulmonary edema, [Gallavardin] 1282
camphor in, [Zehner] 77
of nontuberculous origiu, [Patino Mayer] 623
treatment of, [Divito] 900
HEMORRHAGE, control of, in scalp and cranial surgery, [Soules] *1826
intracranial, in the new-born, [Vaglio] 688
intravenous injections of calcium chlorid in, [Neumann] 762
meningeal, in uremia, [Chabé] 142
postoperative control of, [Summers] 271
protein shock in treatment of, [Neirotti & Viola] 689
serum treatment of, [Dufour & Le Hello] 620
HEMORRHAGIC DIATHESIS, blood platelets as indicators of, [Gram] 904
HEMORRHOIDS, nousurgical cure of, [Lyth] 895
HEMOSTASIS, [Weil] 1199
hot air curreut as a hemostatic in operative surgery, [Körbl] 1327
HEMOTOXIN production by streptococcus in relation to its metabolism, [Cook & others] 819
HENDERSON, Professor, at Bordeaux, 1585
HEPATICODUODENOSTOMY, [Balfour] 1129
HEPATITIS, association of cholecystitis and, [Peterman & others] 545
HEREDITARY transmission and natural selection, 1415
d'HERELLE'S bacteriophagum, [Ameuille] 1800
HERMAPHRODITES, castration for male pseudohemaphrodites, [Bérard & Dunet] 1537
laparotomy for determination of sex of, 1118
HERNIA, amniotic, report of, [Thorek] *1748
diaphragmatic, [Mathews & Imboden] 202, [Hajek] 751, [Gitlow & Breakstone] 1367
diaphragmatic, blocking the phrenic nerve for radical operation for, [Bakes] 1866
diaphragmatic, congenital, [Aue] 971
diaphragmatic eventration, [Steenhuis] 1053
diaphragmatic, observed postmortem, [Huffman] 202
epigastric, [Villard] 825
femoral, [Asteriades] 896
femoral, appendix with suppuration in, [Hoidale] *939
femoral, double, [Cevario] 1202
femoral, utilization of round ligament with cremaster in repair of, [Skillern] *445
in infants, operations for, [Esten] 972
incarcerated obturator hernia, treatment of, [Ebnöther] 758
inguinal, value of position in operative treatment of, [Lyle] 206
into umbilical cord, [Tennent] 895
of stomach, transverse colon and small intestine, [Lincoln] 818
operation, gastro-intestinal hemorrhage after herniotomy, [Aloi] 1202
pseudohernia after fractures of rib, [Oehlecker] 347
strangulated, intestinal hemorrhage at kelotomy, [Ducastaing] 967
strangulated, treatment with especial reference to taxis, [Scheele] 692
umbilical, stenosis from, [Vaccari] 1050
HERNIA, ventral, radical treatment of eventration and, [Ciflnozzi] 1803
HEROIN intoxication, unusual manifestations of, and symptoms of withdrawal, [Gordon] *927
HERPES ZOSTER, [Enghoff] 1544
and varicella, [Carver] 895, [Harris & Dunderdale] 1535
anovulvar, [Armand Ugon] 1865
encircling anus, [Rénon & Blamoutier] 965
intercostal, abdominal syndrome with, [Söderbergh] 1439
ophthalmic, with complications, [Roelofs] 830
HERZEGOVINA, prevailing diseases in, 1414
HETEROBACTERIOTHERAPY and protein therapy, [Kraus] 1804
HEXAMETHYLENAMIN, administration of, 1031
poisoning from, 723—ab
HICCUP, bacillus found in, [Jenkins] 619
diaphragmatic spasms in animals produced with a streptococcus from, [Rosenow] *1745
epidemic, 249—E
epidemic, and encephalitis, [Netter] 897
epidemic, complicated with otitis, [Loeper & Forestier] 1134
persistent, [Sarkies] 619
postoperative, [Küttner] 1715
HILL'S Specific or Aromatic Elixir, 607—P
HIP disease, pelvis after, [Cleisz] 686
dislocation of, bilateral, [Stern] *1496
dislocation of, congenital, [Brandes] 1436
dislocation of, congenital, heredity of, [Dubreuil—Chambardel] 342
exarticulation of hip joint, with preliminary ligation of common iliac artery, [Brooks] *94, 329—C, [Wyeth] 328—C
HISTORY of world war, appropriations for, 123
HOLT, L. EMMETT, gives Lane lectures, 121
HOME Economics Association, American, 1111
HONEY, vitamin content of, [Hawk & others] 1608
HOOKWORM DISEASE: See Uncinariasis
HORMONES and vitamins, similarity between, 261
therapy, bases of, [Asher] 209
HORSLEY, SIR VICTOR, memorial to, 322
HOSPITAL, abuse of hospital privileges by persons of means, 806
adequate medical service for a community, [Smith] *1055
American, at Paris, 531
American Conference on hospital service, policy of, [Billings] 939, [Vincent] 939
annual conference on medical education and hospitals, 730
approved for intern training, 57—ME
as an industry, 1817—ab
bed capacity of general hospitals and daily average in constant use during preceding year, 1087
bill successful, 737
care of indigent in public hospitals, 599
city not liable for negligence at hospital, 1523—Mi
Cleveland hospital and health survey, 383—E
cost per patient in London, 514—ab
crisis in Great Britain, 190
day favored by President, 1256
day, national, 944
demand under statute to be taken to hospital, 1793—Mi
employee, death of, from influenza as injury, 887—Mi
for disabled veterans, 256
for rural communities, 1107—E
general census should include hospitals, 1495—ab
government, new bill for hospital facilities, 1507
government of, 651—ab
government, increase in appropriation for, 532
isolation, function of, 658
laboratory, criticism of, [Stillman] *1816
liability of hospital for gauze being left in wound, 199—Mi
maternity, [Ballantyne] 894
municipal, 948
new, in Vienna, 535
pathologist, 596—ab

HOSPITAL policy of Paris, 1024
service in United States, *1083, 1104—E
ship, new, 738
sites, committee appointed to select, 877
social service, organization of, 1403—ab
state laws authorizing county and city hospitals, 1034
tent, new type of, 48
transportable, 394
HOSPITALIZATION BOARD report delayed, 1691
committee at work, 394
HOT air current as a hemostatic in operative surgery, [Körbl] 1327
air in treatment of bacilli carriers, [De la Riviere] 1800
drinks, absorption of, [Boigey] 1047
HUMERUS, epicondylitis humeri, [Carp] 1196
fracture of, rotation in, [de Francesco] 758
HYDATID CYSTS: See Echinococcosis
HYDROCELE, operation for, [Rumpel] 1053
HYDROCEPHALUS, idiopathic, case of, [Dandy] 1193
in chondrodystrophy, [Dandy] 616
surgical treatment of, [Dandy] 683
HYDROGEN sulphid, conjunctivitis from, 1031
HYDRONEPHROSIS, intermittent, diagnosis of, [Brewer] 1797
trauma as factor in etiology of, [Herrick] 751
HYDROPHOBIA, antirabic inoculation of dogs, [Umeno & others] 1799
at El Salvador, 47 cases of, [Mallet] 1200
in Paris, 461
rabies vaccine, [Stimson] *241
HYDROPS universalis, fetal, differential diagnosis of, [Krafka] 1053
HYDROSALPINX with twisted pedicle, [Roeder] *515
HYGIENE and infectious diseases in 1920, [Tanon] 482
in medical curriculum, [Paz Soldan] 1203
instruction in, in schools, 1118
military, lessons from war in regard to, [Maistriau] 273
preventive medicine, hygiene and health habits, [Lee] 269
HYMENOLEPIS nana infestation, treatment for, 55
HYNSON, HENRY P., the pharmacist, 1252—E
HYOSCINES and hyoscyamins, [Cushny] 820
HYPERCHLORHYDRIA and vagotonia, [Talentoni] 622
HYPERGLCEMIA, alimentary, [Strouse] 134
and renal efficiency, [Maxwell] 410
mechanism of hyperglycemia production by ether and chloroform, [Ross & Davis] 615
HYPERGLYCORACHIA in epidemic encephalitis, [Foster] *1300
HYPERNEPHROMA in uterus, [Hartmann & Peyron] 71
HYPERSUSCEPTIBILITY: See Anaphylaxis
HYPERTENSION: See Blood Pressure, High
HYPERTHYMIA, acute, [Benon] 412
HYPERTHYROIDISM and basal metabolism, 398
emotional factor in, [Maranon] 1710
in children, [Jumon] 1373
myocardial necrosis in, [Goodpasture] *1545
physiologic, [Brooks] 1322
relation of, to diabetes, [Fitz] 1040
tests for, 470
value of alimentary test in diagnosis of, [Morris] *1566
HYPERTONIA, vascular, metabolism with, [Heitzenberger & Richter-Quittner] 1327
HYPERTRICHOSIS: See Hair, superfluous
HYPOCHLORHYDRA a possible cause of persistent erythema multiforme, [Schalek] *1005
HYPODERMIC puncture, iodin swab for sterilizing site of, [Marshall] *1006
HYPODERMOCLYSIS, painless, [Bartlett] 890
HYPOPITUITARISM, Froelich type of, [Kay] 1706
HYPOTHREPSIA and athrepsia, [Marfan] 553
HYPOTHYROIDISM and underacidity of suprarenals corrected by glandular therapy, [Kear] *1349
HYSTERECTOMY, Faure's subtotal, 1182
for puerperal sepsis, [Lumentut] 1807
perineal, [Cunéo & Picot] 1283, [Hartmann] 1711
unilateral, [Okinozyo & Huet] 1135
HYSTERIA, abnormal spinal fluid in, [Rouquier] 274
case of, [Renault] 1711
hysterical attitudes, [Huese] 1053
spinal fluid and blood findings in, [Benard & Rouquier] 1200

I

ICTERUS: See Jaundice
IDAHO state board October examination, 400
IDIOCY: See also Feeble Mindedness
IDIOCY, mongolian, [Thursfield] 1370
mongolian, brain in, [Cozzolino] 689
Mongolian, pituitary changes in, idiocy, [Timme] 1609
ILEAL regurgitation, [Bryant] 334
ILEOCECAL VALVE sphincter, diagnosis and treatment of spasm of, [Heile] 1806
surgery of, [Lefebvre] 1864
transplantation of, [Caucoi] 969
ILEUM, atresia of, with microcolon, report of case, [Kahn] *721
lipomas in jejunum or, [Odelberg] 974
ILEUS and peritonitis during pregnancy, childbirth and childbed, [Köhler] 828
as consequence of ventrofixation of uterus, [Hastrup] 692
entero-anastomosis in treatment of, [Ingebrigtsen] 1206
in encephalitis, [Mauclaire] 824
postoperative, [Losio] 1618
with myoclonus, [Kummer & Fol] 1862
ILIAC FOSSA, pain in, with chronic constipation, [Donati & Alzona] 1201
ILLINOIS state board December examination, 1032
state board September examination, 814
ILLITERACY of children, 1006—ab
IMBECILITY: See Idiocy
IMMUNITY and anaphylaxis, 1259
experiments on production of antihuman hemolysin with special reference to immunization with erythrocytes sensitized with heated serum, [Matsumoto] 136
serologic relationships of liver and kidney, [Fleisher & others] 67
serums and vaccines in specific immunity, [Mamerto Cadiz] 899
transmission of specific immune bodies from mother to young, [Howell & Erby] 204
IMPLANTS: See Grafts
INCAPACITY, period of temporary, total incapacity, 1856—M1
INCEST, abolition of secrecy of trials for, 1116
INCISIONS, treatment of suppurating laparotomy wounds, [Watkins] 478, [Royster] 478
INCOME TAX, and physicians, 330, 455
bill to permit exemption for medical expense, 1583
no deduction from, for expense of graduate medical work, 1517
reports, 183—E
tax on physicians' incomes during the war, 392
INDIAN Medical Service, passing of, from hands of Europeans, 667
INDIANA state board reciprocity report, 955
INDICAN, distribution of, in body, [Becher] 971
INDICANURIA in new-born, [Bonar] 1273
INDIGESTION: See Dyspepsia
INDUSTRIAL clinic, functions and scope of, in a general hospital, [Linethal] *701
disease, new occupational pain from handling compressed air motor, [Moren] 820
disease, occupational amyotrophy, [Gordano] 1285
disease, wet grinding dangerous occupation, 1734—ab
INDUSTRIAL fatigue in boot and shoe factories, 124
medical and surgical clinic: a night clinic devoted to skin diseases and syphilis, 58—ME
medicine in Italy, 1333—ab
physicians and general practice, relations between, [Sharpe & others] 129—ME
poisoning in munitions workers, [Rubino] 555
workers, decline of death rate among, 1353—ab
INFANTILISM, celiac, [Miller] 1371
diabetes insipidus and infantilism of pituitary origin, [Antonelli] 73
muscular, [Gibson] 1040
INFANTS, amount of fluid intake in first two weeks, [Kirstein] 626
atropin in treatment of hypertonic infant, [Kalser] 138
clinics and general practitioner, 588—ab
feeding, [Graham] 1859
feeding, butter-flour mixture in, [Elizalde] 1865
feeding, dextrin in, [Gismondi] 1539
feeding of newly born, [Schick] 347
feeding, sugar in, [Nobécourt] 1047
feeding, triple dilution of milk for, [Moro] 1326
foods, 1183
gastric secretion in, [Chievitz] 418
grave syndrome produced by damage from lack of water in newborn and other infants, [Meier] 1437
growth in length in health and disease, [Waser] 347
in institutions, [Steinert] 1718
intracranial hemorrhage in newborn, [Vaglio] 688
mortality in Germany since the war, 191
mortality in Jugoslavia, 1588
mortality, variation in rate of, in U. S. birth registration area, [Pearl] 205
newborn, artificial respiration in, [Greenwood] 1709
newborn, necropsy findings in, [Warwick] 1607
newborn, loss of weight in, [Utheim] 1206
newborn, residual nitrogen in blood of, [Balint & Stransky] 75
newborn, very small, [Hauch & Ruge] 141
nutritional disturbance and sepsis in, [Maggiore] 72
premature, influence of diseases on growth of, [Frankenstein] 347
premature, resisting power of, [Kyrklund] 1621
stools and their relation to feeding in infants, [Grover] *365
weight of young infants, [Frølich] 1376
INFECTION, acute, uremia in, [Marklen] 553
and diabetes, [Castronuovo] 211
autoserotherapy of, [Escomel] 1375
focal, and pyelonephritis, [Bumpus & Meisser] 1040
focal, chronic systemic infections and their sources, [Irons] *628
focal, infectious processes at roots of teeth and internal diseases, [Antonius & Czepa] 1327
"focal reactions," [Schmidt] 75
focal; Thornwaldt's disease and chorea, [Yerger] *166
pyogenic, treatment by refrigeration with ethyl chlorid spray, [Bockenheimer] 487
state of nutrition versus, [Wertheimer &, Wolff] 1718
transformation of acute into chronic infections, 450—E
INFECTIOUS DISEASES, acute, transient myelosis in course of, [Blatteis] 1528—ab
and hygiene in 1920, [Tanon] 482
circulation in, [Nelson] 206
esophylaxis of skin in relation to, [Menze] 213
incubation of, [Preisich] 1326
lawful procedure to protect against infectious diseases — habeas corpus, 747—M1
protein therapy in, [Durand] 758
treatment of, by leukocytolysis, [Manoukhin] 1280
INFLUENZA and anticyclonic weather, [Richter] 1040
INFLUENZA bacilli, growth of, without blood, [Rivers] *1744
bacilli, hemolytic, [Rivers & Leuschner] 1532
bacilli, immunologic study of Pfeiffer's bacillus isolated from case of meningitis, [Anderson & Schultz] 1532
bacilli, nature of effect of blood pigment on growth of, [Fildes] 1044
bacilli, immunologic study of Pfeiffer's bacillus, [Anderson & Schultz] 1532
breast infections due to, [Baer & Reis] 1370
camphor in, [Stine] 1534
chlorids in urine in, [Eisleb] 901
cultivation of a filterable organism from the nasopharyngeal washings in, [Loewe & Zeman] *986
death of hospital employee from influenza as injury, 887—M1
etiology of, [Maitland & others] 272, 523—E [Schmidt] 624
experimental studies, [Cecil & Steffen] 1041
eye diseases associated with, [Fraenkel] 624
filtrable virus not cause of, [Branham & Hall] 820
infectivity of nasopharyngeal secretions in, [Olitsky & Gates] 1194
inoculations, accidental, [Park & Cooper] 679
leukocytes in, their etiologic significance, [Yabe] 409
liability for injury to employee from influenza, 1191—M1
leukocytes in, [Yabe] 1799
magnesium sulphate and calcium chlorid intravenously in influenzal pneumonia, [Hogan] 1279
nasopharyngeal secretions from, preliminary report on cultivation experiments, [Olitsky & Gates] *641
nasopharyngeal secretions in, [Olitsky & Gates] 893
pathology of experimental influenza and of bacillus influenzæ pneumonia in monkeys, [Cecil & Blake] 136
production in monkeys of an acute respiratory disease resembling influenza by inoculation with bacillus influenzae, [Blake & Cecil] 136
pulmonary sequels of, [Fishberg] 1128
recrudescence of, [Macdonald] 268
sodium salicylate intravenously in, [Neilson] 1279
tabes mesenterica following, [Melman] 408
unusual pain syndrome associated with present wave of, [Reilly] *1493
vaccination against, effect of, [Jordan & Sharp] 1322
vaccination against, status of, 1503
vaccines in prevention and treatment of, [Gay] *244
whooping cough and, [Ruche] 901
INHALATION therapy, some aspects of, 116—E
INHERITANCE and educability, 543
INJECTIONS, apparatus for continuous intravenous administration of fluids by which the rate of flow may be easily determined and controlled, [Freidell] *724
epifacial, technic of, [Stokes] 1428
intrabronchial in pulmonary gangrene, [Guisez] 1136
intraperitoneal instead of subcutaneous infusion, [Weinberg] 1326
intraspinal, dangers of, [del Valle y Aldabalde] 1619
intraspinal, of air in disease of spinal cord, diagnostic significance of, [Wideröe] 1438
intratracheal, [Balvay] 757
intravenous, fatal shock from, [Lesne] 1862
intravenous, of hypertonic sugar solution, [Korbsch] 1436
intravenous, method of, [Roth] 1130
intravenous, nerve injuries due to errors in technic, [Lewis] *1726
precipitin response in blood of rabbits following subarachnoid injections of horse serum, [Alexander] 1368
quantitative distribution of particulate material, manganese dioxid, administered intravenously to cat, [Drinker & Shaw] 477, 1250—E

INJECTION, route and rate of absorption of subcutaneously injected serum in relation to occurrence of sudden death after injection of antitoxic horse serum, [Lewis] *1342, 1356—E
subcutaneous infusion by drop method, [Strübing] 1805
INJURY, aggravation of injury by physician's mistake or negligence, 1366—MI
case, defendant bringing physician into, 1702—MI
INSANE asylums, serious deficiencies in, 1182
law of anticipation in insane, 50
person cannot be called in good health, 887—MI
persons, transportation of, 612—MI
INSANITARY or unsanitary? 399
INSANITY: See also Psychiatry
INSANITY, alcohol and syphilis as causes of mental diseases, [Kirby] *1062
alkaline reserve of blood in, [Suitsu] 64
basing unsoundness of mind on bodily condition, 403—MI
commission of experts supersedes jury, 473—MI
distinction in lay testimony as to insanity and sanity—qualifications of expert, 1792—MI
in Colombia, 47
increase in, 668
manic-depressive, [Piltz] 483
modern care of insane, 1695
occupational therapy in mental hospital, [Devlin] 269
prevention of, [Noel] 270
significance of diabetes in mental disorder, [Pike] *1571
syphilis and, [Echols] 1704—ab
war in relation to mental diseases, [Kraepelin] 625
Wassermann reaction in, [Berkeley-Hill] 1431
Wassermann reaction of blood serum in mental diseases; indications for antisyphilitic therapy, Jackson & Pike] *360
INSOMNIA, nervous, treatment of, [Zangger] 619
postencephalitic, [Rütimeyer] 621, 934—E
INSTRUMENT: See also Apparatus
INSTRUMENT, combined pillar retractor and tonsil hook, [Painter] *240
for aseptic vaginal manipulation, [Kuhn] 1529
improved time-saving forceps, [Dedcrer] *1499
improved urethral instillating syringe, [Moore] *176
measuring sterile solutions, [Gates] 477
new devices combining dissection and suction, for use in septum, tonsil and other operations, [Walker] *793
new injection catheter, [White] *931
new model of metranoikter designed to facilitate its insertion and removal, [Hirst & VanDolsen] *1825
new procedure for diagnosis of ureteral strictures in male, [Goldstein] *171
protractor for measuring joint rotation, [Clark] 1427
sterilization of, [Rubula] 560
INSURANCE, accidental infection of medical man with syphilis: is it an accident from insurance point of view? 1415
claims before Bureau of War Risk Insurance, 1114
English system of panel records and medical secrecy, 946
health, free choice of physician in connection with, 1416
health, in England, 1313—E
health, in England, [Cox] *1308, *1350, *1397, 1313—E
health, in Greater Berlin, 1590
health, in America, 1021
health, report of committee on compulsory health and workmen's compensation insurance of Medical Society of County of New York, [Delphey] 206
health, social responsibilities of modern medicine, [Green] *1477
health, statistics, 1590
medical records of insured persons, 602
sickness, 394
War Risk Act and medical services created under it, [Rogers] *1079, *1165, 1107—E
INTELLIGENCE test, words beginning with P in mental test, [Lopez] 74
INTERDEPARTMENTAL SOCIAL HYGIENE BOARD, 460, 532
congress acts on appropriation for, 1774
fate of, 123
passing of, 117—E, [Dillon] 195—C
senate approves appropriation for, 1691
INTERNATIONAL Congress: See under Congress
organization of intellectual work, 666
INTERNS, additional hospitals approved for training of, 57—ME
erection of monument in memory of interns who died for France, 1587
problem in Buenos Aires, 947, 1025
INTERSTITIAL GLAND: See also Testicle
"INTERSTITIAL GLAND," warning against, [Meyer] 1866
INTESTINE, action of bacterial toxins on, [Sogen] 146
bactericidal power of intestinal mucosa, [Soli] 968
bacteriophagum, [Gjørup] 1808
cancer of, [Stretton] 1430
cancer of rectum and, [Crile] 132—ab
cancer, survival after operation for, [Malcolm] 1431
diseases, determination of catalase in, [Norgaard] 904
fermentation, [Freudenberg & Heller] 1716
foreign bacteria as influencing intestinal flora, [Klein] 1543
gas cysts of, [Zuccòla] 1374
hemorrhage at kelotomy, [Ducastaing] 967
hernia of, [Gallo] 690
hernia of stomach, transverse colon and, [Lincoln] 818
invaginations, [Michaelsen] 1436
multiple polyposis of, [Struthers] 202
obstruction, [Ogilvie] 550, [Finney] 1708, [Flint] 1799
obstruction, acute, blood urea nitrogen in, [Louria] 1794
obstruction, cause of, [Caldwell] 1533
obstruction, diagnosis of, 997—ab
obstruction, diverticulum of appendix causing, [Wilkie] 1798
obstruction, nonsurgical treatment of, [Willmoth] 1533
occlusion from adhesions, [Flesch-Thebesius] 347
parasite, fasciolopsis buski infestation, [Sweet] *1819
parasites in children, [Maxcy] 1610
parasites, treatment of hymenolepsis nana infestation, 55
perforation by ascarids, [Gilberti] 484
peristalsis in large intestine, [Zondek] 346
postoperative intestinal diseases, especially colitis, [Goldschmidt & Mulleder] 762
protozoa, flies as distributors of, 1579—E
rupture of, pneumatic, [Buchbinder] *518
sarcoma of, primary, [Telling] 549. [Perez] 1202
stasis: a suggestion, [Watt] 140
stasis, cecum and colon stasis, [Duval & Roux] 685
stasis, end results of colectomies for, [Sheen] 618
stenosis of, benign, [Van Lier] 488
stimulation of intestinal mechanism by sodium carbonate, [Hammett] 1608
toxemia and mammary tumors, [Bainbridge] 889
tuberculosis, [Brown & Sampson] 1527—ab
tuberculosis and anemia in consumptives, [Krag-Moller] 904
tuberculous stenosis of, [Oddo & de Luna] 896
wounds of liver and, [Steiger] 1140
INTRACRANIAL pressure in disease, [Kiely] *517
INTUBATION, protracted, of larynx, [v. Bokay] 75
INTUSSUSCEPTION, postoperative recurrences of, [Cohen] 1273
IODIN, distribution of, in thyroid, [Van Dyke] 617
in leprosy, [Wayson] 1039
in spinal fluid, [Osborne] *1384
influence of, on ovaries, [Jastram] 558
IODIN intravenously in septic conditions, [Bhattacharjee] 1197
resorption of, from pleural effusions, [Cobet & Ganter] 1287
swab for sterilizing site of hypodermic puncture, [Marshall] *1006
unusual susceptibility to, [Happel] *1164
IODOFORM poisoning followed by purpura, [Aperlo] 72
IOWA adopts the model vital statistics bill, 1106—E
November reciprocity examination, 675
state board September examination, 263
what we have done in, along rural health lines, [Sampson] 1013—ab
IPECAC, early use of, in dysentery, [Smith] 127—C
IRIS transplantation, study of, [Fleisher] 1322
IRITIS, anaphylactic, [Mazzei] 73
syphilitic, its racial incidence and its association with secondary syphilis and with neurosyphilis, [Zimmermann] *1818
IRON arsenite, 540
IRRESISTIBLE IMPULSE as defense against charge of murder, 1258
rejection of "the irresistible impulse," as a plea in a murder case, 1116
IRRITATION forms of Turck, 1784
ISO-AGGLUTININS and isohemolysins with reference to blood transfusiion, [Zimmermann] 488
ISOHEMAGGLUTINATION, recommendation that Jansky classification be adopted for universal use, 130
ISOHEMOLYSINS and iso-agglutinins with reference to blood transfusion, [Zimmermann] 488
ITALIAN Institute for medical bibliography, 389
Physicians Association of America, 1359
ITALY, graduate courses in, 1692
IVY, Poison: See Rhus Poisoning

J

JAPAN Medical World, 459, 1770—E
JAUNDICE after arsenical treatment of syphilis, [Milian] 143, [Policard & Pinard] 687, [Brocq] 1199
appendicular, [Caplesco] 1432
hemolytic, [Mayo] 1131
hemolytic, congenital, [Sauer] 1140
hemolytic, in helminthiasis, [Bourges] 552
hemolytic, splenectomy in, [Pennato] 1865
in newborn, [Schick] 1437
infectious, [Garnier] 482
infectious, classification of, [Garnier & Reilly] 72
infectious, primary, [Garnier & Reilly] 554
mechanical and dynamic, [Rosenthal & Holzer] 1325
spirochaeta icterhemorrhagiae in relation to Weil's disease, [Soberheim] 487
spirochaetosis icterohemorrhagica, [Ryle] 754
JAW, actinomycosis of, [Jorge] 1286
exposure of articulation of, without visible scar, [Bockenheimer] 1622
foreign body in, report of case, [Sundelof] *790
myasthenia with changes in, [Lereboullet & others] 756
JAX Capsules and Antiseptic Injection, 1185—P
JEJUNUM, diverticula of, [Terry & Mugler] 1192
lipomas in ileum or, [Odelberg] 974
ulcer of, following gastro-enterostomy, [Horsley] 200—ab, *354
JENNER, tribute to, 1775
JOINT and bone disease, [Borzini] 1285
fracture of joints and separation of epiphyses, treatment of, [Rocher & Lasserre] 1324
fractures, operative treatment of, [Ritter] 762
loose bodies in, [Kappis] 487
loose bodies in, and osteochondritis dissecans, [Kappis] 416
loose bodies in, structure, growth and origin of, [Kappis] 416
measurements, system of, [Clark] 137
JOINT rotation, protractor for measuring, [Clark] 1427
tuberculous disease of, [Sorrel] 897
tuberculosis, limits of conservative and surgical treatment of, 1779
JOURNAL, American Journal of Tropical Medicine, 944
annals of tropical medicine, published by Société belge, 1025
Archives of General and Experimental Morphology, 879
diversity of interests shown by, 317—E
editors of British Medical Journal and Lancet knighted, 317—E
Japanese Medical World, 459, 1770—E
medical, wins suit for slander, 1179
new Mexican journal, Revista Médica Veracruzana, 1256
new periodical for general practitioner in Czechoslovakia, 1590
new Portuguese journal, 1257
of American Medical Association delayed by strike, 1313—E
of Laryngology and Otology, 389
of the Philippine Islands Medical Association, 1691
of Urology transferred, 663
on public health, 1679
psychology journal transferred, 530
"Revista della Stampa Medica," Italian Institute for medical bibliography journal, 389
Sexueele Hygiene, new journal for prophylaxis of venereal disease, 531
taxation of medical journals in France, 392
JURY, commission of experts supersede jury—"classical" insanity, 473—MI
JUXTA-ARTICULAR nodes, [Silva] 345

K

KALA-AZAR: See Leishmaniasis
KANSAS state board October examination, 1365
KAPOSI, hemorrhagic sarcoma of, [McLean] 1607
KAR-RU and Gon-Nol, 671—P
KEEN, WILLIAM WILLIAMS, honors to, 389
KELOIDS, digestion of, [Ahlswede] 749
effect of pepsin fomentations on, [Frieboes] 901
KELOTOMY, intestinal hemorrhage at, [Ducastaing] 967
KERATITIS, interstitial, radiotherapy for, [Japiot & Bussy] 1712
KIDNEY, alkalosis and impairment of excretory power of, [Morse] 138
arteriosclerosis of, [Rosenthal] 557
association of kidney and liver lesions with gastric ulcers, [Le Noir & others] 411, 1711, [Gandy] 481
bladder-kidney reflex, [Pico] 277
block under combined mercury and arsphenamin treatment, [Eicke] 1715
calculi, blood changes in, [Herman & Lyon] 891
calculi, multiple renal and ureteral stones in an infant of 11 months, with results of ureteronephrectomy, [Hinman] *237
calculi, origin and growth of, [Schweizer] 968
calculi, roentgen diagnosis of nephrosis with, [Strom] 830
calculi, surgical treatment of, [v. Brunn] 74
cancer of pelvis of, [McGlannan] 133—ab
capillaries, pressure in, [Hill] 1370
colon bacillus infection of, [Cabot] 962
cyst, [Brandenstein] 416
cyst, solitary, [Kretschmer] 337
cyst, multiple, [Herrick] 752
decapsulation in eclampsia, [Lübbert] 973, [Brindeau] 1537
decapsulation in nephritis, [Karo] 558, [Fowler] 963, [Kidd] 1045
disease and arteriosclerosis, [Evans] 1861
disease and syphilis, [Lankhout] 626
disease, cerebral manifestations of cardiorenal disease, [Higgins] 1133
disease, elimination of phosphoric acid in, [Dorner] 901

KIDNEY disease in pulmonary tuberculosis, [Kieffer] 214
disease, indican in, [Becher] 1325
disease with Bence-Jones albuminuria, [Thannhauser & Krauss] 557
dwarfism due to disease of, [Barber] 1861
early diagnosis of noninflammatory contracted kidney, [Schlayer] 1541
effect on kidney and ureter of surgical procedures, [Harrington] 1530
efficiency and hyperglycemia, [Maxwell] 410
elimination of water and salt by infant, [Stransky & Weber] 692
epithelioma of pelvis of, [Perrin & Aigrot] 275, [Miller & Herbst] *918
function, accommodation test for renal functions, [Scheel] 903
function, changes in, after prostatectomy, [Darget] 482
function, effects of asphenamin on, [Elliott & Todd] 65
function in enlarged prostate, [Dobson] 963
function tests in prostatic hypertrophy, [Tillgren] 903
function, simplification of Ambard's formula, [Velasquez] 1286
function, urea concentration test for, [Weiss] *298
function, ureosecretory constant in children, [Apert & others] 341
functioning in infants, [Stransky & Bálint] 691
functioning, tests of, [Haastert] 827
high blood pressure and, [Monakow] 557
infections with appendicitis, [Harbin] 682
insufficiency, diet in, [Motzfeldt] 902
lesions in choleriform diarrhea, [Stoboziano] 1711
malignant disease with unusual symptoms, [Barney] 65
percussion of, [Galdi] 211
peristalsis of kidney pelvis, [Wasslnk] 902
permanent drainage of only kidney, [Battle] 1535
renal threshold for glucose, [Goto & Kuno] 750
renorenal reflex, [Haines & Taylor] 548
rupture of, [Fieschi] 1618
sclerosis, [Fahr] 971
surgery of, [Angioni] 1619
toxic effect of anesthetics on, [MacNider] 1511
tuberculosis, [Brady] 616, [Caspari] 1135
tuberculosis, treatment of, [Winiwarter] 1205
tumor, [Luque] 623, [Hyman] 1196, [Laurie] 1601—ab
with pulmonary tuberculosis, [Kieffer] 1141
KING'S O. K. CAPSULES, 607—P
KLEPTOMANIA, [Todde] 826
KLINKERT'S fiftieth anniversary, 1179
KNEE, arthrotomy of, [Putti] 1285
bent, treatment of, [Putti] 1285
damages allowed physician for injury to, 265—Ml
derangement of semilunar cartilage, observations in 76 operative cases, [Strahlmann & White] *561
ganglion or cystic tumor at, [Jastram] 416
jerk, method for standardizing test and its measurement, [Boehme] 138
jerk, relation of form of knee jerk and patellar clonus to muscle tonus, [Viets] 409
movable bodies in, [Lamson] 266—ab
pedunculated body in, report of cases, [Ficklen] *1499
semilunar cartilages after trauma, [Terracol & Colaneri] 898
stiff, fascia lata used for mobilization of, [Goddu] 750
trauma of semilunar cartilage of, [Jacobs & Worms] 898
tumor in joint, [Blanco] 1427
KNOT, method of tying flat knot, [Eliason] *1348
KNOWLEDGE not intended to be confidential, 957—Ml
KOCH CANCER REMEDY, 466—P, [de Tarnowsky] 537—P
KOHLER'S DISEASE, [Abrahamsen] 1328
KRAUROSIS of vulva, [Reder] 200—ab
KRETSCHMER, E., prize awarded to, 188

L

LABOR: See also Obstetrics
LABOR, acute edema of portio at delivery, [Zweifel] 1326
birth injuries and feeblemindedness, [Schott] 415
castor oil in induction of, 814
death rate among mothers due to childbirth, [Howard] 1127
dry, [Dorman & Lyon] 1794
forceps delivery and later development, [Engelkens] 78
ileus and peritonitis during, [Köhler] 829
in encephalitis, [Haultain & Thornton] 1045
intra-uterine rigor mortis, [Liegner] 1718
intravenous versus peri-oral quinin administration in, [Strakosch] 1866
maternal deaths, 128—ab
operations at childbirth, [Schieckelé] 71
painless, [Henderson] 1133
parturient muscles, [Demelin] 209
pituitary extract in, danger of, [Van Eerten] 1142
Potter version, [Rucker] 1794
relaxation of vaginal outlet: is the obstetrician responsible? [Burch] 200—ab
spontaneous delivery after cesarean section, [Grosse] 141
thrombophlebitis following, [Smead] 889
transverse presentation in twins, [Lazzarini] 210
version, [Potter] 1793
with narrow pelvis, [Schmitt] 1717
wounds of uterus at term, [Constaniesco] 967
LABORATORY, hospital, criticism of, [Stillman] *1816
medical, in the field, 945
Southern Public Health Laboratory Association, 1020
technician, proper recognition of, [Gradwohl] 127—C, [Boyd] 538—C, [Woolley] 745—C
LACRIMAL apparatus, wounds of, [Jeandelize] 1863
LACTATION, 262
effect of nursing and castration on uterus, [Kuramitsu & Loeb] 1608
LACTOSE determination by colorimetric method, [Owen & Gregg] 680
LACTOSURIA, does lactosuria occur in infancy? 1354—E
LANCET changes hands, 1412
LANDAU, LEOPOLD, death of, 463
LANE lectures, 121
LARYNGECTOMY for cancer, remote results of, [Moure] 1199
LARYNGOPHARYNGEAL diaphragm, cicatricial, [New & Vinson] *996
LARYNGOSPASM in children, pathogenesis of, [Calderin] 212
LARYNGOSTOMY, respiration after, [Ferreri] 1137
LARYNX, angioma of, [Moore] 479
cancer, remote results of laryngectomy for, [Moure] 1199
cancer, roentgen-ray treatment of, [Amersbach] 828
diphtheria, review of 515 cases in which intubation was performed, [Hoyne] *1305
function of, in thyroid cases, [Judd] 200—ab
papillomas in children, recurrence of, [Plum] 78
protracted intubation, [v. Bokay] 75
trauma of, [Garel & Gignoux] 342
tuberculosis, syphilis predisposes to, [Morton] 480
tuberculosis treatment with universal arc-light baths, [Blegvad] 903
LASH'S BITTERS, 1029—P
LEAD poisoning, industrial, [Shie] *835
LEFTHANDEDNESS and inferiority, 1010—E
in mentally defective, [Gordon] 1323
squint, and tubercle, [Rivers] 822
LEG, operative lengthening of, [Hartleib] 1438
LEG, sarcoma of bones in limbs, [Escher] 760
LEGISLATION, medical bills before Congress, 1178
in Madrid, [Garciá del Diestro & González Barrio] 689
internal, [Foti & Javarone] 1137
LEISHMANIOSIS, hemolytic test for, [Ray] 753
LENS, CRYSTALLINE, [Vogt] 1373
transplantation of, study of, [Fleisher] 1322
LENTICULAR DEGENERATION, progressive, [Comby] 481
LEONARD EAR OIL, 1418—P
LEPERS, Public Health Service takes up care of, 806
LEPROSARIUMS, [De Lint] 902
LEPROSY, antimony in, [Cawston] 1197
bacillus, cultivation of, [Kohda] 1800
constituents of chaulmoogra oil effective in, [McDonald & Dean] *1470
Dean derivatives of chaulmoogra oil in, [McDonald] 1121—C
esters of chaulmoogra oil in, 248—E
in New Orleans, [Perret] 1429
iodin and, [Wayson]
iodin, ether and chaulmoogra oil in, [Harper] 272
national conference on, 1665
notifiable in Brazil, 530
treatment of, 1180, [Hooper] 1860
LERAY, ADOLPHE, death of, 1259
LEUKANEMIA, [Symmers] *156
LEUKEMIA, acute, [Coyon & Lavedan] 1134
acute, in pregnancy, [Wailgren] 1439
aleukemic, with unusual skin manifestations, [Blankenhorn & Goldblatt] *583
benzene in, [Aubertin] 1283
cosinophil, [Aubertin & Giroux] 1712
failure of antibody formation in, [Howell] 134
in infants, [Smith] 678
lymphatic, polyneuritis early sign of, [Harris] 550
lymphatic, relationship between leukosarcoma, lymphosarcoma and, [Webster] 336
myelocytic variations in leukemic blood during treatment, [Schisler & Brown] 1043
myeloid, radium therapy of, [Rénon & Degrais] 620
myelogenous, acute, [Maynard] *238
radium treatment of, [Rénon & Degrais] 965
roentgen-ray treatment of, [Upson] 404
splenic, in pregnancy, [Kosmak] 889
type diagnosis in, [Lambright] 817
LEUKOCYTES, ameba-like, [Gunn] 1610
count, action of light on, [Clark] 748
count and altitude, [Jörgensen] 1206
count, differential value of, [Yorke & others] 963
reaction, [Ocaranza] 1865
LEUKOCYTOLYSIS in treatment of infectious diseases, [Manoukhin] 1280
LEUKOCYTOSIS and blood alkali, [Hirsch] 1042
does physiologic serum increase? [Segura] 970
LEUKOLYSINS in children's diseases, [Jemma] 413
LEUKOSARCOMA, relationship between leukosarcoma, lymphosarcoma and lymphatic leukemia, [Webster] 336
LIABILITY, Association not liable for expenses of member sick at distant place, 888—Ml
duty as between patients—liability of mining company, 1791—Ml
for injury to employee from influenza, 1191—Ml
no liability for damages in requiring vaccination, 1422—Ml
of physicians for negligence of assistant—as to substitutes, 958—Ml
of state for death from vaccine, 1366—Ml
LIBRARY of Surgeon-General's Office, 738
Transylvania, [Barkley] 1789
LICENSES, conclusiveness of records of proceedings to revoke licenses, 816—Ml
lost by Dr. Widmer E. Doremus, 736
medical papers stolen, 1507
LICENSURE and medical examinations, [Strickler] 936—ab
education of public regarding problems of, [Whiteside] 937—ab
in United States as viewed by European visitors, [Bierring] 936—ab
LIGHT, pain on change to bright light, [Siegwart] 488
LIMBERNECK in poultry and botulism in man, 1580—E
LIMBS: See Leg
LIME, chlorinated, as a bactericide for raw fruits and vegetables, 1511
effect of, in drinking water, [Opitz] 1139
liming a nation, 38—E
LIP, epithelioma of, [Sistrunk] 1857
furuncle on, [Lanz] 348
tuberculosis of, [Zeisler] 335
LIPASE in relation to nutritional disturbances in infants, [Beumer & Fontaine] 1437
LIPEMIA in acute anemia, [Horiuchi] 66
LIPOMAS in jejunum or ileum, [Odelberg] 974
of corpus adiposum buccae, review of literature and report of case, [Cameron] *778
LITERATURE, records of medical science, [Hijmans] 280
LITTLE'S DISEASE, [Criado Aguillar] 484
LIVER, abscess, emetin in, [Hodson] 1432
abscesses, splenomegaly with, [Hutcheson] *571
amebic abscess of, [Renon & Blamoutier] 1049
and kidney disease with gastric ulcer, [Le Noir & others] 411, 1711, [Gandy] 481
angle between heart and, [Cantani] 899
ascarids in pancreas and, [Eberle] 344
atrophy, roentgen-ray study of, [Strathy] 203
cancer, [Matsui] 1287
cirrhosis, causes of death with, [Blumenau] 346
cirrhosis, effect of prohibition on incidence of portal cirrhosis, [Miller] *1646
cirrhosis, spontaneous and operative cure of, [Riesman] *288
cirrhosis, splenectomy for, [Clark] 690
cirrhosis, syphilis as cause of, [Owen] 749
cirrhosis, Talma operation for, 610
effect of quinin on, [Siperstein & Litman] 1320
extirpation of, [Perroncito] 73
function, nitrogen metabolism in relation to, [Pezzali] 1618
functional capacity of, test of, 318—ab
functional tests of, [García Carrasco] 1286
infarction in, [Nebbia] 212
insufficiency, digestion hemolysis as sign of, [Widal & others] 275
insufficiency with stomach disease, [LeNoir] 1047
passage of fat to, [Geelmuyden] 1328
pericardiomediastinitis with enlarged hard liver, [Acuna & Garrhan] 414
physiology of, [Mann] 474
physiology of liver and mortality of abdominal operations, [Crile] 614
symptoms from latent appendicitis, [Poenaru-Caplesco] 755
syphilitic disease of, [Gilbert & others] 1433
toxic swelling of, [Bittorf & Falkenhausen] 1325
wounds of intestines and, [Steiger] 1140
yellow atrophy of, acute, [Weigeldt] 1325
LOCOMOTOR ATAXIA: See Tabes Dorsalis
LODGE practice in Australia, 739
LOESER'S Intravenous Solutions, 1120—P
LOUISIANA state board December report, 886
LOUSE: See Pediculus
LUARGOL and silver salvarsan, [Danysz] 757

LUCILIA CAESAR, paralysis fly, a plea for collecting its toxivirulent larvae for experimental purposes, [Saunders] 1030—C
LUDLAM'S PASTE, 1417—P
LUMBAR PUNCTURE: See Rachicentesis
LUMBOSACRAL REGION, backache and anatomic variations of, [O'Reilly] 1796
LUMINAL, 1420
eruption after, 1517
in epilepsy, [Sands] 1041
LUNG, abdominal reflexes with acute pleura and pulmonary disease, [Pastore] 276
abscess complicating pneumonia, [Foster] 1859
abscess following tonsillectomy, [Porter] 1133
abscess, roentgenographic study of bronchiectasis and, [Lynah & Stewart] 959
atelectasis, [Sewall] 474
automatism and lung reflexes in frog, [Carlson & Luckhardt] 64
bacteriology of chronic nontuberculous diseases of, [Greeley & Breteton] 1426
botryomycosis of, [McJunkin] 1320
cancer of, [Renaud] 620
cancer of, primary, [Cottin & others] 1047
echinococcosis, [Armand Ugon] 1713
echinococcosis, artificial pneumothorax in, [Alexander] 1288
edema, hemoptysis as equivalent for, [Gallavardin] 1282
foreign bodies (projectiles) in, [John] 760
gangrene, intrabronchial injections in, [Guisez] 1136
gangrene of, serotherapy of, [Emile-Weil & others] 1862
gangrene, spirochetal, [Fishberg & Kline] 475
gelatinous and epituberculous infiltration of, in child, [Eliasberg & Neuland] 973
infections, and calcium metabolism, [Palacios] 1043
mold infections of, secondary, [Emerson] 1524—ab
mycosis of, [Galdi] 758
osteo-arthropathy, secondary, hypertrophic, [Kleinberg] *435
passage of oxygen through, 456—ab
projectiles in, [Jehn] 760
puncture of, transient blindness after, [Schlaepfer] 828
spontaneous and artificial lesions, [Maitland & others] 1044
sporohtrix of Schenck infection of, [Le Blanc] 135
streptothricosis of, [Glaser & Hart] 1719
surgery, status and results of, 462
syphilis, [Pontano] 210, [Elizalde] 759, [Minton] 1859
syphilis, acute, [Miranda] 146
syphilitic pleuropulmonary disease, [Chiray & Janet] 1862
tumors, diagnosis of, [Christie] 1320
typhoid pseudotuberculous symptoms in, [Lemierre & Deschamps] 1802
LUPUS, epithelioma developing on, [Wander] 335
pernio in child, [Weber] 1710
LUTHER, Martin Luther of medical education, 1170—E, [Pepper] 1515—C
LYMPH NODES, mediastinal, in tuberculosis, pathology of, [Gloyne] 1536
spirochetes in, [Fruhwald] 973
tuberculous, operative versus roentgen-ray treatment of, [Tichy] 1806
LYMPHADENOMA, [Langley] 1708
LYMPHANGIOMAS, boiing water injections in, [Reder] 478
cystic, of shoulder, [Jorge] 759
LYMPHOBLASTOSIS, acute, benign, [Bloedorn & Houghton] 1040
LYMPHOCYTES, effects of roentgen ray on, [Russ & others] 340
fate of, [Bunting & Huston] 1532, 1769—E
LYMPHOGRANULOMATOSIS of inguinal glands, [Ravaut & Scheikevitch] 1281
LYMPHOID tissue, effect of lack of vitamins on, [Cramer & others] 1709
LYMPHOMAS, treatment of, [Bacnscö] 558
LYMPHOSARCOMA of stomach, primary, [Broders & Mahle] 1796
relationship between leukosarcoma, lymphosarcoma and lymphatic leukemia, [Webster] 336
LYON TEST (magnesium sulphate lavage of duodenum) for determination of gallbladder disease, [Crohn & others] *1567

M

MACROGENITOSOMIA praecox, [Ambrozic & Baar] 1376
MAGNESIUM, action of, on metabolism, [Schiff & Stransky] 75
sulphate and calcium chlorid intravenously in influenzal pneumonia, [Hogan] 1279
sulphate in arsenic poisoning, value of, [Hansen] 960
sulphate, increased effect of, when used with morphin, [Gwathmey] *222
MAINE state board November examination, 611
MALARIA, [Johnson & Gilchrist] 550
anophelines in connection with occurrence of, [Swellengrebel & de Graaf] 148
baths to enhance action of quinin, [Lurz] 1204
campaign against, 1116, 1694
campaign against, in Roman district, [Grassi & Sella] 1374
congenital, [Pennato] 1435
encephalomyelitis of malarial origin, [Marinesco] 481
epidemic, 1694
examination of blood for, [Hylkema] 830
hematoblasts in ankylostomiasis and, [Leger] 755
malignant, in France, [Brule & others] 481
pernicious anemia in, [Coda] 1374
problem in Spain, 324
sanatorium at Rome, 664
statistics for 1920, 1118
test for quinin in, [Broughton-Alcock] 1860
transmission by Ludlowi mosquito, [Hylkema] 1807
treatment of, [Silvestri] 146
tropical, [Seyfarth] 971
urticaria in, [Froes] 826
use of vitez peduncularis in, [Vaughan] 752
MALFORMATION, factors in defective development, [López] 1203
MALINGERING and workmen's compensation, [Giordano] 1374
MALLEIN TEST in diagnosis of glanders, [Mason & Emmons] 67
MALNUTRITION, [Marfan] 553
in schoolchildren, [Brown & Davis] 962
MALPRACTICE, action for, 739
defense, communication on, 1683
not shown in compound fracture case, 1191—MI
physicians not insurers—requirements—evidences, 62—MI
questions in malpractice case, 1422—MI
MALT soup extract as antiscorbutic, [Gerstenberger] 1273
MANDIBLE: See Jaw
MANGANESE as a poison, 867—E
dioxid, quantitative distribution of particulate material, manganese dioxid, administered intravenously to cat, [Drinker & Shaw] 477
MANOMETER MASK, [Pech] 897
MARASMUS, intraperitoneal injection of dextrose in, [Moore] 1612
MARIE, A., prizes for, 1411
MARRIAGE, annulment of, for concealment of mental condition, 747—MI
of syphilitics, [Queyrat & others] 552, [Bory] 898
MARTYRS, another martyr to roentgen rays, 1181
deaths of workers at radium institute, 1360, 1412
professional radium injuries, 1397—ab
MARYLAND state board December examination, 746
MASKS: See Face Masks
MASON, WILLIAM E., and Nuxated Iron, 660
MASSACHUSETTS and Halifax Health Commission, appointments of, 599
state board November examination, 885
MASSAGE, Japanese method of, 1694
MASTITIS, primary, gonorrheal, 234—ab
syphilitic, [Burnier] 1434
MASTOID operations, local anesthesia for, [Kocbbe] *1334, [McCormick] 1594—C, [Wildman] 1783—C
MASTOIDITIS, latent, [Luc] 687
scarlatinal, [Torrents Castelltort] 969
MATERIA MEDICA in Argentina, 531
MAYO, DR., and the drugless healer, [Mayo] 814—C
MAYORS are personally responsible for payment of town physicians, 1777
MEASLES, abortive, [Ugon] 414, [Berro] 759
and croup, [Morquio] 413
and diphtheria, [Ponce de Leon] 484
and whooping cough, [Pelfort] 484
etiology of, [Zamorani] 345
experimental, [Blake & Trask] 1194, [Blake] 1527—ab
experimental, acquired immunity following, [Blake & Trask] 1532
in army, 48
ocular complications in, [de Salterain] 690
otitis in, [Munyo] 1865
preventive serotherapy in, [Degwitz] 1376
progress in study of, 1172—E, [Herrman] 1264—C
relative immunity of infants to, 1778
statistics of, in army, 390
unusually long incubation of, [Bonaba] 759
MECONIUM, discharge of, during delivery and its connection with intra-uterine asphyxia, [Gejrot] 418
MEDALS, award of John Scott medals, 121
bestowal of an American medal on a French scientist, 392
MEDIASTINUM, suppuration in, treatment of, [Lerche] 1196
surgery of, [Schwyzer] 266—ab
MEDICAL corps, numerical strength of, 322
corps of United States Navy, circulars describing, 945
corps, reduction affects, 665
corps, schools of instruction of, 256
department of army, achievement of, in world war, in light of general medical progress, [Ireland] *763
department of army, new legislation of, 601
department of army, schools for, 48
freedom and peculiar practitioners, [Diler] 398—C
officer, awarded distinguished service medal, 945
officers at Army General Staff College, 256
officers, new duty for, 665
officers of U. S. Navy relieved from active duty, 322
officers, private practice by, 1359
officers' reserve training school, 390
officers, special classification of, 322
regiments, organization of, 390
register and the war, 1512
Reserve Corps, appointments in, 1776
Reserve Corps, its present status and plans for its organization, 1179
Reserve Corps, membership of, 601
Reserve Corps of Army, 256
Reserve Corps officers and Army medical schools, 665
Reserve Corps, promotions in, [Hawkes] 53—C
Reserve Corps, strength of, 1114
Reserve Officers, 532
Reserve Officers' Corps regulations will be published, 877
Reserve Officers may care for war veterans, 1776
Reserve Officers Training Corps unit, 48
science, cults and publicity, 470—ME
Veterans of World War, 1317
Veterans of World War, reunions of, 1452
MEDICINAL herbs, scarcity of, in Germany, 1342—ab
MEDICINE, adequate medical service for a community, [Smith] *1055
future of, in America, [Barker] 1527—ab
MEDICINE, future of private medical practice, [Billings] *349
history of, [Jansma] 1622
illegal practice of, an alleged conspiracy to enforce medical law, 403—MI
Illegal practice of, law against illegal use of medical title, 51
In ancient Egypt, [Ebbell] 1439
international congress for history of, 188
medical profession and the public, [Mayo] *921
new French treaties on practice of medicine, 49
practice of, in Spain by foreigners, 324
practicing medicine without a license, suit for penalty is civil, with right to jury, 473—MI
preventive, a state function, 175—ab
preventive, effect of war on sanitary knowledge, 464
preventive, evolution of, [Chapin] *215
preventive, hygiene and health habits, [Lee] 269
primitive, science and art in primitive Peru, [Escome] 1138
private practice forbidden in Russia, 1107—ab
relativities in medicine, [Cary] 821
social relations of medical profession, 1666
social responsibilities of modern medicine, [Green] *1477
social uses of, [Armstrong] 201
some medical problems, [Work] *1623
spirit of observation in, [Cruchet] 756
state, resolutions on, 1682
MEDIUM, brain culture media, [Haslam] 137
biologic reaction of, [Blanc & Pozerski] 823
citrated blood culture medium, [Weissenbach] 72
simplified culture medium, [Norris] 69
use of washed agar in culture media, [Ayers & others] 136
vitamins in culture medium, [Jimenez] 1865
MEGACOLON: See Colon
MEHARRY MEDICAL COLLEGE, improved outlook for, 541—ME
MELANCHOLIA, strychnin treatment of, [Hartenberg] 1538
MELENA neanatorum, [Fua] 345, [Bernheim-Karrer] 1718
MEMORIES, therapeutic value of revival of emotional memories, [Brown] 549
MENINGITIS, [Castiñeiras] 1541
antimeningococcus serum in, [Blackfan] *36
aseptic, purulent, in uremia, [Bang] 1376
bacillus acidi-lacti, [Greenthal] 678
cerebrospinal fluid in, [Shearer & Parsons] 754
consecutive to spinal anesthesia, [Sanchis-Banus] 415
immunologic study of Pfeiffer's bacillus isolated from case of, [Anderson & Schultz] 1532
in infants, [Caussade & Remy] 966, [De Angelis] 1538, [Zebrino] 1540
influenzal, [Abt & Tumpeer] 1607
laminectomy for, [Hill] 267—ab
lumbar puncture and, [Webster] 410
meningococcus, [Root] 1607
meningococcus, in infants, [Cavengt] 74
pneumococcus, [Zerbino] 414
posttraumatic, serous, in children, [Lindenberg] 974
staphylococcus, [Lortat-Jacob & Grivot] 686
syphilitic, [Clark] 146
toe sign in, [Edelmann] 1205
tuberculous, [Morquio] 751
tuberculous, complicated by ulcerative colitis, [James & Shuman] *240
tuberculous, curability of, [Harbitz] 817, [Anderssen] 1808
tuberculous, diagnosed by eye findings, [Ribón] 1050, [Arboleda] 1050
tuberculous, in adults, [Holten] 480
uncontrollable vomiting in, [Lemaire & Stiassnie] 343
vaccine treatment of, [Delahet] 141
with arthritis, [Weissenbach & Merle] 554
MENINGO-ENCEPHALITIS, hemorrhagic, in anthrax, 3 cases, [House] 203

MENINGOCELE, spheno-orbital, [Luz] 899
MENINGOCOCCUS infection, [Thomson & Wolff] 904, 1807
MENOPAUSE, vasomotor disturbances at, [Zondek] 626
MENSTRUATION, conservation of, [Haskins] 1424—ab
effect of severe burns on, [Beekey] 417
influence of, on food tolerance in diabetes, [Rosenbloom] *1742
relation of thyroid to, [Levinsohn] 673—C, [Engelbach] 673—C, [Osborne] 674—C
tuberculin reaction during, [Couland] 1049
MENTAL Defective: See Feeblemindedness
Disease: See Insanity
hygiene, French league for, 190, 1775
hygiene, influence exercised by family physician on mental health of community, [Owensby] 1704—ab
hygiene, Netherlands league for, 1585
therapy, [Clark] 1277
MENTHOL and peppermint in acute catarrhal conditions of respiratory tract, [McGulgan] *303
MERCUROCHROME-220, action of, on gonococcus, [Swartz & Davis] *844
Soluble, 1403
MERCURY colic, [Milian] 209
effect of intravenous administration of arsphenamin, neo-arsphenamin and mercury on Wassermann test in normal serums, [Kilduff] *1489
histologic changes produced by, [Kolmer & Lueke] 1274
in nonsyphilitic stomach disease, [Godoy Tavares] 690
kidney block under combined mercury and arsphenamin treatment, [Eicke] 1715
scientific background for use of arsenical and mercurial compounds in syphilis, 1501—E
MESENTERY, cysts of, in childhood, [Valente] 968
embolism in hemophiliae, [Bloek & Goldberg] 891
tumors, [Ransohoff & Friedlander] 890
vascular occlusion, [Loop] 1797
MESOCEPHALUS, suppurative ependymitis of, [Loeper & Forestier] 1373
MESOTHELIOMA, primary, of pleura, [Du Bray & Rosson] 134
METABOLISM, action of magnesium on, [Schiff & Stransky] 75
basal, 56, [Rouillard] 1201
basal, and diet in tuberculosis, 592—E
basal, and hyperthyroidism, 398, [Lahey & Jordan] 1275
basal, determination, tests with 2 portable closed-circuit respiration apparatus, [Tihen] *86
basal, determination with Benedict apparatus, and a simplified method of calculation, [McCaskey] *978, 1263—C
basal, fundamental classification of diseases by basal metabolic rate, [Boothby] *84
basal, in borderline cases, [Beall] *1639
basal, in experimental traumatic shock, [Aub] 269
basal, influence of endocrines on respiratory exchange, [Marine & Lenhart] 269
basal, kymograph attachment for Benedict metabolimeter, [Earle & Goodall] 1535
basal, of girls, 1688—E
basal, physiologic expenditure of energy as measured by soldier on the march, 604
basal, variations in, [Harris & Benedict] 1277
calcium, and pulmonary infections, [Palaeios] 1043
climate an adjuvant in treatment of pathologic metabolism, [Oswald] 1284
combination mouth and nose piece designed for use with metabolic apparatus, [Moore] *1163
device for measuring rate of, [Jones] 475
fat, in diabetes, [Blau & Nicholson] 134
influence of food on, [Corinaldese] 210
METABOLISM, muscular tone and, [Grafe] 1052
pulse rate in relation to metabolism and diagnosis, 181—E
purin, derangement of, [Thannhauser & Czoniezer] 1287
METACARPOPHALANGEAL joints, stiff, treatment of, [Dickson] 893
METATARSUS, infraction of second metatarsal head, [Painter] 1795
METHYL ALCOHOL versus "wood alcohol," 42—E
METHYLAX BLUE PEARLS, 1185—P
METHYLENE BLUE in trichomonas infestation, [Block] 271
METHYLETS, 126—P
METHYLOIDS, 671—P
METILOL, 743—P
METOL dermatitis ("photographers' eczema"), 540
METRANOIKTER, new model of, designed to facilitate its insertion and removal, [Hirst & VanDoleen] *1825
METRIC SYSTEM as national standard, 121
resolution on, 1682
METRORRHAGIA: See Uterus, Hemorrhage
MEXICAN Academy of Medicine, 1510
public health activities, 462, 1509
MEYER'S Red Diamond Kidney Tablets and Compound Extract of Sarsaparilla with Iodid of Potassium, 1417—P
MICHAELIS' method in estimation of gastric digestive juices, [Bosisio] 689
MICHIGAN state board January examination, 1699
state board October examination, 954
turns down chiropractors, [Warnshuis] 1363—C
MICROBIC species, dissociation of, a preliminary communication, [Kruif] *651
MIGRAINE, [Pagniez] 687
in children, [Comby] 481
pathogenesis of, [Remond & Rouzaud] 481
MIKULICZ tampon, modification of, [Gibson] 1367
MILITARY medical teaching, standardization of, 1692
Surgery: See Surgery, military
training, beneficial aspects of, 453—E
training, universal, resolution on, 1683
MILK, alleged germicidal properties of, 728—E
antiscorbutic potency of, variations in, 1105—E
bacteria in, milk-powder agar for determination of, [Ayers & Mudge] 136
bromin poisoning in infant due to milk from mother taking patent medicine, 1012—E
deficiency in heat treated milks, [Daniels & Loughlin] 66
effect of diet on chlorin concentration of, [Denis & Sisson] 1706
human, Wassermann reaction in, [Rusca] 968
in tropics, [Blaekman] 70
intolerances for, [Rhonheimer] 973, [Schricker] 1204
laboratory in Uruguay, 1020
modification, necessity of clear thinking in, [Hill] *633, [Richardson] 953—C
powders, antiscorbutic potency of, [Hart & others] 1367
question again in France, 392
raw, infantile scurvy on diet of, [Faber] 1273
sour, streptococci in, [Jones] 477
streptococcus hemolyticus in milk, [Salter] 1127
temperature control as related to improvement in milk, cream and butter, [Kitchen] 1195
tickets, preferential, in Paris, 324
vitamins in, [Rosenau] 1531
MINNESOTA state board January examination, 1596
state board October examination, 400
MIR-A-CO, 327—P
MISBRANDING of goods, bill to prevent, 1584
MISSOURI practice act, reactionary amendment to, 1251—E
practice law attacked by irregulars, 471—ME, 596—E
state board January examination, 1699
state board October examination, 471
MODIFIED Salicylic Acid and "Samarin," 883—P, [Taylor] 1030—C
MON-ARSONE not admitted to N. N. R., 1781—P
spirochetieidal value of disodium ethyl arsinate (Monarsone), [Nichols] *1335
MONOD, CHARLES, death of, 1259
MONOMETHYLAMIN poisoning, [Asjes] 280
MONONUCLEARS, increase of, 1784
MONSTERS, case of derodidymus (dicephalus), [Beach] *1748
case of iniencephalus, [Michel] 417
thoracopagus delivered by cesarean section, [Bounds & Shanks] 1533
MONTANA state board October examination, 128
MONTAUK SANTAL COMP., 743—P
MONTENEGRO, prevailing diseases in, 1414
MONTI, A., tribute to, 1775
MONTPELIER Faculty of Medicine, seventh centennial of, 533
MORESELLI, tribute to, 390
MORLEY'S WONDERFUL EIGHT, 607—P
MORPHIN addicts, allergic reaction in, [Kogerer] 1205
effect of, on alkali reserve of blood, [Gauss] 547
evidence of unlawful sale of, 1702—MI
increased effect of, when used with magnesium sulphate, [Gwathmey] *222
memorial erected to discoverer of, 47
MORTALITY rates of college women, 1106—E
MOSQUITO, effect of castor oil on spreading power of paraffin in antimosquito work, [Leak] 964
nuisance, 385—ab
tree breeding anophelines, [Blacklock] 1046
MOUNTAIN sickness, mechanism of, [Langlois & Binet] 1136
MOUTH, cancer of, [de Veechis] 211
operation on, general anesthesia for, [Vetri] 758
MOVING PICTURES, eye strain due to, 1510
MOWERY'S GONORRHEA PASTE, 1263—P
MUCOUS membranes, bacterial parasites of, [Oliver & Wherry] 1322
membranes, constitution of, in relation to latent microbism, with especial reference to vaginal flora and puerperal fever, [Loeser] 829
MUMPS: See Parotitis
MUNITIONS workers, occupational poisoning in, [Rubino] 555
MURDER, irresistible impulse as defense against charge of, 1116, 1258
MURPHEY'S SECOND SUMMER REMEDY, 1417—P
MUSCATELLO method of sterilizing catgut and silk suture material, [Greco] 1713
MUSCLE, adaptation of size and shape of, to work demanded of it, [Weizsäcker] 486
contracture under immobilizing bandage, [Meyer] 1716
parturient, [Demelin] 209
pathologic hardness of, [Lange & Eversbusch] 1542
primary tumor in aponeurosis, [Bolognesi] 1619
sensations in, [ten Horn] 1436
tissue, inhibition power of, [Schiff & Stransky] 1716
tonus and creatin in man, [Hammett] *502
MUSEUM, Army Medical, 738
historical, medical, [Djurberg] 1544
MUSHROOM poisoning, injection of oxygen in, [Hubert] 824
MUSTARD GAS, effect of, on antibody formation, [Hektoen & Corper] 1042
effect of, on tubercle bacillus, [Corper & Rensch] 1042
MYASTHENIA with changes in jaws, [Lereboullet & others] 756
MYCOSIS in Peru, [Escomel] 622
of oysters, [Pettit] 1048
MYELOCELE not immediately fatal, [Cokkinis] 1045
MYELOMA, investigations on, [Waligren] 488
multiple, [Branham & Lewis] 547
relation of multiple vascular tumors of bone to, [Wells] 1530
MYELOMA, transient, multiple, in course of acute infectious diseases, [Blattels] 1528—ab
MYOCARDIUM disease, diagnosis of, [Pardee] 1528—ab
infarct in, [Lian] 1282
necrosis in hyperthyroidism, [Goodpasture] *1545
tuberculosis of, [Adamson] 340
MYOCLONUS, [Pilotti] 1713
familial dementia praecox with, [Krabbe] 1544
MYOMAS, necrosis of, during pregnancy, [Guggisberg] 1713
roentgen treatment of, [Béclère] 1538
MYOPIA, causes of, [Chevallereau] 1863
MYOSITIS, multiple, progressive, ossifying, [Manuwald] 1205
MYOTONIA atrophica, familial, [Broadwin] 548
MYROXYLON, pharmacologic study of, [Maldonado & Esposto] 622
MYXEDEMA, concentration of serum and viscosity of blood in, [Deusch] 971

N

NARCOTICS: See under Drug
NASOPHARYNX, cancer of, access to, [Mérola] 970
secretions from influenza patients, studies of, [Olitsky & Gates] *640
secretions in influenza, infectivity of, [Olitsky & Gates] 1194
tumors, fulguration for, [Samengo] 1139
NATIONAL Board of Medical Examiners, development of model qualifying examination by, [Arnold] 937—ab
Board of Medical Examiners, appropriation for, 1774
Board of Medical Examiners, report of tenth examination of, 1518—ME
Dental Association, resolution on, 1755
Education Association, cooperation with, 1664
Iodine Solution not admitted to N. N. R., 1592—P
Research Council, bulletins of, 330
Research Council information service, 1584
NAVY medical corps, vacancies in, 1412
medical department, changes in, 1258
Medical officers of: See Medical Officers
report of Surgeon-General of, 122
NEBRASKA state board November examination, 675
NECK, absence of, [Dubreuil-Chambardel] 1802
large tumor in, [Sacco] 1540
NECROPSY and medical progress, 526—E, [Speed] 673—C
findings in new-born, [Warwick] 1607
obligatory in hospitals of Italy, 664
record, creditable, [Ashhurst] 540—C
NEGROES, immunity of, to heat stroke and sun stroke, [Figueras] 1619
improved outlook for Meharry Medical College, 541—ME
pulmonary tuberculosis in, [Gruber] 1621
NEIVA, A., in Japan, 255
NEMATODES, effect of secretions of, on blood coagulation, [Schwartz] 1323
NEOARSPHENAMIN by vein for syphilitic infants, [Blechmann] 143
fall of blood pressure after injection of, [Luzadder] 1594—C
fatal acute uremia after, [Lesné] 1433
gangrene from thrombosis during treatment with, [Oddo & Giraud] 1616
histologic changes produced by, [Kolmer & Lucke] 1274
in putrid bronchitis, [Schroeder] 904
jaundice after, [Polieard & Piuard]] 687, [Brocq] 1199
rectal injection of massive doses of, [Mehrtens] *574
simplified method of preparing solutions of, [Schamberg] *173
Squibb, 1007

NEOARSPHENAMIN, therapeutic value of various brands of arsphenamin and, [Voegtlin & Smith] 547
to ward off by-effects of [Sicard & Paraf] 896
toxicity of, [Raiziss & Falkov] 1276
NEOCINCHOPHEN, 113
NEPHRECTOMY, tuberculous perinephritis after, [Thevenot] 1801
NEPHRITIS, acute, heart in, [Alwens & Moog] 827
acute, in syphilis, [Silverman] 1278
acute, without kidney disease, [Ameuille] 1282
and parathyroid bodies, [Bergstrand] 903
chronic, [Morris] 1703—ab
chronic, clinical evidences of acidemia in, [Cornell] *715
classification of Bright's disease, [Floyd] 1195
decapsulation of kidney in, [Karo] 558, [Fowler] 963, [Kidd] 1045
glomerular, Volhard's theory of, [Hülse] 761
hemorrhagic, [Zehbe] 829
in childhood, prognosis of, [James] *505, 744—C, [James] 744—C
prognostic value of blood-creatinin in, [Rabinowitch] 1705
pulse rate in, [Janowski] 823
residual nitrogen in, [Rathery & Bordet] 824, [Rathery] 1282
retinitis in, [Marin Amat] 1286
NERVE, auditory, syphilis of, [Lloyd] 1610
defects, surgical problem of, [Stookey] 1603—ab
defects, treatment of, [Stopford] 410
fibers in peripheral nerve trunks, [Riquier] 1137
injuries due to errors in technic in making intravenous arsphenamin injections, [Lewis] *1726
injuries, operative exploration in, [Platt] 1431
maxillary, simple route to, for production of anesthesia and for alcohol injections in neuralgia, [Payr] 417
optic, posterior sinus infection with involvement of, [Crane] *28
peripheral, operation on, [Tenani] 1435
peripheral, suture of, [Naffziger] 1435
section, trophic ulcers following, [Brüuning] 1288, [Leriche] 1372
sympathetic, cervical, paralysis of, [Terrien] 757
tissue, cultivation of, outside of body, [Henriksen] 1054
trifacial, fifth root resection under local anesthesia, [Coughlin] 267—ab
vagus, cardiac standstill with syncope following pressure on right vagus nerve, [Blanton & Blanton] *1220
NERVOUS diseases, hospital for, 1587
system, function of sympathetic and parasympathetic systems, [Pottenger] 1322
system, syphilis, [Hanssen] 903
system syphilis, cerebral glycosuria with, [Urechia & Josephi] 1710
system, syphilis, conjugal, [Gordon] 1608
system, syphilis, early postarsenical neurosyphilis, [Lakaye] 70
system, syphilis, feeblemindedness in, [Raeder] 959
system, syphilis, inherited, [Ciuffini]] 1375, [Mensi] 1539
system, syphilis, in children, [Hunt] 1608
system, syphilis, involvement of nervous system during primary stage of syphilis, [Wile & Hasley] *8
system, syphilis, pathogenesis of neurorecurrence, [Gougerot] 143
system, syphilis, provocative reactions in cerebrospinal fluid in [Solomon] 65
system syphilis, pupil as diagnostic aid in, [Russell] 1797
system, syphilis, relative effectiveness of various forms of treatment in neurosyphilis, observations on comparative value of routine intravenous treatment, spinal drainage and arsphenamized serum intraspinally (Swift-Ellis), [Stokes & Osborne] *708
NERVOUS system, syphilis, treatment of, [Ravaud & others] 71, [Sicard] 143, [Fordyce] 1127
system, tuberculosis of, [Roqueta & Umbert] 556
system, vegetative, action of calcium on, [Usener] 1437
system, vegetative, blood picture in disturbances of, [Schenk] 624
system, vegetative, pharmacologic tests of, in children, [Friedberg] 1805
NERVOUSNESS, [Paranhos] 414
reduction of nervous irritability and excitement by progressive relaxation, [Jacobson] 1427
NETHERLANDS, council on pharmacy and chemistry in, 737
league for mental hygiene, 1585
NETTER, A., retirement of, 1179
NEURALGIA of sympathetic system, [Tinel] 1136
trifacial, alveolectomy for, [Gross] 1042
trifacial, anesthesia in operative treatment of, [Trogu] 1435
trifacial, refinement in radical operation for, [Frazier] *107
trifacial, simple route to maxillary nerve for production of anesthesia and for alcohol injections in, [Payr] 417
NEURASTHENIA, abdominal, [Taylor] 135
and anguish neuroses, [Lellis] 1203
patient and internist, [Mallory] *788
present day conception of, [Reichardt] 1288
sexual, [Bruni] 1539
NEURITIS, ascending, [Bolten] 1438
optic, and encephalitis, [Symonds] 340
optic, retrobulbar, [Strebel] 968
peripheral, during pregnancy, [Foggie] 1280
syphilitic, after emetin, [Bourgin] 72
NEUROFIBROMATOSIS, diffuse, [Iuspa] 1865
NEUROGLIOMA, cystic, of pineal gland, [Businco] 1285
NEUROLOGISTS, French, annual meeting of, 1588
organize in Norway, 322
NEUROLOGY in art, 1105—E
in United States, [Lhermitte] 1371
recent progress in, [Laignel-Lavastine] 1135
NEUROMAS, acoustic, [Cushing] 1611
amputation, [Grester] 1053
extramedullary fibroneuroma, [Howe] 1611
NEUROPSYCHIATRY, graduate training in, 732
NEUROSES, anguish, [Christin] 1284
anguish, and neurasthenia, [Lellis] 1203
education and its rôle in prevention of, [Nicols] 207
reflex, cured by operation on nose, [Alikhan] 413
vasomotor, trophic, [Bolton] 560
NEUROSYPHILIS: See Nervous System, Syphilis of
NEUTRALITY balance, loss of, [Larsen] 1808
NEVADA state board November examination, 675
NEVUS, pigmented, in idiot, [Tollendal] 556
NEW HAMPSHIRE state board September examination, 197
NEW JERSEY state board October examination, 331
NEW MEXICO state board April examination, 1784
state board October examination, 675
NEW YORK state board June and July examination, 610
state board October examination, 1266
NICOTIN and tobacco, 180—E, [Bush] 469—C, [Busey] 469—C, [Tracy] 469—C
NISSL'S staebchenzellen, [Noda] 1130
NITROBENZOL poisoning from shoe dye, [Neuhoff] 820
NITROGEN elimination, rate of, [McEllroy & Pollock] 1706
metabolism in relation to liver function, [Pezzali] 1618
residual, in tissues, [Becher] 1051
NITROUS fumes, poisoning from, [F. Jacoulet] 144
Oxid Anesthesia: See Anesthesia, nitrous oxid
NOMENCLATURE of diseases, 1199
of diseases, international conference on, 390
NONTECHNICAL course in "anatomy and physiology of disease," for undergraduate college students, [Manwaring] *1824
NORTH DAKOTA state board January examination, 1420
NORWEGIAN physicians receive questionnaire on prohibtion, 1691
NOSE, accessory sinuses, complications of sinusitis in children, [Paunz] 147
accessory sinuses, complications of paranasal sinusitis, [Schlittler] 344
accessory sinuses, bronchiectasis and bronchitis associated with sinus disease, [Webb & Gilbert] *714
accessory sinuses, infection of, as cause of appendicitis, [Watson-Williams] 1280
accessory sinuses, infection of posterior sinus with optic nerve involvement, [Crane] *28
bitten off by a rat, rhinoplasty for, [Behrend] *1752
etiology of acute nose, pharynx and tonsil inflammations, [Mudd & others] 1130
obstruction, treatment of, [Botey] 969
operation on, cures reflex neurosis, [Alikhan] 413
rhabdomyoma, [Reitter] *22
septum, perforations of, due to inhalation of arsenous oxid, [Dunlap] *568
syphilitic manifestation in, [Hays] *1557
NOSOGRAPHY of northeastern Brazil, [Gaviao Gonzaga] 1540
NOSTRUMS: See also Proprietary Medicines
NOSTRUMS and tuberculosis, [Klare] 1141
exploitation of foreign born, 593—E
pharmaceutical Barnums, 42—E
NOTE, validity of, taken from patient, 1037—Ml
NOVARSENOBILLON: See Neo-arsphenamin
NOVASPIRIN, cinchophen and neocinchophen in rheumatic fever, [Hanzlik & others] *1728
Tablets, 179
NOVITA remedies, 327—P
NUCLEUS, structure of, [Tamura] 139
NURSES, applicants for Army Nursing Corps solicited, 601
army training school for, 322
British tribute to American physicians and, 390
drive for student nurses, 600
scarcity of, in Vienna, 1257
testimony as to services of nurse not privileged, 1703—Ml
training of, 1184
visiting, in Belgium, 604
NUTRITION in Vienna, [Gibbon & Ferguson] 1046
index of development and, [Wagner] 1543
newer aspects of nutrition disorders, [Hess] *693
of children in Saxony, 881
scientific, [Mouriquand] 553
state of, versus infection, [Wertheimer & Wolff] 1718
work in public schools of Chicago, [Rich] *998
NUXATED Iron and William E. Mason, 660

O

OBESITY after epidemic encephalitis, [Livet] 1862
constitutional, pathology and treatment of, [Grafe] 486
danger of, 523—E
fatal, [Maranon & Bonilla] 555
in children, [Mouriquand] 209
research on, [Martinet] 757
treatment of, 525—E, [Romero] 556
OBSTETRICS: See also Labor
OBSTETRICS, blood pressure in, value and significance of, [Schultze] 138
progress in, [Peralta Ramos] 1375, [Devraigne] 1616
report of committee on graduate training in, [Williams] 800
teaching of, defects in, [Polak] *1809
OBSTETRICS, teaching of gynecology and, [Williams] 872
OCCUPATIONAL DISEASES: See Industrial Diseases
OCCUPATIONAL THERAPY, [Thompson] 1597—ME
in mental hospital, [Devlin] 269
OCULOCARDIAC REFLEX: See Reflex, Oculocardiac
OCULOPALPEBRAL sign, [Pimenta Bueno] 1203
OHIO, report of Ohio committee on anesthesia, 1790
state board December examination, 1033
OILS, action of, on bacteria, [Fontes] 1138
OKLAHOMA state board April examination, 1033
state board January examination, 1521
OLD AGE, biologic and pathologic aspects of, 1589
surgical operations in, [Culler] *1158
OLECRANON, transverse fracture of, [Kotter] 972
OMENTUM, pseudocysts of, [de Andrade] 622
torsion of, [Swain] 752
torsion of, case of, [Hawkes] *107
ONIONS, raw, favorable effect of, on gastric digestion, [Wilbrand] 487
OPERATION: See also Surgery
OPERATION, evidence of contract to pay for operation, 62—Ml
treatment of osteomyelitis after parent refused to give consent to operation, 473—Ml
OPHTHALMIA and diet, [Osborne & Mendel] *905, 1355—E
associated with a dietary deficiency in fat soluble vitamin (A), [Wason] *908
neonatorum, [Buchacker] 1542
neonatorum before birth, [Dundas] 559
OPHTHALMOLOGY, dates changed for international congress of, 736
general arc-light bath in, [Lundsgaard] 830
Paris Faculty's course in, 531
protein treatment in, [Coppez] 1863
report of subcommittee on graduate training in, [Lancaster] 799
OPHTHALMOPLEGIA, familial, [Fiorenza] 1435
progressive, unilateral, [Foix] 274
transient, [Caprario] 413
OPIUM committee, Mrs. Hamlton Wright on, 944
law in Germany, 1257
test for secretion in stomach, [Jarno] 901
OPTIC THALAMUS, double thalamic syndrome, [Christiansen] 483
ORBIT, phlegmons of eye and, [Rollet & Bussy] 342
ORCHITIS and epididymitis from muscular strain, [Cathcart] 1133
ORGAN EXTRACTS as oxytocics, [Köhler] 1620
for defective children, [Clarke] 546
ORGANO TABLETES, fraudulent exploitation of, 887—Ml
ORIENTAL SORE (of Italian origin) encountered in United States, [Spencer] *1494
on hand, [Pino Pou] 899
treatment of, [Doyle] 339
ORIENTAL UNIVERSITY—diplomas for sale, 461
charter, 453—E
fraud, 1775
ORION PEARLS S and C Compound, 743—P
ORTHOMELIC, [Wood] 1426
ORTHOPEDICS and surgery for children, [Mouchet & Roderer] 411
better training in, [Jones] 752
instrumental, [Bidou] 897
report of committee on, 733
status of, [Baer] 821
OSGOOD'S SPECIAL CAPSULES, 1263—P
OSSIFICATION of bones in head, [Stettner] 900
OSTEITIS fibrosa, [Bloodgood] 206, [Langenskiold] 830
fibrosa, generalized, [Roth & Volkmann] 558
fibrosa, roentgen diagnosis of, [Ström] 974
OSTEO-ARTHROPATHY, pulmonary, secondary, hypertrophic, [Kleinberg] *435

OSTEOCHONDRITIS deformans juvenilis coxae, [Kreuter] 77, [Phemister] 1192
dissecans and traumatic loose bodies in joints, [Kappis] 416
OSTEOMALACIA, [Saltzmann] 830, [Koltonski] 1620
etiology of, [Hutchison & Patel] 1535
famine, [Cramer & Schiff] 209
OSTEOMYELITIS, of ribs, acute, [Fantozzi] 622
treatment of, after parent refused to give consent to operation, 473—MI
with periosteal abscess, [Rost] 1288
OSTEOPATH, peculiar practitioners and medical freedom, [Diller] 398—C
OSTEOPSATHYROSIS: See Bone, fragility of
OSTEOSCLEROSIS, [Laruell & Wallgren] 560
OTITIS, epidemic hiccup complicated with, [Loeper & Forestier] 1134
in measles, [Munyo] 1865
ligation of jugular vein in, [Gradenigo] 1050
OTTO-CHROBAK pelvis, [Waller] 1807
OVARY, activity of, during gestation, [Fellner] 1436
biology of, [Ramirez & Ochoterena] 1325
cyst in infant 7 months of age, [Downes] *443
cyst, unusually large, [Harley] 753
fibroma, [Clark & Gabe] 1794
functioning of, [Schicklé] 1434
influence of iodin on, [Jastram] 558
influence of, on glycemia, [Hürzeler] 1805
internal secretions of, [Ochoterena & Ramirez] 270
tumors complicating pregnancy, [Gaudino] 1804
OVERSEA SETTLEMENT COMMITTEE, report of, 739
OVULATION, normal and pathologic, [Meyer] 415
OVUM, internal migration of, [Corner] 1193
OXALATES in urine, 1265
OXYDASE reaction, technic of, [Schlenner] 1287
OXYGEN, injection of, in mushroom poisoning, [Hubert] 824
deficiency and respiration, 1845—E
passage of, through lung, 456—ab
subcutaneous injection of, [Naessens] 1053
use of, in gynecologic diagnosis, [Happel] 1534
OXYTOCICS, organ extracts as, [Köhler] 1620
quinin as, [Muschallik] 1542
OXYURIDS, bismuth to expel, [Gonzáles Barrio] 1050
OXYURIS vermicularis, appendicitis due to, [Patrick] 1531
OYSTERS, mycosis of, [Pettit] 1048
prophylaxis of typhoid caused by, 1778
O-ZO-NOL, 671—P

P

PAIN, chronic, control of, [Dyas] 265—ab
visceral, 1173—E
PALATE, cleft, [Brophy] 683
cleft, and harelip, [Ritchie] 265—ab
cleft, treatment of, [Gillies & Fry] 1044
PALPATION of right ventricle through epigastrium, [Harzer] 901
PALPITATION and its classification in certain cases, [Bishop] *787
PANCREAS, accessory pancreatic tissue, [Morgan] 1530
anatomy of duodenum and, [Aberberry Oneto] 277
ascarids in liver and, [Eberle] 344
calculi in, [Navarro] 1375
cancer, spread of, [Adams] 749
cancer with ulceration into gastrointestinal tract, [Adler] *158
cyst following cholecystectomy, [Ballin & Saltzstein] *1484
cysts of, [Judd] 752
disturbances of, in dysentery, [Glaessner] 213
enzymes, effect of age on, [Fenger & Hull] 1706
extirpation of, [Chand] 753
influence of age on function of, [Allen] 614
influence of cold on function of, [Allen] 614
necrosis of, acute, [Moccia] 145
PANCREATITIS, acute, [Sweet] 679
hemorrhagic, [Chauffard] 1281
hemorrhagic, acute, with necrosis of fat tissue, [Glass] 761
postoperative, acute, [Peleie] 828
PA-NOL, 606—P
PAPILLOMA of bladder, [Harris] 1800
recurring, in larynx of children, [Plum] 78
PARAFFIN film treatment in dermatology, [Kissmeyer] 1439
PARALYSIS agitans and similar nervous disease, [Rodríguez Lafora] 691
diphtheria following, [Lozano] 73
facial support in, [Yawger] 135
facial, prosthesis for correction of, [Sieard] 1862
flaccid, of hand, [Pitres & Laffaille] 412
foot sign of, [Boveri] 1285
general, blood and spinal fluid in, [Levaditi & Marie] 825
general, induced fever in treatment of tabes and, [Wagner-Jauregg] 1717
general, oculocardiac reflex in, [Roubinovitch & others] 1135
general, phenolsulphonephthalein absorption in dementia præcox and, [Weston] 476
postdiphtheritic, [Halleck] 1429
pseudobulbar, infantile, [Fiebig] 900
spirochetes in etiology of certain paralyses, [Schuster] 410
PARA-OSTEO-ARTHROPATHY, [Dejerine & Ceillier] 1136
PARAPLEGIA, management of urinary tract in, [David] *494
spastic, familial, [De Stefano] 72, [van Gehuchten] 555
PARASITES, intestinal, in children, [Maxcy] 1610
naming of, [Ellis] 673-C, [Lyon] 813—C
prenatal infestation with parasitic worms, [Cort] *170
PARASITOLOGY, researches on helminthology and, [Leidy] 261—C
PARATHYROID bodies and Bright's disease, [Bergstrand] 903
function of, [Massaglia] 1705
pathology of, [Bergstrand] 1807
transplantation of, [Brocher] 974
PARATHYROIDECTOMY, effect of, on blood chemistry, [Hastings & Murray] 1276
PARATYPHOID, vaccination against typhoid and, [Russell & Nichols] *177
PARENTS, duty of, to support defective children, 613—MI
privilege for patient, not physician—communications of parents, 677—MI
PARESIS: See Paralysis, General
PARIS, graduate courses in, 1692
Spanish week at, 1585
PAROTID GLAND, mixed tumors of, [Sistrunk] 1131
PAROTITIS, diphtheria antitoxin to ward off complications in, [Bonnamour & Bardin] 483
duct sign in, [Levy] 884—C
PARTURITION: See Labor
PASSIFLORA, [Paranhos] 827
PASTEUR Institute, franking privilege of, 325
PATELLA, oyster shell fracture of, [Villa] 1537
pin method for approximating fragments of, [Hertzler] 1196
PATENT MEDICINES: See Nostrums; Proprietary Medicines
PATHOLOGIC Institute in Prague, 1590
PATHOLOGIST, clinical, and laboratory technician, [Woolley] 745—C
function of, as a consultant, [Kilduffe] 54—C
proper recognition of, [Boyd] 538—C
PATHOLOGY, constitutional, 1589
constitutional, of surgical diseases, [Bauer] 1139
Introductory course in, for second year medical students, [Manwaring] 1188—ME
postgraduate teaching in, [Ewing] 868
PATIENTS, duty as between patients—liability of mining company, 1791—MI
rules as to number of patients and number of visits, 1856—MI
PATTI'S home becomes tuberculosis sanatorium, 1021
PEANUT OIL, result of intraperitoneal injection of, [Schwartze] 960
PEDIATRICS in 1920, [Lereboullet & Schreiber] 411
new era in, [Gerstley] *1633
report of committee on, 731
PEHAM, PROF., appointment of, to chair of gynecology, 740
PEKING Union Medical College, report from, 1032
PELLAGRA, [Bory] 275
alkali toleranee in, [Sullivan] *1002
cause of, 1577—E
from chronic poisoning from corn liquor, [Olózaga] 1050
in Colómbia, [Olózaga] 623
leukocyte changes in, [Findlay] 340
occurrence of, in patients apparently receiving ample diet, [Tanner & Echols] *1337
sulphocyanate content of saliva and urine in, [Sullivan & Dawson] 892
treatment with own blood serum, [Strassberg] 1621
urine in, [Stanton & others] 1320
PELVIS, abscess, [Wharton] 1192
contracted, experiences with, [Gagel] 626
contracted, resection of promotory with, [Cathala & Perrot] 1617
infections in female, [Johns] 1703—ab
infections in women, surgical treatment of, [Du Bose] 200—ab
narrow, labor with, [Schmitt] 1717
Otto-Chrobak, [Waller] 1807
primary diseases of pelvic lymph glands, [Williams] 750
radiometry of, [Guilbert] 825
steroroentgenographic obstetric measurements, [Druner] 1622
varicose veins of, in female, [Emge] 683
PENAL reform, 956
PENCIL, indelible, granuloma from, [Ballin & Saltzstein] *1333
PENIS, testes and vasomotor reactions of penis, [Crawford & George] 1427
PENNSYLVANIA state board July examination, 57
PENSIONS, ministry of, extravagance of, 878
ministry of, indictment of, 666
PEPPERMINT and menthol in acute catarrhal conditions of respiratory tract, [McGuigan] *303
PEPSO-LAXATONE, 327—P
PEPTONE treatment of hemophilia, [Radovici & Iagnov] 967
PERCUSSION note of back in lateral position, [Howard] *1229
PERICARDIOMEDIASTINITIS with enlarged hard liver, [Acuna & Garrhan] 414
PERICARDIOSTOMY for suppurative pericarditis, [Pool] 1367
PERICARDITIS, adhesive, [Gil-Casares] 624
suppurative pericardiostomy for, [Pool] 1367
tuberculous, [Maclachlan] 1528—ab
uremic, [Chauffard & Huber] 1048
PERINEPHRITIS, tuberculous, after nephrectomy, [Thevenot] 1801
PERINEUM, flap for correction of, [Imbert] 686
PERIOSTEUM abscess in osteomyelitis, [Rost] 1288
transplants, [Delageniére] 1372
PERIPROCTITIS and fistula ani, [Moszkowicz] 900
PERISTALSIS in large intestine, [Zondek] 346
of kidney pelvis, [Wassink] 902
PERITONEUM, absorption from peritoneal cavity, [Clark] 547
absorption of true solutions and colloids from peritoneal cavity, [Wislocki] 1193
catheter in, [Rolando] 211
intraperitoneal instead of subcutaneous infusion, [Weinberg] 1326
rigidity of posterior abdominal walls in inflammatory processes of, [Drachter & Krecke] 625
PERITONITIS acute, puerperal salpingoperitonitis, [Bourne] 1198
and ileus during pregnancy, childbirth and childbed, [Köhler] 826
and intestinal intubation, [Collins] 407
and pleurisy in syphilitic, [Schupfer] 826
bile, [Donovan] 1804
choleraic, of guinea-pigs, [Sanarelli] 210
PERITONITIS, chronic, of unknown etiology occurring in women, [Stein] 127—C, [Sturmdorf] 127—C, [Geist] 328—C
chronic, with milky ascites, [Harbitz 560
enterostomy in, [Dubs] 758, [Aievoli] 1713
in typhoid without perforation, [Svartz & Hanson] 1438
indications for operation in, of postabortal and postpartal origin, [Polak] 63
induced rôle of colon bacillus in, [Gal] 417
plastic form of, [Segagni] 1864
suppurative, treatment of, [Läwen] 1715
tuberculous, [Mayo] 1277, [Wienicke] 1805
tuberculous, pathogenesis of, [Melchior] 903
PERITONSILLAR abscess, 2 cases of hemorrhage following, [Thomasson] *931
PERLAS URINALES-ANTISEPTICAS, 743—P
PERTUSSIS: See Whooping Cough
PERUVIAN materia medica, [Maldonado] 1540
PES CAVUS, treatment of, [Steindler] 1192
PESSARY, intra-uterine, stem, [Rawls] 889
PFANNENSTIEL incision, eventration after, [Patel] 1711
PHAGOCYTES in bone marrow, [Wislocki] 1532
staining of, [Cross] 819
PHAGOCYTOSIS, action of salts on, [Otsubo] 405
of solid particles, [Fenn] 1130
PHARMACEUTICAL Barnums, 42—E
syndicate of Barcelona, imprisonment of officers of, 1260
PHARMACIST, liability of, for error committed by an assistant, 807
PHARMACOLOGY, graduate instruction in, [Edmunds] 868
PHARYNX, cancer, roentgen-ray treatment of, [Amersbach] 828
etiology of acute nose, pharynx and tonsil inflammations, [Mudd & others] 1130
gangrene of, [Armand-Delille & others] 552, [de Massary & Boulin] 1047
sarcoma of epipharynx, [Van Horn] *32
stricture, [New & Vinson] *996
PHENETSAL, 245
PHENOLSULPHONEPHTHALEIN absorption in paresis and dementia precox, [Weston] 476
test and acidosis, [Braasch & Kendall] 1427
PHILIPPINE death rate, 1317
PHLEBITIS, diffuse, [Moreau] 1803
PHLEGMONS, allergic, [Bouche & Hustin] 1711
of orbit and eye, [Rollet & Bussy] 342
peritonsillar, [Charbrol & others] 1200
PHOSGEN poisoning, [Wiki] 899
PHOSPHORUS, effect of, in rickets, [Phemister & others] *850, [Whisler] 1187—C
PHOTOGRAPHER'S eczema, 540
PHOTOTHERAPY, general, arc-light bath, in ophthalmology, [Lundsgaard] 830
in gynecologic disease, [Recasens] 485
mode of action of universal light bath, [Sonne] 1142
scientific study of heliotherapy and, [Rollier & Rosselet] 1201
with universal arc-light baths in tuberculosis of larynx, [Blagvad] 903
PHRENASTHENIA, postnatal, [Ciampi] 1541
PHRENIC reaction in gynecology, [Stajano] 690, 1375
PHRENOCARDIA, [Rodhe] 1544
PHTHISIS: See Tuberculosis, Pulmonary
PHYSICAL culture, 392
defects and diseases, [Lee & Brown] 268
diagnosis, plea for better understanding of, [Ticken] *1734
efficiency test, [Crampton] 1121—C
efficiency tests, application of, [Scott] *705
examinations, annual, campaign for, 840
examination of adults, 1413

PHYSICAL therapeutics, [Hirsh] 1428
therapy, [Wynn] 1795
training, universal, [Coe] 1419—C
PHYSICIAN: See also Medical Officers; Medicine
PHYSICIAN, aggravation of injury by physician's mistake or negligence, 1366—MI
and Federation of Krankenkassen, 949
British tribute to American physicians and nurses, 390
court medical service, [Oliver] 1265—C
dearth of physicians in central Europe, 390
deaths of, in 1920, 41—E
defendant bringing physician into injury case, 1702—MI
duty as between patients—liability of mining company, 1791—MI
for French colonies, 807
in Belgian senate, 600
influence exercised by family physician on mental health of community, [Owensby] 1704—ab
legal aspects of attacks by a pharmacist on professional reputation of, 50
liability of physicians as roentgenologists—unexpected results, 613—MI
mayors are personally responsible for payment of town physicians, 1777
means of obtaining collective opinion of profession, 878
medical profession and the public, [Mayo] *921
not allowed to testify to confidence in another, 677—MI
not insurers—requirements—evidences, 62—MI
peculiar "reporting" by physicians of Zamora, 1259
professional discipline and the General Medical Council, 602
proportion of, to population, 1248
question of granting privileges and responsibilities of physicians to persons not properly qualified, 1011—E
relation between roentgenologists and, 1600—MI, [Matlack] 1854—C
relations between physicians in industry and general practice, [Sharpe, & others] 129—ME
responsibility of, 324
shortage of physicians in rural communities, 796—E
spiritual advancement of, [Mendel] 55—C
statistics as to practicing physicians in Austria, 535
total number in Belgium, 1588
PHYSIOLOGY, chemical, some influences of French science on medicine, [Lusk] *1
general, and reserve forces, [Coutière] 1281
trial report of committee on graduate instruction in, [Erlanger] 868
PHYSOSTIGMIN, effect of, on output of epinephrin, [Stewart & Rogoff] 1427
test in cardiology, [Mougeot] 1616
PICROCARMINE, [Jensen] 1614
PILOCARPIN for edema of glottis, [Arrigoni] 72
PINEAL BODY, cystic neuroglioma of, [Businco] 1285
function of, [Zandren] 1142
PINKOLO OINTMENT, 1029—P
PIPETS, quick method of drying, [Gray] *1826
PITUGLANDOL-ROCHE, 1753
PITUITARY body and its disorders, [Motzfeldt] 348
changes in mongolian idiocy, [Timme] 1609
cholesteatomatous cystic tumor of; report of case, with discussion of diagnosis of pituitary disease, [Lockwood] *1218
disease, decompressive craniotomy for, [Giannettasio] 1203
disease, retrospective and prophetic, [Cushing] *1721
disease with acquired syphilis, eye in, [Schweinitz] 1795
experimental research on, [Camus & Roussy] 270
extract and water balance, [Rowntree & others] 1606—ab
extract, dangers of, [Rucker & Haskell] *1390
extract, effect of, on secretion of urine, [Brunn] 279
extract in conjunction with local anesthesia, [Otrich] *591
extract in obstetrics, danger of, [van Eerten] 1142
PITUITARY headache, [Redwood] 1430
influence of, on growth, [Sisson & Broyles] 616
polyuria, [Winslow] 477, [Schulmann & Desoutter] 688
surgery, [Aievoli] 1138
surgery, new instrument in, [Henry] 1535
tumors of, hypophysial duct, [Duffy] 64, 203
PITUITARY Liquid-Armour, 859
PITYRIASIS rubra pilaris, [Levin & Smith] 335
PLACENTA, adherent, detacher for, [Ruth] 1529
apoplexy of, [Rucker] 1369
evolution of maternal placenta, [Retterer & Voronoc] 1711
hemorrhage from detachment of, treatment of, [Grosse] 554
indirect expulsion of, [Baer] *566
infarcts in, [Haffner] 1433
passage of salts through, [Edelstein & Ylppö] 347
praevia, [Brodhead & Langrock] 478, [Thélin] 1284, [Hicss] 1542, [Liegner] 1717
praevia cervicalis, [Krause] 1718
premature separation of, report of case, [Snowden] *1066
radiography of circulation in, [Brindeau & Boussin] 1135
roentgenoscopy of, [Warnckros] 417
spirochetes in, [Manouelian] 1135
PLAGUE at Córdoba, 1414
at Paris, 460, [Teissier & others] 1048
bacilli in blood, [Teissier & others] 1048
Bacillus Vaccine, 1826
disappears from Galveston, 609—ab
Erasmus on, [Feis] 1325
fund requested, 321
in children, [Guinon & de Pfeffel] 1134
in Mexico, 1692
in rats at Naples, [Piccininni] 276
iodin intravenously in, [Vassallo] 1432
isolated case of, [Synge & Bigger] 1046
like infections, [Strong & Councilman] 1525—ab
situation in north China, 1261
vaccination against, [Teague] *243
PLANTERS GOLDEN CROWN SPECIAL, 1186—P
PLANTS, poisonous, as household medicines and charms, [Van Andel] 902
PLASTER rope cast, [Gordin] 1196
PLETHYSMOGRAPHY, [Pezzali] 1435
PLEURA, abdominal reflexes with disease of, [Pastore] 276
absorption from, [Corper & Rensch] 1128
adhesion of layers of, after pneumothorax, [Burnand] 1616
adhesions, [d'Heucqueville] 1136
adhesions, destruction of, [Christoffersen] 1328
attempt to produce experimental tuberculous pleural effusions and empyemas in rabbits, [Corper & Rensch] 202
disease, artificial pneumothorax in, [Henius] 1287
effusions, resorption of iodin from, [Cobet & Ganter] 1287
exudates, influence of respiratory movements on formation of, [Graham] *784
hernia of, complicating spontaneous pneumothorax, [Hale] 205
infection, gentian violet in, [Waters] 890
mesothelioma of, primary, [Du Bray & Rosson] 134
new method for recovering rubber tube lost in, [Holyoke] *1078
primary neoplasms of, 674
spirochetosis, [Mason] 336
syphilitic pleuropulmonary disease, [Chiray & Janet] 1862
PLEURISY and peritonitis in syphilitic, [Schupfer] 826
edema with, [Lussana & Arrigoni] 1050
purulent, artificial pneumothorax for, [Vitón & Martín] 1286
purulent, treatment of, [Renaud] 141, 274
purulent, vaccine treatment of, [Dufour & Debray] 896
PNEUMOCOCCUS, antipneumococcus serum, [Cole] *111
infection, [Caussade & Tardieu] 1281, [Bazy] 1432
PNEUMOCOCCUS infection, acute mental confusion in, [Damaye] 141
infections, blood changes in, [Stadie] 1532
infection, purpura in, in infants, [Nobecourt & Mathieu] 341
lipovaccines, blood changes and antibody production in human beings after injection of, [Howell] 204
serology of, [Armstrong] 895
toxin, action of, on circulation, [Sogen] 146
types of pneumococci, [Thomsen & Christensen] 1807
vaccine, [Cecil] *178, 179
PNEUMOCOLON, [Béclère] 966
PNEUMONIA, carriers of Friedländer's bacillus, [Bloomfield] 616
cerebral reactions in, [Nobécourt] 1281
cholesterol content of serum in, variation in, [Kipp] 66
chlorids in, [Segura] 623
chronic tuberculous hilus pneumonia, [Greenberg] 404
empyema complicating, some difficulties in diagnosis of, [Morris] *1336
heart in, management of, [Brooks & Carroll] 334
in aged, [Roussy & Leroux] 1800
influenzal, magnesium sulphate and calcium chlorid intravenously in, [Hogan] 1279
lobar, bearing of evolution of pneumonic exudate on local chemical factors influencing recovery and resolution in, [Lord] 1525—ab
pulmonary abscess complicating, [Foster] 1859
pulmonary stenosis following, [Agnew] 338
symptomatic treatment of, 1525—ab
with whooping cough in infant, [Fernandez] 1540
PNEUMONOCONIOSIS and suicide, [Watkins-Pitchford] 964
PNEUMOPERITONEUM, [Weil & Liselcur] 411, [Rosenberger] 1142, 1820—ab
as a laparotomy adjunct, [Farr] *725
in gynecologic practice, [Mayer] 1142
of pelvis, [Zwaluwenburg & Peterson] 615
PNEUMOTHORAX, adhesion of layers of pleura after, [Burnand] 1616
artificial, [Rist & Strohl] 551, [Gwerder] 1538
artificial, effusion with, [Dumarest & others] 823
artificial, immune reactions with, [Carpi] 1435
artificial, important considerations in administration of, [Gammons] 328—C
artificial, in fractured ribs, [Soresi] *379
artificial, influence of, [Schill] 1141
artificial, pressure variations in, [Bjure] 560
bilateral, induced, [Burnand] 686
complete, in young child, [Bourne] 1370
discernment of intrathoracic neoplasms by aid of, [Fishberg] *581
localized, effect of, [Barlow & Thompson] *653
operative, [Finochietto] 278
respiratory phenomena with, [Laurell] 1054
spontaneous, [Gray] *1147
spontaneous, complicating artificial, [Burnand] 1371
spontaneous hernia of pleura complicating, [Hale] 205
POISONING, treatment of, [Cheinisse] 144
POISONS in accident and suicide, 668
POLICLINIC and medical training, [Zagari] 1050
POLIOENCEPHALITIS, histopathology of, [Hassin] 1609
POLIOMYELITIS, [Kretschmer] 761, [Garrahan] 1714
chronic, and pseudosyringomyelia, [Giannuli] 555
family outbreaks of, [Mulsow & Matousek] *159
immunologic distinction of encephalitis and, [Amoss] 893, 1251—E
operative treatment of, [Lovett] 477
POLIOMYELITIS, Lucilia caesar and poliomyelitis, [Saunders & others] 407, 1030—C
meningeal reaction with, [Wallgren] 1439
serum treatment of, [Amoss] *116
treatment of, [Saethre] 1206
with onset suggesting acute appendicitis, [Dubs] 1284
POLLEN ANTIGENS-LEDERLE, 1753
POLYARTHRITIS, thrush complicated by, in an infant, [Goldring] *724
POLYCYTHEMIA vera, [Gitlow] 681, [Richards & Herrmann] 1131
POLYNEURITIS, leukemic, [Harris] 550
polyneuritic syndrome in children, [Miller] 1795
POLYPS, multiple, of intestine, [Struthers] 202
POLYURIA in diabetes mellitus, 1122
pituitary, [Winslow] 477, [Schulmann & Desoutter] 688
POROSIS, cerebral, histopathologic report, [Hassin] 135
PORPHYRIN, transformation of blood pigment into, [Snapper & Dalmeyer] 1807
PORTO RICO October examination, 400
POSTGRADUATE Study: See Graduate Study
POSTURE, deformities due to, [Bankart] 1534
POTASSIUM chlorate poisoning, [Zuccola] 758
in blood serum, quantitative determination of, [Kramer & Tisdall] 1368
iodid for pyelography, 880
ions and surviving heart, [Jannink & Feenstra] 347
permanganate in smallpox, [Balfour] 964
PRACTICE act, reactionary amendment to, in Missouri, 1251—E
irregulars attack Missouri practice law, 471—ME
law, attacking Missouri practice law, 596—E
PRECIPITATION, diseases causing, [Loeper] 898
PREGNANCY, acidosis with, [Labbé] 1616
activity of ovaries during, [Fellner] 1436
adnexitis as complication of, [Martius] 1327
after cesarean section, [Couvelaire] 552
anemia of, [Gram] 692
auricular flutter and fibrillation in, [Thomas] *1227, [Greenberg] 1363—C
colostrorrhea in, [Del Vecchio] 1202
ductless glands during, [Mahnert] 1203
duration of, [Laboure] 554
effect of, on size and weight of some organs of body, [Herring] 207
effect of severe burns on menstruation and, [Beckey] 417
encephalitis complicating, [Banister & Sophianopoulos] 1046, [Turenne] 1713
exophthalmic goiter in, [Pasman & Mestre] 1865
extra-uterine, [Rosenstein] 1542
extra-uterine abdominal at full term, [Rozar] *239
extra-uterine, abdominal pregnancy at 17 months, [Davidson] *590
extra-uterine, gauze sponge in abdominal cavity for 14 years with simulation of, [Watson & Desnoes] *24
extra-uterine, hemorrhage in, [Grad] 614
extra-uterine (intra-abdominal) report of case, [Sullivan] *521
extra-uterine, management of, [Dietrich] 1719
extra-uterine ovarian, [Fallon] 679, [Liebe] 1436
extra-uterine, relation of, to endocervicitis, [Magdid] 961
extra-uterine, retrogression under roentgen irradiation, [Fraenkel] 1719
extra-uterine, unusual history of, [Palmer] *793
fibromas and, [Reeb] 1434
glycosuria in early diagnosis of, [Frank & Nothmann] 1141

PREGNANCY, ileus and peritonitis during, [Köhler] 828
impairment of vision during, [Coutela] 1616
influence of, on experimental diabetes, [Allen] 614
intra-uterine and extra-uterine, simultaneous, [Nijhoff] 214
leukemia in, [Kosmak] 889, [Wallgren] 1439
missed delivery for 5 years, [Schaanning] 78
nausea of, intravenous use of corpus luteum extract in, [Hirst] *772
necrosis of myomas during, [Guggisberg] 1713
ovarian tumors complicating, [Caudino] 1804
peripheral neuritis during, [Foggie] 1280
pyelitis in, [Baughman] 889
rectal versus vaginal examination, [Pfleiderer] 213
retinitis in, [Couvelaire] 686
roentgen diagnosis of, possibilities of procedure during first half of gestation, [Bartholomew, Sale & Galloway] *912
sign of, [Dezwarte] 966
suprarenal toxemia of, [Turenne] 484
syphilis and, [Hornung] 626
toxemias, increased amount of uric acid in blood in, [Williams] *1297
toxemia, sodium bicarbonate in, [White] 340
toxemia, treatment of, [Davis] *1811
urobilinuria in, [Mørdre] 1376
ventrifixation, and, [Bussa Lay] 1202
vomiting of, extract of corpus luteum in, [Cheinisse] 1538
vomiting of, treatment of, [Schaick] 1428
PREHALLUX, human, [Monahan] 268
PRENATAL injuries, right of child to damages for, 1270—Ml
PRESCRIPTION 500 Capsules, 607—P
PRESCRIPTIONS, sale of drugs by physician issuing, 333—Ml
PRESENTATION, transverse, unusual, [Skinner] *1348
PRICKLY ASH, Poke Root and Stillingia Compound with Iodids, 1417—P
PRIVILEGE for patient, not physician, communications of parents, 677—Ml
may be waived by heirs, 131—Ml
privileged communications and patients' declarations, 544—Ml
PRIZES awarded by Académie de Médecine at Paris, 188
awarded by Brazil Academy of Medicine, 47
awarded by Spanish Academy of Medicine, 459
awarded to Dr. Menotti Sainati, 1020
awarded to Kretschmer, 188
for article on tuberculosis, 1021
for detection of errors, 1585
for large families, 879
for Marie, 1411
for new researches on influence of endocrine glands on phenomena of immunity, 393
for study of bicycling, 1508
for work on cancer, 664
Infroit prize, 1411
Lasserre prize awarded to Nicolle, 121
Leonard prize for research on radiology, 255
Nobel prizes, 255
offered by Barcelona Academy of Medicine, 1179
offered by the Madrid Academy of Medicine, 1021
offered by Winnipeg Medical Society, 943
Parkin, 664
topics 531
PROCAIN dermatitis, [Lane] 1039
Squibb, 245
PROCTITIS sphingos, [Frick] 962
PROCTOCLYSIS by flush method, advantages of, [McClanahan] *174
PROFESSOR, France confers title of professor without corresponding chair, 531
interchange of professors, 1026, 1179, 1257
PROFLAVINE-HEYL, 655
PROGNATHISM, treatment of, [Dufourmentel] 1284
PROHIBITION and physician, 1252-E
and professional honor, 1503—E
briefly and mildly reviewed, [Cummings] 260—C
colored physicians adopt resolution on Volstead act, 1584
effect of, on incidence of portal cirrhosis, [Miller] *1646
hearings on Volstead bill, 1410, 1507
information for federal prohibition directors, 1359
medical profession and Volstead act, [Dana & others] 1592—C, [Hunter] 1782—C
Norwegian physicians receive questionnaire on, 1691
prescribing too much liquor, 804
relation of physician to Ontario temperance act, 1583
Volstead bill reported favorably, 1691
Volstead presents supplementary measure, 1317
PROPAGANDA DEPARTMENT, credit to, by Cleveland Survey, 384—E
PROPRIETARY MEDICINE, human milk and patent medicines, 1012—E
campaign against patent medicines, 809
PROSTATE, abscess of, [Kretschmer] 1196
cancer, [Bumpus] 478
hypertrophy, diagnosis of, [Zuckerkandl] 147
hypertrophy, functional kidney tests in, [Tillgren] 903
hypertrophy, kidney function in, [Dobson] 963
hypertrophy, pathologic anatomy of, [Fischer] 1715
relation of, to mental efficiency, [Macht & Bloom] 751
symphysiotomy in operations on, [Walker] 1858
PROSTATECTOMY, [Fischer & Orth] 487, [Peak] 1533
changes in kidney functioning after, [Darget] 482
Dr. Marion's lecture on, 1777
prevention of urinary obstruction after, [Walker] 1710
prognosis in, [Deaver & Herman] 1192
suprapubic, forty without a death, [Oppenheimer] 1052
suprapubic, sequels of, [Gordon] 1705
technic and after-treatment, [Benjamin] 266—ab
PROSTATITIS, bacteriologic aspects of, following gonorrhea; effect of autogenous vaccines, [Messerschmidt & Walther] 1204
PROSTITUTION and age of consent, 1022, 1259
and syphilis in Vienna, 741
Hindu women petition against, 1021
regulation of, 325
PROTEIN, alleged harm from protein in diet in certain disorders, 452—E
as colloids, 247—E
bodies in blood serum, capacity for imbibition of, [Ellinger] 1052
intradermal protein sensitization test, anaphylaxis following, [Gerstenberger & Davis] *721
relation between absorption of antibodies and, [Umemura] 1796
shock in treatment of hemorrhage, [Neirotti & Viola] 689
therapy, [Salvat] 556, [Widal & others] 1137, [Silvestri] 1203
therapy, anaphylactic manifestations in, [Van Randenborgh] 448
therapy and heterbacteriotherapy, [Kraus] 1804
therapy, febrile reaction to, [Wetzel] 1206
therapy for infants, [Slawik] 1326
therapy, foreign, 315—E
therapy, foreign, in acute infections, [Miller] *308, [Durand] 758
therapy in ophthalmology, [Coppez] 1863
therapy in puerperal septicemia, [Bianchi] 211, [Levy-Solal] 1801
therapy in surgical affections, [Chiaudano] 1202
therapy, intravenous protein injections in urology and dermatology, [Culver] *311
therapy, nonspecific, in arthritis, [Cowie] *310
therapy, nonspecific reaction, [Petersen] *312
therapy, parenteral, [Silvestri] 1203, [Loewenhardt] 1807
PROTEIN therapy, parenteral injections in eye disease, [Heine] 625, [Argañaraz] 1051
therapy, sterile milk in nonspecific therapy, 56
PROTEINURIA, Bence-Jones, [Wallgren] 974
Bence-Jones, report of 3 cases with metabolic studies, [Walters] *641
Bence-Jones, specific precipitin for, [Hektoen] *929
PROTEOGENS in syphilis, [Engels] 1593—C
PROTOZOA, intestinal, carried by flies, [Root] 1127, 1579—E
protozoan-like cells in infants' tissues, [Foot & Ladd] 1607
PRURITUS of anaphylactic origin, report of 2 cases, [Cohen] *377
PSEUDARTHROSIS, experimental, [Martin] 760
of forearm, [Galop] 274
PSORIASIS in South Africa, [Pijper] 1371
sulphur treatment of, [Delanoe] 72
treatment with intravenous injections of sodium salicylate, [Sachs] 1806
treatment with nonspecific protein and by autoserum method, 261
PSYCHANALYSIS, 317—E, [Meagher] 468—C
and endocrinology, [Robinson] 1782—C
of a Greuze painting, [Stocker] 1135
therapeutic value of revival of emotional memories, [Brown] 549
PSYCHIATRY, diagnosis in, [Galant] 899
week at Paris, 1411
PSYCHOLOGY and medical curriculum, [Morgan] 207
PSYCHOSES: See also Insanity; Neurasthenia; Neuroses
PSYCHOSES, acute, in heart disease, [Riesmann] 817
and internal secretions, [de Hartogh] 347
hypertrichosis with, [Laignel-Lavastine & Boutet] 208
league for prevention of mental disease, 805
syphilitic, [Dubois] 685
PSYCHOTECHNICAL laboratory, 949
PTOMAINS and Armand Gautier, 38—E
PUBERTY, diabetes insipidus and, [Silvestri] 1865
in the abnormal, [Paul-Boncour] 687
PUBIOTOMY or symphysiotomy, [Lindemann] 415
PUBIS, caries of symphysis and, [Speyer] 415
separation of pubic bones in riders, [Bérard] 1048
PUBLIC HEALTH SERVICE activities, 123
careers in, [Ferrell] *489
Dr. Rows to advise, 1692
establishes new hospitals, 1586
executive officer appointed to handle correspondence for, 1022
hospitals and officers in, 532
issues standard sanitary code, 806
publications limited to 1,000 copies, 1776
report of Surgeon-General of, 123
urges state laws concerning children, 1022
PUBLIC WELFARE DEPARTMENT, bill for, 1180, 1359
bill for, introduced by Senator McCormick, 1507
Public Welfare, hearings on bills for, 1412, 1584
proposed, 1258
PUERPERAL INFECTIONS, [Bell] 1708, [Schmitt] 1717
blood in, [Couinaud & Cloguc] 1537
hysterectomy for, [Lumentut] 1807
in Peru, [Silva Velasquez] 827
mucous membranes in relation to latent microbism, with especial reference to, [Loeser] 829
peptone injections in, [Gow] 754
protein therapy of, [Bianchi] 211, [Levy-Solal] 1801
spontaneous infection in childbirth, [Poten] 415
thrombosis in brain from, [Crémieu & Gauthier] 1284
treatment with human serum, [Bartram] 1806
PUERPERIUM, autoinfection, so-called during, [Rustia] 69
PUERPERIUM, bacteriology of normal puerperal uterus, [Loeser] 626
clinical phenomena of, [Abernetty] 1805
fatal endocarditis in, [Raynaud & Gayet] 1200
pathology of common puerperal lesions, [Polak] 1793
PULMONARY Tuberculosis: See Tuberculosis, Pulmonary
PULSE, alternating, and uremia, [Chalier & Contamin] 757, [Heitz] 1201
anomalies in, [Loeper & Mougeot] 1200
bigeminal, continuous, [Tanere] 1719
bilateral pulse obliteration in thoracic aneurysm, [Crawford] *1395
rate in nephritis and arteriosclerosis, [Janowski] 823
rate in relation to metabolism and diagnosis, 181—E
simultaneous pulse curves, [Guilleaume] 825
venous, [Weber] 557
wave, velocity of, [Laubry & others] 897
PUPIL as diagnostic aid in neurosyphilis, [Russell] 1797
unequal, significance of, [Brooks] *1145
PURIN, metabolism, derangement of, [Thannhauser & Czoniczer] 1287
PURKINJE CELLS, changes in axons and dentrites of, [Uyematsu] 1040
PUROLA Kidney and Liver Remedy, Diarrhea Mixture, Femaline, Sarsaparilla Compound and Compound Extract of Buchu, 1185—P
PURPURA, chronic, [Roubier & Richard] 480
from iodoform poisoning, [Aperlo] 72
fulminans, case of, [Herrick] 55—C
hemorrhagic, [García Díaz] 1203
hemorrhagic, and tuberculosis, [Garin] 276
idiopathic, [Rosenfeld] 1320
in infants, [Nobecourt & Mathieu] 411
in pneumococcus infection in infants, [Nobecourt & Mathieu] 341
scrotherapy of, [Cohen] 965
streptococcus, fulminating, [Reh] 145
PURTSCHER'S disease, case of, [Vega] 1619
PYELITIS and pyelonephritis, [Roth] 405
and ureteral stricture, [Baker] 200—ab
cystalgic, [Pirondini] 142
in pegnancy, [Baughman] 889
treatment, [Schwartz] 1543
treatment in infancy and childhood, [Miller] 53—C, [Zerbino] 485, [Langstein] 1543
typhoid, [Achard] 1864
PYELOGRAPHY with potassium iodid, 880
PYELONEPHRITIS, and focal infection, [Bumpus & Meisser] 1040
and pyelitis, [Roth] 405
PYKNOLEPSY, [Meyer] 1437
PYLOROSPASM in infants, [Martinez Juviria] 485, [Von Bokay] 1716
PYLORUS, behavior of normal pyloric sphincter in man, [McClure & Reynolds] 1425
blood changes after closure of, [Hastings & others] 1276
exclusion of, [Georgesco] 757
hypertrophy of, congenital, [Thomson] 478
linear division of pyloric sphincter, [Pannett] 894
motility of pyloric sphincter, 729—E
ptosis of, as cause of gallstone colic, [Losio] 1202
stenosis, congenital, hypertrophic, [Squarti] 212
stenosis, hypertrophic, [MacDonald] 964
stenosis, in newly born, [Péhu] 1200
stenosis, new incision for Fredet-Rammstedt operation, [Butler] 405
stenosis of infancy from surgeon's point of view, [Roberts] 1704—ab
stenosis, Rammstedt operation for, [Ramsay] 1798
PYOTHORAX, [Collier] 1424—ab
PYREXIA, syphilitic, [Das] 272

Q

QUACK medicines and the press, 1415
QUAKER RELIEF FUND, for relief of financial need of Berlin student body, 1361
QUARANTINE in Peru, 600
station at Norfolk, 877
QUINIDIN, experimental studies on pharmacology of, [Cohn & Levy] 1605—ab
for heart, [Jenny] 1373
for restoration of normal cardiac mechanism in auricular fibrillation, [Levy] *1289
in auricular fibrillation, [Faber] 1808
QUININ, action of, on pregnant uterus, [Acton] 684
as oxytocic, [Muschallik] 1542
baths to enhance action of, [Lurz] 1204
blood pressure during intravenous injection of, [Brahmachari] 479
effect of, on liver and blood cells, [Siperstein & Litman] 1320
intravenous versus perioral quinin, [Strakosch] 1866
QUINOTOXIN myth, [Sollmann] *999

R

RABIES: See Hydrophobia
RACE deterioration, civilization as cause of, 1586
identification by blood tests, impossibility of, 674
RACHICENTESIS in meningitis, [Webster] 410
rise in blood pressure after, with cerebral processes, [Kahler] 973
RACHITIS, danger to life of rachitic involvement of thorax, [Park & Howland] 1532
effect of cod-liver oil on, [Shipley & others] 617
effect of phosphorus in, [Phemister & others] *850, [Whisler] 1187—C
etiology of, [Paton & Watson] 1534, 1614
experimental, 933—E, [Shipley] 1610
further facts about, 1844—E
in outpatient department, [Mackay] 272
no vasoconstricting substances in blood in, [Cozzolino] 688
production of, by deficient diet, [McCollum & others] 617
thorax in, 1845—E
treatment of rachitic curvatures, [Brünning] 1204
RADIOLOGY, Italian Congress of, 390
RADIOTHERAPY, combined, of malignant tumors, [Finzi] 275
experiences with, [Benthin] 1326
institute for, at Naples, 188
RADIUM, Chilean deposit of, 663
dangers from handling radium, [Bordier] 1432
dangers of, [Bordier] 1711
deaths from working at radium institute, 1360, 1397—ab, 1412
emanation, action of buried tubes of, [Bagg] 201
in gynecology, [Abernathy] 1424—ab
in nonmalignant uterine bleeding, [Anderson] 1424—ab
needles, lead block for holding, [Bowen] *1397
protection against, [Felix] 1538
therapy in cancer, [Levin] 201
treatment of cervical cancer, analysis of failures in, [Taussig] 63
treatment of rectal cancer, [Cesbron] 897
workers, red cell blood content of, [Mottram] 408
RADIUS, subluxation of head of, [Grossman] 137
"RAD-JO," advertising of, in Germany, 1257
RAMMSTEADT operation for pyloric stenosis, [Ramsay] 1798
RAMÓN Y CAJAL, Spanish medical philosopher, 594—E
RAT-BITE disease, [Palmen] 830, [Dalous & Stillmunkes] 1049
RATHKE'S POUCH, cyst of, [Duffy] 203
RATIONS of the American army, 1024
RATS, baby killed by, 879
extermination of, 51
in relation to man and human diseases, 59
parasites of field rodents, [Splendore] 621
RATTEN case, 534
RAYNAUD'S DISEASE and angina pectoris, [Bard] 757
and syphilis, [Ghelfi] 1138
treatment in, [v. Deesten] 54—C
RAYS, visible measurement of temperature action of, [Sonne] 1054
REACTION time, [Querido] 488
Tuberculin: See Tuberculin Reaction
READING, selection of medical, 250—E, [Schulman] 398—C
RECIPROCITY, English, with Belgium revoked, 461
RECKLINGHAUSEN'S DISEASE, [Castex & del Pont] 277
RECONSTRUCTION: See also under Soldiers
RECONSTRUCTION, committee to act on rehabilitation of ex-service men, 798
of the disabled, [Gourdon & Dijonneau] 274
reorganization of work of rehabilitation of compensable disabled ex-service men and women of the world war, 1112
RECTOCOLITIS, hemorrhagic nonulcerative, [Alivisatos] 140
RECTUM, atresia of anus and, operative treatment of, [Anders] 972
cancer, [Wells] 615
cancer, early diagnosis of, [Sofre] 826
cancer of large intesine and, [Crile] 132—ab
cancer, radium treatment of, [Cesbron] 897
ether-oil anesthesia by, [Balsamo] 73, [Aloi] 211, [Chalier & Dunet] 898
ether-oil anesthesia by, for children, [Salazar de Souza] 341
fistula, rôle of tuberculosis in, [Thoss] 1141
malformation, congenital, [Fenner] 821
operation to form new anal sphincter after operation on lower rectum, [Brown] 202
prolapse in children, [Schwarzenburger] 1326
prolapse, operation for, [Lockhart-Mummery] 753
sarcoma, primary, of, [Lapeyre] 1864
tumors, [Bensaude & Cain] 1283
RECURRENT FEVER: See Relapsing Fever
RED CROSS, Belgian, 1024
international conference of, 804, 1411
public health activities of, 1174—E
REFLEXES, abdominal, case of inversion of, [Monrad-Krohn] 1807
abdominal, with acute pleural and pulmonary disease, [Pastore] 276
abdominocardiac, [Livierato] 970
bladder-kidney, reflex, [Pico] 277
calcaneum, [Ravà] 1203
contralateral, plantar, [Gordn] 137
disturbed reflex in production of symptoms, [Mackenzie] 894
lung automatism and lung reflexes in frog, [Carlson & Luckhardt] 64
oculocardiac, [Naccarati] 476, [Sicard & Paraf] 620
oculocardiac convergence reflex, [Ruggeri] 211
oculocardiac, in general paresis and tabes, [Roubinovitch & others] 1135
oculocardiac, in surgery, [Guyot & Jeannency] 142
of genito-urinary apparatus, [Bartrina] 1617
renorenal, [Haines & Taylor] 548
RELAPSING FEVER in Peru, [Del Prado] 622
RELAXATION, reduction of nervous irritability and excitement by, [Jacobson] 1427
RELEASES got by false statements as to injuries, 199—MI
"RENDER unto Caesar," 384—E
RÉNON, election of, to Academy of Medicine, 1117
REOLO, 1697—P
REPORTS, relation of public health work to physicians' reports, [Abercrombie] 1703—ab
RESEARCH, grants for, in medicine, 660
grants for, in therapeutics, 935
Swedish society for medical research, 188
RESPIRATION, artificial in newborn, [Greenwood] 1709
cardiorespiratory mechanism in health and diseases, [Pearce] 749
RESPIRATION, effect of bile salts and saponin on, [Brooks] 1130
manometer mask, [Pech] 897
mechanism of, [Creyx] 621
oxygen deficiency and, 1845—E
physiology and pathology, [Rominger 1543
RESPIRATORY APPARATUS, underpressure, for surgical purposes, [Brunner] 1865
RESPIRATORY TRACT diseases, vaccination against, [Von Sholly & Park] 680
infections, microbal studies of, [Park, Williams & Krumwiede] 679
infections, obligate anaerobes in, [Hall] 819
menthol and peppermint in acute catarrhal conditions of, [McGuigan] *303
parallel vasomotor phenomena in skin and air passages, [Azzi] 1713
so-called pleomorphic streptococci from, [Norton & others] *1003
RESUSCITATION, epinephrin in, 684
massage of heart in, [Gunn] 409
RETINA, blood vessels of, in diabetes, [Williamson] 619
cysticerus subretinalis, [Pillat] 625
embolism in, [Lafon] 966
RETINITIS in pregnancy, [Couvelaire] 686
nephritic, [Marin Amat] 1286
of diabetes mellitus, [Wagener & Wilder] *515
subcutaneous injections of milk in, [Heine] 625
RETROPERITONEAL cyst, [Paus] 1439
REVILLIOD, memorial to, 47
RHABDOMYOMA of nose, [Reitter] *22
RHEUMATISM, acute rheumatic fever and its variants in childhood and adolescence, [Reisman] *1377
chorea and endocarditis, [Vinals] 73
cinchophen, neocinchophen and novaspirin in rheumatic fever, comparative therapeutic efficiency toxicity and renal functional effects, [Hanzlik & others] *1728
deforming, vaccine treatment of, [Senarclens] 898
gonococcus, early joint lesions in, [Dufour] 141
heart disease in, masked forms of, [Jossue] 1282
syphilis plus febrile rheumatism as factor in cardiovascular disease, [Minet & others] 1863
RHINOPHYMA, operation for, [Hanrahan] 819
RHINOPLASTY to replace nose bitten off by rat, [Behrend] *1752
RHIZOTOMY, posterior, for relief of pain in gastric crisis, [Thorburn] 1614
RHODE ISLAND state board July examination, 196
state board October examination, 400
RHUS dermatitis, 1252—E
dermatitis, treatment of, [Alderson & Pruett] 1610
RIBS, cervical, [Pasini] 758, [Taylor] 1603—ab
fractured, artificial penumothorax in, [Soresi] *379
fracture of followed by pseudohernia, [Oehlecker] 347
osteomyelitis of, acute, [Fantozzi] 622
RING'S ROSE INJECTION, 607—P
RINGWORM, new variety of, [Craik] 1710
radium treatment in, [Mazzoni & Palumbo] 1539
ROBINSON'S Alfalfa-Neutrient and Alfalfa Blossom, 606—P
cure for cancer, 1514—P
ROCKEFELLER FOUNDATION gift, 944
hookworm expedition, 89
in Czecho-Slovakia, 47
offers assistance to Mexico, 188
RODRIQUEZ ABAYTUA leaves his fortune to Royal Academy of Medicine, 1116
ROENTGEN, honors for, 255 944
ROENTGEN RAY, acute plastic anemia caused by, [Larkins] 1431
another martyr to, 1181
committee to investigate phases of, 1508
effect of cellular reaction induced by roentgen rays on cancer grafts, [Murphy & others] 1194
effect of, on resistance to cancer, [Nakahara & Murphy] 1368
ROENTGEN RAY, evidence of ulcer healing shown by, [Buckstein] *231
examination and choice of methods—failure to use roentgen rays—expert evidence, 1523—MI
identification of individuals by means of, 1695
influence of cancer inoculation on lymphoid stimulation induced by small doses of, [Nakahara & Murphy] 1368
organ stimulation by, [Petersen & Saelhof] *718
protection against damaging effect of scattering roentgen rays, 1413
ROENTGENOGRAPHY, cinnabar for contrast in suspension in, [Kopp] 418
in tuberculosis in infants and children, [O'Brien & Ames] *1474
stereoscopic, visualization of surfaces for localization of underlying foreign bodies, [Power] *645
use of an agar agar solution in gastro-intestinal work, [Tucker] *1078
ROENTGENOLOGISTS, liability of physicians as roentgenologists, 613—MI
relation between physicians and, 1600—MI, [Matlack] 1854—C
sufficient evidence against, 1702—MI
ROENTGENOTHERAPY, deep, for children, [Karger] 147
dosage, [Guilleminot] 1324
dosage, graduation of, [Holfelder] 1716
dosage, new method of measuring, [Phillips] 408
doses in gynecologic practice, [Fraenkel] 902
in interstitial keratitis, [Japiot & Bussy] 1712
ligation of artery before roentgen irradiation, [Wieting] 1622
new, in cancer, [Sittenfield] *99
of cutaneous cancer, [Hazen] *1222
of ductless glands, [Mèclére] 897
of cancer, [Nordentoft] 692
of sarcoma, [Sanvenero] 1374
of uterine fibromas, raising the pelvis for, [Hartmann] 1135
reaction of normal skin to destructive doses of, [Auer & Witherbee] *301
reduction of sugar in blood and urine by roentgen irradiation of suprarenals in diabetes, [Dresel] 760
results of roentgen irridiation of myomas and other pathologic conditions of uterus, [Zweifel] 1052
ROGER'S LIVERWORT, Tar and Canchalagua, 53—P
ROUMANIA, first minister of health for, 1588
ROUND LIGAMENTS, subperitoneal shortening of, [Grad] 889
ROUNDWORM, strange migration of, [Pillay] 1431
ROWERS, gaseous interchanges in, [Dirken] 1053
ROWS, DR., to advise Public Health Service, 1692
ROYALINE OIL, 606—P
RUBBER glove and appendicitis, [Morris] 201—ab
tube, new method for recovering tube lost in pleural cavity, [Holyoke] *1078
RUBBER-BALL SOUND after cough as sign of cavity, [Bergmark] 1054
RUBEOLA: See Measles
RUBIN, Miriam, case of, *654, 659-E
RURAL communities, hospitals and physicians for, 1107—E
communities, shortage of physicians in, 796—E
health centers as aids to general practitioners, [Vaughan] *983, 1013—ab
RUSSELL, HUGH, not a physician, 1317
RUSSELL'S fuchsin bodies, [McConnell & Lang] 1322
RUSSIAN physicians, aid to, [Hassin] 609—C

S

S. O. S., 1263—P
SACHS-GEORGI REACTION in syphilis, [Hull & Faught] 137, [Logan] 410, [Levinson & Peterson] 1039, [Taniguchi] 1044
comparison of Wassermann and, [Kilduffe] 1274

SACRO-ILIAC joint, dislocation of, [Gibson] *148
SACRUM, removal of ventral tumors of, by posterior route [Pearse] 266—ab
SALICAINE, 113
SALICON, 397—P
SALIGENIN, 113, 1654
SALIVA, sulphocyanate content of urine and, of pellagrins, [Sullivan & Dawson] 892,
SALIVARY GLANDS, actinomycosis of, [Söderlund] 1054
hyperplasia of, with suprarenal disease, [Hammerli] 486
tumors in, [Cevario] 621
SALOPHEN, 245
Morgenstern, 245
SALPINGITIS, acute puerperal salpingoperitonitis, [Bourne] 1198
after ventrifixation of uterus, [Caraven] 1283
SALVARSAN: See Arsphenamin
SALVITAE, 607—P
SAMARIN and "Modified Salicylic Acid," 883—P
SAMOA public health work in 1585
SAMPAIO, memorial tablet for, 322
SANATORIUM, seashore, for children, [Ausset] 140
SANDWICH calories, 1407—E
SANITARY congress, International, at Montevideo, 393, 737
syndicate, dissolved, 1259
SANTALETS, 126—P
SANTYL, 1654
SAPONIN, effect of bile salts and, on respiration, [Brooks] 1130
SARCINA in stomach, [Heissen] 1287
SARCOMA, experimental, [Yamagiwa & others] 1286
hemorrhagic, of Kaposi, 1607
hemorrhagic, roentgen-ray treatment of, [Wakeley & Thomson] 1613
of brain, neural origin of, [Perdrau] 1799
of epipharynx, [Van Horn] *32
roentgen ray treatment of, [Sanvenero] 1374
SAVENAY abduction splint made universally adjustable, [Crane] *589
SAWYER, CHARLES E., assumes new duties, 877
luncheon to, 1111
Ohio physician becomes president's physician, 736
opens offices, 1317
to outline plans for public health, 804
SAXON Gonorrhea Injection, 126—P
Methygon Tablets, 126—P
SCABIES, albuminuria and eosinophilia in, [Hayman & Fay] 335
Danish treatment of, [Lomholt] 340
treatment of, [Miller] 408
SCALP, avulsion of, [Lenormant] 553
control of hemorrhage in surgery of, [Soules] *1826
SCAPULA, racial differences in, [Hasebe] 1541
SCARLET FEVER and angina, [Mironesco] 1049
diagnosis by induced local blanching, [Tron] 899, [Schultz] 1544
mastoiditis in, [Torrents Castelltort] 969
prevalence of, [Nielsen] 1544
relapse in, 1420
serodiagnosis in, [Thomas & Pesch] 1621
SCHICK TEST: See Diphtheria
SCHISTOSOMA japonicum infestation cured by tartar emetic, [Cawston] 619
japonicum, mode of infection of, [Miyagawa & Takemoto] 1799
SCHNEIDER'S and Crampton's tests, comparison of, [Scott] *705
SCHOLARSHIPS, postgraduate, 663
SCHOOL, corporal punishment in, 1510
hygiene, second congress of, 807
hygiene work inaugurated, 738
medical, at Hanoi, 1587
medical, in Prague, opening of new, 535
medical inspection, [Churchill] 269, 880
medical inspection, legality of, 1038—MI
new rules for Army Medical schools, 1508
nutritional work in, final report of experimental work done under supervision of Board of Education of Chicago, [Rich] *998
SCHOOLROOM, daylight in, [Jackson & others] 1785—ME
de SCHWEINITZ, GEORGE E., president-elect, 1771—E
SCIATICA, [Jansen] 1054
epidural injections for, [Feuillade] 275
galvanic acupuncture in, [Goulden] 1370
roentgen-ray treatment of, [Japiot] 1135
secondary nature of, [Lindsteadt] 903
surgical treatment of, [Renton] 1430
treatment of, [Wittenrood] 1719
SCLERODERMIA, cold as factor in, [Dufour & Debray] 965
diffuse, acute, in children, [Dubreuilh] 755
SCLEROSIS, disseminated, [Guillain] 274
disseminated, cerebrospinal fluid in, [Adams] 964
in patches, arsphenamin treatment of, [Juarros] 970
SCOLIOSIS, congenital, due to spinal defect, [Storey & Birkelo] *786
modern treatment for, 49
treatment in adolescents, [Gourdon] 411
SCORBUTUS: See Scurvy
SCURVY, epidemic, [Giorgi] 689
infantile, on raw milk diet, [Faber] 1273
loss of antiscorbutic potency in foods, 1577—E
persisting changes in bones after, [Frank] 1376
question, [Nobel] 1718
rôle of infections in, [Abels] 559
swelling of pinna early sign of deficient antiscorbutic vitamin, [Sheasby] 1134
SECRECY, medical, and panel patients, 323
SECRETIONS, INTERNAL, abnormal functioning of ductless glands during pregnancy, [Mahnert] 1203
and encephalitis, [Howe] 1278
and heart, [Zondek] 1206
and psychanalysis, [Robinson] 1782—C
and psychoses, [de Hartogh] 247
and tachycardia, [Bonilla] 485
changes in endocrine glands of tumor bearing animals, [Hammet] 1321
chronic colitis with secondary endocrine disturbances, [Grote] 1541
disappointments of, 1685—E
disturbances of, [Brock & Kay] 475
endocrine glands—a caution, 1500—E
influence of, on respiratory exchange, [Marine & Lenhart] 269
spasmophilia and derangement of, [Pincherle & Maggesi] 345
SEDGWICK, WILLIAM T., death of, 459
SEIZURE, damages for unjustified seizure, 1592
SELF-HELP, E & I Treatment, 1029—P
SEMICIRCULAR CANALS, [Broca] 824
SEMILUNAR BONE, dislocation of, successful reduction, [Golden] *446
SEMINAL VESICLES, inflammation, vas puncture to cure, [Cumming & Glenn] 751
modification of vasostomy permitting frequent irrigations of, [Hess] *1349
SEMISITTING position for patient in bed, [Burckhardt] 1437
SEMON, SIR FELIX, 1023
death of, 877
SENATE committees, reduction in number of, 1507
SENSITIZATION in infancy, explanation of, 935—E
SEPTICEMIA, subacute, venous, [Vaquez & Leconte] 1434
SEROTHERAPY, autoserotherapy of infections, [Escomel] 1375
intra-articular, [Netter] 1801
lowering of blood pressure under, [Jousset & Binet] 1433
mode of action of, [Thomsen & Wulff] 1328
route and rate of absorption of subcutaneously injected serum in relation to occurrence of sudden death after injection of antitoxic horse serum, [Lewis] *1342, 1356—E
SERTÜRNER, F., discoverer of morphin, memorial dedicated to, 47
SERUMS and vaccines in therapy, 115—E
defensive potency of, [Gelera] 211
desensitization, [Mackenzie] *1563
disease, relation of antibody and antigen to, [Mackenzie & Leake] 1532
effect of horse serum on precipitin response, [Alexander] 1368
improved preparation of antiserums, [Sordelli] 970
new method of adding cresol to, [Krumwiede & Bahzahn] 1322
red cell refusion in production of therapeutic serums, 1580—E
sickness, anaphylactic symptoms after reinjection of antiserums, [Ustvedt] 904
sickness, prophylaxis of, [Sicard & Paraf] 1135
sickness taking form of arrhythmia, [Weill-Hallé & Lévy] 1200
specificity of antiorgan serums, [Fleisher & Arnstein] 1796
SEX as factor in pathogenesis of disease, [Ehrström] 1288
determination and numerical relation of the sexes, 604
Steinach's research on secondary sex characters, [Abrahamson] 348
numerical ratio of, 1590
SEXUAL offenses, new legislation for, 123
SHAVING brushes, sterilization of, 1265
SHEPPARD-TOWNER BILL, [Putnam] 1264—C, [Kosmak] 1319—C, [Sherrer] 1418—C, [Oppenheimer] 1419—C, 1503—E, [Huntington] 1593—C, 1774
again introduced, 1256
federal care of maternity and infancy, 383—E
hearing on, 1359
proposed amendment to, 1317
Senate committee makes favorable report on, 1507
Senate passes, 321
SHOCK, anaphylactic, [Sicard & Paraf] 965
anaphylactic, therapeutic, [Arloing & others] 1048
effect on blood of intravenous injection of hypertonic solution of gum acacia and glucose in normal, asphyxiated and shocked dogs, [White & Erlanger] 63
mechanism of, [Crile] *149
traumatic, experimental, basal metabolism in, [Aub] 239
traumatic, experimental, chemical changes in blood in, [Aub & Cunningham] 269
traumatic, experimental, oxygen content of blood in, [Aub & Cunningham] 269
SHOE dye, poisoning from, [Neuhoff] 820
heel on, [Gibson] 1796
SHOULDER, cystic lymphangioma of, [Jorge] 7[illegible]
dislocation, habitual, [Henderson] 266—ab, [Thomas] 1369
dislocation, mechanical consideration of treatment, [Sever] *925
dislocation, operation for, [Sandes] 823, [Gibson] 1041, [Evatt] 1535
girdle, comparative anatomy of muscles of, [Nishi] 1541
paralysis of, [Maragliano] 1285
SIALORRHEA in encephalitis, [Gelma] 1284
SIGMOID, diverticula and diverticulitis of, [Pickens] 1423—ab
volvulus of sigmoid flexure, radical cure of, [Lange] 829
SIGWART sign of pathogenicity of streptococcus, [Beckman] 691, [Salomon] 1142
SILICA in arteriosclerosis, [Schefflер & others] 1864
SINGULTUS: See Hiccup
SINUS, Accessory: See Nose, accessory sinuses
maxillary, calculus in, [Sweet] *1498
sphenoidal, and temporal lobe, [Schaeffer] *1488
SINUSITIS, frontal, [Caminiti] 1618
maxillary, in infants, [Jorge] 1540
SKIN and bacteria in infancy, 524—E
cancer, roentgen irradiation of, [Thedering] 213, [Hazen] *1222
cancer, treatment of, [Cole] 408
diseases, allergy in, 1010—E, [Robinson] 1265—C
diseases and syphilis in 1920, [Gougerot] 143
diseases and trauma, [Aievoli] 1539
SKIN diseases, night clinic devoted to, [Oliver] 58—ME
esophylaxis of, in relation to infectious diseases, [Menze] 213
grafting, technic of, [Braun] 1621
picric acid as antiseptic, [Hewitt] 1529
pigmented cutaneous lesions, [Lombardo] 1138
sensitization test, value of, [Engman & Wander] 1039
tuberculosis, [Da Costa] 347
SKULL: See Cranium
SLEEPING SICKNESS: See Trypanosomiasis
SMALLPOX, board may employ physician to examine for, 402—MI
compulsory vaccination in Bosnia and Herzegovina, 668
in Haiti, 531
in new-born, [Morawetz] 1543
in Spain, 322, 531
potassium permanganate in, [Balfour] 964
vaccination, complications of, [Sala] 899
vaccination, deaths from, 1589
vaccination, new site for, [Goldberger] 205
SMITH, COLONEL, visit of, 736
SMITH-TOWNER BILL, 255
SMOKING, effect of, on glass blowers, [Baumberger & others] 1706
versus chewing, 1579—E
SMOOT-REAVIS bill for reorganization of government departments, 123, 530, 1412
SNAILS, infections due to, 1008—E, [Cawston] 1615
SOCIAL hygiene, action of propaganda committee on, 601
hygiene, development of, in Berlin, 808
hygiene legislation, 1016—ab
hygiene, report of Committee of Sixteen, 804
service in Belgium, school for instruction in, 603
work, medical, as a therapeutic factor, 163—ab
SOCIETY, dedication of building of Medical Society of District of Columbia, 454
medical association as state board of health, 612—MI
SODIUM Arsphenamin-Squibb, 1007
carbonate, stimulation of intestinal mechanism by, [Hammett] 1608
chlorid, effect of, on diuresis, [Brunn] 77
chlorid, iodized, to prevent goiter, [Sloan] 962
citrate treatment of thromboangiitis obliterans, [Steel] *429
edema, [Magnus-Levy] 1718
lactate in diabetes, [Curatolo] 484, 674
morrhuate in pulmonary tuberculosis, [Biesenthal] 202
salicylate intravenously in influenza, [Nielson] 1279
SOLDIERS, additional appropriations for care of war victims, 460
care of neuropsychiatric veterans, 189
care of wounded in France, 1183
committee to act on rehabilitation of ex-service men, 798
disabled, care of, 1508
health work for, ordered merged, 1258
hospital facilities for tuberculous veterans, 1412
hospitals for disabled veterans, 256
investigation on care of war veterans, 1776
physiologic expenditure of energy as measured by soldier on march, 604
SOLUTIONS, measuring sterile solutions, [Gates] 477
SORMANI, tribute to, 1585
SOUTH CAROLINA state board November examination, 675
SOUTH DAKOTA state board July examination, 197
SOY BEAN, 1187
flour, nutritive value of, [Johns & Finks] 1608
SPAHLINGER treatment of tuberculosis, 946, 1693
SPAIN, practice of medicine by foreigners in, 1112
SPANISH, National Academy of Medicine, first session of, 603
medical delegation at Paris, 1778
Medical Societies, meeting of officers of, 603
SPASMOPHILIA, [Bossert & Gralka] 1325
alkaline phosphates as factor in, [Af Klecker] 1621

SPASMOPHILIA and eudocrine derangement, [Pincherle & Maggesi] 345
overexcitability of nerves as indication of, in infants, [Ibrahim] 1052
treatment of, [Rohmer & Vonderweitd] 1372
whooping cough convulsions and, [Bluhdorn] 77, 1543
SPECIALIST, proposed legal protection of title of, 1512
relation between practitioners and, [Herrick] *975
SPECIALIZATION, age of, 316—E
in medicine, [Minor] 821
symposium on graduate training in various medical specialties, 731
SPECIFIC GLOBULES 37-77, 126—P
SPECIMEN, decalcifying fixative for, [Jenkins] 1799
SPEECH, loss of, following anesthesia, [Clark] 273
SPERMATOZOA of syphilitic, [Widakowich] 414
SPHYGMOMETROGRAPH, [Amblard] 1048
SPIDER, black spider poisoning, report of 4 cases, [Louis] *99
SPINA BIFIDA, [Woltman] 1277
localization of, in neck, [Feil] 344
SPINAL CORD, congenital defects in lower segments of, [Gelpke] 1326
diagnostic significance of intraspinal injections of air in disease of, [Widerõe] 1438
extramedullary fibroneuroma of, [Howe] 1611
lesions, section of anterolateral tract of cord for relief of intractable pain due to, [Leighton] 267—ab
symptomatology of complete transverse lesion of, [Rennie] 1432
surgery, [Elsberg] 1603—ab
traumatism of, [Prat] 690
tumor, false localizing signs in, [Elsberg] 476
tumors of, and its membranes, [Sharpe] 406
tumors, 3 cases [Lennep] 972
SPINAL PUNCTURES: See Rachicentesis
SPINE, apparatus for fixation of, [Pugh] 1861
auscultation of, in diagnosis of tuberculous glands, [Klare] 1376
cervical, malformation of, [Bertolotto] 210
curvature of, [Schlesinger] 1204
tuberculosis, bilateral Albee implants in, [Scalone] 758
tuberculosis, bone implants in, [López Doran] 1050, [Blanc Fortacin] 1051, [Alvarado] 1138, [Radulesco] 1538
tuberculosis, gastro-radiculitis from, [Ramond & Jacquelin] 1803
tuberculosis resembling pyelitis, [Foster] 337
typhoid, [Moffat] *639
SPIROCHAETA duttoni, parasite of tick fever, [Leishman] 340
SPIROCHAETA PALLIDA, are there more strains than one of, 864—E
dissemination of, [Eberson] 749
in tissues, second improved method for demonstration of, [Warthin & Starry] *234
short silver impregnation method for demonstration of, [Haythorn] *725
value of disodium ethyl arsinate (mon-arsone) as a spirocheticide, [Nichols] *1335
SPIROCHETES in etiology of certain paralyses, [Schuster] 410
in lymphatic glands, [Fruhwald] 973
in tissue and sputum, staining of, 1364
possible invasion of endometrium by, [Belfield] 1363—C
strain in, [Thom] 749
SPIROCHETOSIS, bronchial, [Bloedorn & Houghton] *1559
bronchopulmonary, [Levy] 548
pleural, [Mason] 336
SPIROCHETURIA in syphilis, [Fiessinger & Huber] 1049
SPIROCIDE not admitted to N. N. R., 259—P
SPLANCHNOPTOSIS, [Cavazza] 689, [Hall-Edwards] 1709, [Glenard & Rouzaud] 1862
SPLEEN, embroyology of, in birds, [Shikinami] 624
enlargement of, in anemia, [Hallez] 553
enlargement of, in experimental acidosis, [Householder] *1556
SPLEEN, erythrocyte-destroying action of, [Frey] 557
fibrosis and thrombophlebitis of, [Mayo] 1192
rupture of, [Lopez Cross & Pavlovsky] 623, [Massari] 625
rupture of, in India, [Hennessy] 479
surgery of, [Moynihan] 619
SPLENECTOMY, [Leo] 825
as a therapeutic measure, [Griffin] 1131
for cirrhosis, [Clark] 690
for torsion of wandering spleen pedicle, [Southam] 1198
In hemolytic jaundice, [Pennato] 1865
in pernicious anemia by, [Giffin & Szlapka] *290
surgical significance of blood changes after, [Weinart] 1719
SPLENOMEGALY, Gaucher's, [McLean] 1607
splenic lesions in, [Kettle] 340
with multiple abscesses of liver, [Hutcheson] *571
SPLENOPNEUMONIA, [Reymond] 145
SPLINT for treating fractures of long bones, [Cooke] *1162
Savenay adbuction splint made universally adjustable, [Crane] *589
traction device for use with Thomas splint, [Schuemeier] *1005
walking, with elastic extension for fractured leg, [Chatzkelsohn] 972
SPONDYLITIS deformans, [Harbitz] 78
lumbar, [Pulvirenti] 969
operative treatment of, [Jagerink] 1438
traumatic, [Rossi] 1285, [Barkman] 1439
SPONDYLOSIS, rhizomelic, [Garin] 1539
SPONGE in abdomen, [Hartz] 1533
SPOROTRICHOSIS, [Beatty] 1197
disseminated, subcutaneous, with lung metastasis, [Warfield] 1524—ab
of lung, [Le Blanc] 135
SPRIGGE, SQUIRE, editor of Lancet knighted, 317—E
SPRUE, 1687—E
etiology of, [Heaton] 70
sodium bicarbonate in, [Castellani] 1044
SPUTUM, albumin in, an aid in early diagnosis of tuberculosis, [Alport] 1615
autovaccine from, [Korbsch] 1544
disinfection of, 944
enrichment of, [Villegas] 346
rapid stain for elastic fibers in, [Dargallo] 623
STAIN, crystal violet as a stain for platelets, [Buckman & Hallisey] *427
for elastic fibers in sputum, [Dargallo] 623
rose bengal as, [Conn] 1130
short silver impregnation method for demonstration of spirochaeta pallida in tissue, [Haythorn] *725
STAPHYLOCOCCUS septicemia, [Clark] 74
STARCH, determination of glucose and, by alkaline potassium permanganate method, [Quisumbing] 68
STARRY and Warthin's second improved method for demonstration of spirochaeta pallida in tissues, [Warthin & Starry] *234
STARVATION, gastric secretion in, [Sutherland] 1608
STATE Board of Health, medical association as, 612—Ml
board statistics for 1920, 1231, 1249—E
STEATORRHEA, congenital, 181—E
STEGOMYIA, fasciata, survival of, at low temperature, [Flu] 1807
STENSON'S duct, fistula of, [Chubb] 684
STERILITY, diagnosis in, [Reynolds & Macomber] 206
from narrowness of uterine cervix, treatment of, [Escomel] 622
in women, [Westermark] 1720
STERILIZATION: See also Disinfection
STERILIZATION, deliberate, in women, [Williams] 1857
Muscatello method of sterilizing catgut and silk suture material, [Greco] 1713
STERLING PRODUCTS COMPANY and "Aspirin Bayer," 1697—P
STERNUM, fracture of, [Bonnet & Barbier] 1801
STIENON, Professor, tribute to, 1775
STIERLIN method in gastric ulcer, [Steinthal] 559
STILLBIRTHS in France, [Chambrelent] 342
STITT, ADMIRAL, becomes Surgeon-General of Navy, 797—E
STOMACH acidity, determination of, [Lanz] 1714
acidity, interdigestive acidity of stomach, [Jarno & Vandorfy] 1714
adhesions between stomach, gallbladder and duodenum, clinical picture from, [Agote] 277
analysis, fundamental principles, [Rehfuss & Hawk] *371
analysis, interdigestive phase or principles governing phenomena of resting stomach, [Rehfuss & Hawk] *564
atony for, postoperative, [Hansen] 280
bacteria in, fate of, [Van der Reis] 1714
bacteriology of fasting stomach and duodenum, [Poppens] 817
cancer, early diagnosis of, [Perez Ortiz] 414
cancer, fatal hemorrhage from, [Koechlin] 1284
cancer in youth, [Laird] 963
cancer, liver and kidney with, [Le Noir & others] 1711
cancer, occult bleeding in diagnosis of, [Fricker] 1201
cancer, polypoid carcinoma of stomach, report of a case diagnosed as primary pernicious anemia 18 months before death, [Miller] *229
cancer, resection for, [Möller] 148
cancer, thread test for, [Moppert] 1284
contents, examination of, [Best] 334
diffusion of poison in, [Loeper] 1864
disease, diet with, [Loeper] 554
disease, insufficiency of liver with, [LeNoir] 1047
disease, pain with, [Ramond] 1373
disease, true and false, [Zayas] 900
epithelioma, incipient, [Murayama] 74
examination of abnormal gastric residuum, [Lermann & others] *1340
fasting, content of, [Hayem] 620
fasting, fluid in, [Hayem] 686, 824
fistula between colon and, [Cividali] 73
foreign bodies (safety-pins) in, peroral gastroscopic removal without anesthesia, [Jackson & Spencer] *577
function, influence of bile salts on, [Pannet & Wilson] 1614
function, test for, [Bruns] 75
gastric and respiratory response to meals, [Bennet & Dodds] 1613
hair-ball in, [Whittemore] 335
hemorrhage, [Lund & Foley] 679
hemorrhage, surgical treatment of, [Finsterer] 691
hernia of transverse colon, small intestine and, [Lincoln] 818
hour-glass, [Holland] 409
influence of external heat on secreting function of, [Fischer] 344
innervation of, [Klee] 827
lymphosarcoma, primary, [Broders & Mahle] 1796
mercury in nonsyphilitic stomach disease, [Godoy Tavares] 690
motility of antrum, [Wheelon & Thomas] 271
narrow portions of, [Westphal] 1140
operations, preparation for, [Garcia Huidobro] 899
reflex stomach from surgeon's point of view, [Stewart] 1604—ab
reflux of duodenal secretion after period of activity of empty stomach, [Jarno] 559
response of, to gastrin, [Sutherland] 1608
rigidity of posterior abdominal walls in inflammatory processes of peritoneum, [Drachter & Krecke] 625
roentgenographic evidence of ulcer healing, [Buckstein] *231
STOMACH, roentgenography in gastro-enterology, [Sore] 965
sarcina in, [Heissen] 1287
secretion, estimation of gastric digestive juices by Michaelis' method, [Bosisio] 689
secretion, heredity of, [Dauwe] 70
secretion in new-born, [Pollitzer] 1538
secretion in starvation, [Sutherland] 1608
secretion in young infants, [Chievitz] 418
secretion, oplum test of, [Jarno] 901
secretion, pathology of, [Leist & Weltmann] 1327
secretion, psychic, in man [Heyer] 1714
secretion, studies in, [Takata] 146
surgery, anesthetics for, [Roussiel] 1711
surgery, are we getting satisfactory results in? [Davis] 267—ab
surgery, incision for access to gallbladder and, [Linnartz] 278
surgery, physiologic factors underlying, [Babcock] 1604—ab
tube, behavior of blood pressure during use of, [McKinlay] *431
tumor, [Merrill] 679
tumor at cardia, [Hanns] 685
ulcer, [Le Noir & Agasse-Lafont] 896, [Schonfeld] 1866
ulcer and gastric hypersecretion, [Faber] 1720
ulcer, association of kidney and liver lesions with, [Le Noir & others] 411, [Gandy] 481
ulcer distant from pylorus, [Geilinger] 688
ulcer, dyspetic coma with, [Timbal] 140
ulcer, early diagnosis of, [Durand & Lutier] 896
ulcer, gastrectomy for hard ulcer, [Pauchet] 1800
ulcer, hard, [Kraske] 1715
ulcer, hard, of duodenum and stomach, [Schalij] 902
ulcer in tuberculous, [Algrot & Gaillard] 1372
ulcer, indications for operation in, [Finsterer] 558
ulcer, internal treatment for, [Oehnell] 903
ulcer, interruption of sympathetic and vagus nerves by Stierlin method in, [Steinthal] 559
ulcer, medical treatment of, 726—E, [Horsley] 952—C, [Smithies] 952—C
ulcer of duodenum and, [Mayo] 200—ab, [Eiselberg] 760, [Menghetti] 1050, [Mayo] 1128, [Delgado] 1286, [Moore] 1423—ab
ulcer of duodenum and, in India, [Wanless] 478
ulcer of duodenum and, prophylaxis of, [Cohnheim] 1714
ulcer of duodenum and, roentgenologic diagnosis of, [Haudek] 1621
ulcer of duodenum and, surgical considerations of, [Roeder] *1150
ulcer of greater curvature of, [Timbal] 343
ulcer of lesser curvature, [Monprofit & Thouvenin] 688
ulcer, peptic jejunal ulcer, [Müller] 1620
ulcer, perforated, and neerosis of fat tissue, [Gironcoli] 1202
ulcer perforation of, [Schüleln] 1436, [Paus] 1439
ulcer, persistence of pylorie and duodenal ulcers, following simple suture of acute perforation, [Lewisohn] 64
ulcer, prophylaxis and treatment of jejunal peptic ulcer, [Haberer] 1620
ulcer, pyloric ulcer complicated by taenia saginata, which was vomited, and by taenia solium and strongyloides intestinalis, [Moser] *106
ulcer, relief of pain in, [Poulton] 753
ulcer, remote results of operative treatment of, [Lecene] 553, [Denechau] 896
ulcer, significance of acid reaction of peritoneal fluid in perforating ulcer, [Prader] 1327
ulcer, slight diagnostic value of occult blood findings with, [Pelper] 213
ulcer, suggesting tabetic crises, [Savignac & Alivisatos] 1536

STOMACH ulcer, surgical treatment of, [Deaver & Reimann] 683
ulcer, syphilis as cause of, [Erdmann] 1367
ulcer, threat test for, [Moppert] 1284
ulcer, transverse resection for hard ulcer, [Kleinschmidt] 760
ulcer, treatment of, [Moynihan] 1797
ulcer, uremia and digestive hemolysis with, [Le Noir & others] 1048
vagus innervation of, [Brochers] 1715
volvulus of, [Rosselet] 208
STOOL: See Feces
STOPS IT IN ONE DAY, 1185—P
STRABISMUS, convergent, [Onfray] 824
detection of, [Cantonnet] 412
mancinism and tubercle, [Rivers] 822
treatment of, [Cantonnet] 1863
STREPTOCOCCUS, biologic and physical properties of hemotoxin of, [Meader & Robinson] 136
classification of, [Arnold] 1130
differentiation of virulent and avirulent types of streptococci by Sigwart method, [Beckman] 691, [Salomon] 1142
fecal, and enterococcus, [Dible] 821
hemolytic, in appendix, [Kraft] 819
hemolytic, serologic grouping of, 1843—E
hemolytic, serologic study of, [Gordon] 1615
hemolytic, viability of, in water, [Livingston] 1127
hemolyticus in milk, [Salter] 1127
hemolyticus production by, of agglutinin for red corpuscles which inhibits hemolysis, [Howell] 204
hemotoxin production by, in relation to its metabolism, [Cook & others] 819
in sour milk, [Jones] 477
method for obtaining stable suspensions of, for agglutination, [Norton] *1753
septicemia, [Achard & Gardin] 482
serum and vaccines, [Weaver] *34
so-called pleomorphic streptococci from human respiratory tract, [Norton & others] *1003
tonsillitis patients carriers of, [Havens & Taylor] 1127
STRIKE, another physicians' strike in Spain, 1179
medical aspect of strikes in public utilities, 47
of physicians, 668
STRONGYLOIDES infection, oil of chenopodium in, [Willis] 70
intestinalis, case of pyloric ulcer complicated by taenia saginata, which was vomited, and by taenia solium and strongyloides intestinalis, [Moser] *106
intestinalis infestation, [Trejo] 469—C
STROPHANTHIN, fatalities after intravenous injection of, [Rhan] 486
STRYCHNIN poisoning, [Gomez Repiso] 557
STUDENT, foreign, requirements for admission of, to German universities, 876
higher taxes and fees for foreign students, 1117
medical, training camp for, 1022
professional orientation of, 1509
SUBMARINES, locating, [Marage] 755
SUBSTANTIA NIGRA, [Wechsler] 1611
SUGAR, grape, tolerance for, in children, [Kahn] 972
hypertonic solution by vein, [Korbsch] 1436
In Blood: See Blood, Sugar in
in Urine: See Urine, Sugar in
intramuscular injections of cane sugar to produce focal reactions, [Hasenbein] 625
intravenous injections of, in general anesthesia and diseases, 741
pine, sugar of, 196
tolerance in new-born, [Feldmann] 1718
SUICIDE, analysis of suicidal attempts, [Lowrey] 137
in Spain, 1026
poisons in accident and, 668
silicosis and, [Watkins-Pitchford] 964
with electric current, [Jaeger] 828
SULPHO-SALINE Still Natural Mineral Water, 672—P
SUN, action of sunlight on syphilitic eruption, [Rasch] 348
disinfecting action of, on tubercle bacilli, [von Bergen] 344
stroke, immunity of negroes to, [Figueras] 1619
SUPRARENALIN, 1353, 1826
SUPRARENALS, emotions in relation to, [Kieley] 680
extirpation of, in epilepsy, [Brüning] 692, [Bumke & Kuttner] 1141
hemorrhage in new-born, [Troncomi] 1539
hyperplasia of salivary glands with disease of, [Hammerli] 486
hypothyroidism and underacidity of, corrected by glandular therapy, [Kear] *1349
influence of thyroid on, [Herring] 270
pigments of, [Findlay] 340
raying of, in diabetes, [Dresel] 760, [Beumer] 1718
relation of cortex to exophthalmic goiter, [Friedman] 681
toxemia of pregnancy, [Turenne] 484
tumors in horses and cattle, [Kimura] 74
SURGEON, puncture of artery out of place by, 264—M
SURGERY and surgical specialties, [Cabot] 870
asepsis of field of operation, [Sorel] 966
clinical clerkships in, [Webb] 56—ME
constitutional pathology of surgical diseases, [Bauer] 1139
emergency, Duval's conference on, 603
for children, [Mouchet & Roederer] 411
loofah in, [Juvara] 1864
military, in former wars, [Magnus] 1715
on aged subjects, [Culler] *1158
plastic, of eyelids and face, [Imre] *1293
plastic, restoration of cheek and temporal region by pedicled and sliding grafts of skin and muscles, [Whitham] *448
points of contact between some surgical conditions and cardiac disorders, [Levine] 1528—ab
preoperative and postoperative management, [Johnson] 1424—ab
report of committee on postgraduate instruction in, 732
surgical judgment and its relation to treatment, 521—ab
traumatic, problems of, [Moorhead] *1642
two suggestions in abdominal operative technic, [Skillern] *445
underpressure respiratory apparatus for surgical purposes, [Brunner] 1865
SWAEN, PROF., tribute to, 1585
SWEAT, physiology of secretion of, [Freund] 973
SWEDISH Medical Association, annual meeting of, 122
society for medical research, 188
venereal disease law, working of "lex veneris," 198
view of American Medical Association's headquarters, 188
SYMPHYSIOTOMY, experiences with, [Quante] 1806
or cesarean section, [Schwarz] 1806
or pubiotomy, [Lindemann] 415
SYMPHYSIS, caries of, and pubic bone, [Speyer] 415
SYPHILID, varioliform, [Bonnet] 1863
SYPHILIS, abortion of, [Lévy-Bing & Gerbay] 143
accidental infection of medical man with syphilis: is it an accident from insurance point of view? 1415
action of sunlight on eruption in, [Rasch] 348
acute nephritis in, [Silverman] 1278
among insane, [Echols] 1704—ab
and alcohol as causes of mental diseases, [Kirby] *1062
and kidney disease, [Lankhout] 626
and pregnancy, [Hornung] 626
and prostitution in Vienna, 741
and regeneration, [Thom] 751
as cause of nodular liver cirrhosis, [Owen] 749
asthenia of syphilitic origin, [Merklen & others] 967
SYPHILIS, benzoin precipitation reaction in spinal fluid in, [Guillain] 208
cerebrospinal fluid in treated syphilis, [Moore] *769
chemotherapy of, [Pilado Matheu] 277
clinic for syphilitic children, [Jewesbury] 1709
clinical types of, [Brown & Pearce] 1039
collective inquiry on, 1257
congenital, among newly born, [Ross & Wright] 822
congenital, in second generation, [Bruusgaard] 1808
congenital, incidence of, [Royster] 749
congenital, spinal fluid in 52 cases of, [Kingery] *12
congenital, sequels of, [Rolleston] 1045
congenital syphilitic epiphysitis in adolescence, [Gaenslen & Thalhimer] 546
congenital, transmitted, [Paterson] 549
conjugal and congenital, 290—ab
conjugal, of nervous system, [Gordon] 1608
diagnosis of, [Spillmann] 143, [Capurro] 826, [Merklen & others] 1372
digestion hemoclasis in, [Galliot & Gerbay] 1136
edema in, [Tremolieres & Schulmann] 1048
experimental, [Brown & others] 1368
experimental investigations on, 463
eye in pituitary disease with acquired syphilis, [Schweinitz] 1795
eye symptoms in, [Stross & Fuchs] 1052
hallucinosis in, [de Villaverde] 74
hereditary and congenital anomalies, [de Stefano] 689
hereditary, and dentition, [Sabouraud] 143
hereditary, neo-arsphenamin by vein for syphilitic infants, [Blechmann] 143
hereditary, erythremia with, [Schulmann & Weismann] 208
hereditary, fulminating deafness in, [Portmann] 144
hereditary, offspring in, [Sidler-Guguenin] 757
hereditary, treatment of, [Jeans] *167
how to cure the syphilitic, [Queyrat & Pinard] 143
immunity developed by reaction to syphilitic infection, [Brown & Pearce] 65
in children with heart disease, [Donaldson] 1798
in fetus, diagnosis of, [Shipley & others] 1193
in 1920, [Gougerot] 143
initial lesion and its differential diagnosis, [Barry] 1423—ab
involvement of nervous system during primary stage of, [Wile & Hasley] *8
latent, [Brown & Pearce] 748, [Engman & Eberson] 1274
latent syphilitic as a carrier, [Eberson & Engman] *160
manifested in nose, [Hays] *1575
marriage of syphilitics, [Queyrat & others] 552, [Bory] 898
medicosocial inquiries on, 1182
meningitis due to, [Clark] 146
mortality from, at Brussels, 257
nature and history of, 1665
night clinic devoted to, [Oliver] 58—ME
of auditory nerve, [Lloyd] 1610
of Nervous System: See Nervous System, Syphilis of
painful gastritis early in, [Botelho Vieira] 414
pleurisy and peritonitis in, [Schupfer] 826
plus febrile rheumatism as factor in cardiovascular disease, [Minet & others] 1863
predisposes to laryngeal tuberculosis, [Morton] 480
prophylaxis with arsphenamin, [Michel & Goodman] 397—C, [Pardo-Costello] 397—C
proteogens in, [Engels] 1593—C
pyrexia due to, [Das] 272
Raynaud's disease and, [Ghelfi] 1138
reaction of, in new-born and growing child, [Mitchell] 1423—ab
recognition of syphilis and syphilitic, [Witherspoon] 1423—ab
SYPHILIS, secondary infection, [Williams] 749
serodiagnosis, [Marie] 144
serodiagnosis, comparative value of complement fixation methods in syphilis, [McIntyre & others] 1796
serodiagnosis, quantitative serum reaction for diagnosis of, [Dreyer & Ward] 1709
simulating encephalitis, [Guillain & others] 966
spermatozoa of syphilitic, [Widakowich] 414
spirocheturia in, [Fiessinger & Huber] 1049
superinfection in, [Brown & Pearce] 1532
treatment, [Queyrat] 1537
treatment, antisyphilitic therapy, comparative study of some intensive methods, [Chargin] *1154
treatment with arsenic and mercury compounds [Schamberg] 1274
treatment during incubation of, [Tzanck] 143
treatment, scientific background for use of arsenical and mercurial compounds in, 1501—E
treatment with small repeated doses of arsenicals, [Sicard] 1616
treatment to cure syphilis, [Queyrat] 1433
urine in, report of laboratory studies, including Wassermann reaction in 69 cases, [Klauder & Kolmer] *102
variability in clinical types of, 1314—E
Wassermann-fast, [Stokes & Busman] 268
Wassermann test with secretions, transudates and exudates in, with note on origin of complement fixing antibody, [Klauder & Kolmer] *1635
SYPHILOLOGY, outline of an adequate training for specialty of dermatology and, [Pusey] 798
SYRINGE, ideal urethral instillating syringe, [Montejo] 1186—C
improved urethral instillating syringe, [Moore] *176, [Havens] 329—C
SYRINGOMA of eyelid, [Martinotti] 1285

SOCIETIES

A.—Association
Acad.—Academy
Am.—American
Coll.—College
Conf.—Conference
Cong.—Congress
Conv.—Convention
Dist.—District
Hosp.—Hospital
Internat.—International
M.—Medical or Medicine
Nat.—National
Phar.—Pharmaceutical
Phys.—Physicians
Ry.—Railway
S.—Society
Surg.—Surgical or Surgeon, Surgery

Air Service M. A. of the U. S., 1359
Ala., M. A. of the State of, 1126
Ala. S. for Ment. Hygiene, 1108, 1253
Ala. State M. A., 1315
Amazon M. and Surg. S., 805
Am. Acad. of Ophthalmology & Oto-Laryngology, 459
Am. A. of Anesthetists, 1126, 1270, 1366, 1524, 1601
Am. A. of Genito-Urinary Surg., 1126, 1270
Am. A. of Pathologists and Bacteriologists, 1583
Am. A. of Phys., 1126, 1270
Am. A. for Thoracic Surg., 1126, 1270, 1366, 1524, 1601
Am. Child Hygiene A., 1774
Am. Climatological & Clinical A., 1126, 1270, 1366, 1524
Am. Dermatological A., 1126, 1270, 1366, 1524
Am. Gastro-Enterological A., 1126, 1270, 1366, 1524
Am. Gynecological S., 1126, 1270, 1366, 1507, 1524, 1774
Am. Hospital A., 1316
Am. Industrial Phys. & Surg. A., 387
Am. Internal M. Cong., 663

Am. Laryngological A., 1126, 1270, 1366, 1524
Am. Laryn., Rhinol. & Otol. S., 1126, 1270, 1366, 1524
Am. M. A., 1359
Am. M. A. of Vienna, 1775
Am. M. Coll. A., 804
Am. Medico-Psychological A., 1126, 1270, 1366, 1524, 1774
Am. Neurological A., 1270, 1366, 1524, 1601, 1703
Am. Ophthalmological S., 459, 1270, 1359, 1366, 1524, 1601, 1703
Am. Orthopedic A., 1126, 1270, 1366, 1524, 1601
Am. Otological S., 1126, 1270, 1366, 1524
Am. Pediatric S., 1126, 1270, 1366, 1524, 1774
Am. Psychiatric A., 1774
Am. Phys. & Surg. Conf., 459
Am. Proctologic S., 1126, 1270, 1366, 1524, 1601
Am. Psychopathological A., 1366, 1524, 1601, 1703
Am. Radium S., 1270, 1366, 1524, 1601
Am. Republics Internat. Sanitary Conf., 737
Am. Roentgen Ray S., 255
Am. S. for Clinical Investigation, 1126, 1270
Am. Surg. A., 1270, 1366, 1524, 1601, 1703
Am. Therapeutic S., 1126, 1270, 1366, 1524, 1689
Am. Tropical M. S., 944
Am. Urological A., 1126, 1270, 1366, 1524
Argentina Nat. M. Cong., 1020
Argentine, S. A., M. A., 531
Ariz. State M. A., 1253
Ark. M. S., 1126, 1270, 1504
Ark. State Public Health A., 1253
A. of Am. Peroral Endoscopists, 1126, 1270, 1366, 1524
A. of Am. Phys., 1524, 1605
A. of Portugese Phys., 1317
A. for the Study of Internal Secretions, 1126, 1270, 1366, 1524, 1601
Belgian Eugenics S., 805
Belgian Nat. Child Welfare S., 604
Belgian Ophthalmological S., 880
Belgian Royal Acad., 257, 459
Belgian Tropical M. S., 257
Belgian Urological S., 880
Berlin M. S., 463
British M. A., 878, 1585
Brussels, Belgium, Anthropologetic S., 393
Calif., M. S. of the State of, 1126, 1270, 1408
Canadian Nat. Public Health Cong., 1410
Canadian S. of Anesthetists, 1178
Catholic Hosp. A., 1020
Child Welfare Cang., Brazil, 1584
Chile M. A., 322
Colo. A. of Anesthetists, 1689
Colo. Cong. of Ophthalmology & Otolaryngology, 1581
Colo. Ophthalmologic S., 1581
Commission on M. Education in Virginia, 1359
Conf. of State and Provincial Health Authorities, 1126, 1270, 1366, 1524
Conn. State M. S., 1126, 1270, 1366
Council of the Royal Coll. of Surgeons of Ireland, 1359
Cuban M. A., 663
Far Eastern Tropical M. A., 322
Fifth Dist. M. S., S. C., 1019
Florida M. A., 1126, 1270, 1581
French Cong. of M., 879, 1585
French M. History S., 188
French Orthopedic S., 49
French Prevention of Mental Disease League, 805
French School Hygiene League, 807
French-Speaking Countries Legal M. Cong., 876
Ga., M. A. of, 1126, 1270, 1408
Ga. State M. Conv., 1504
Guatemala M. and Surg. S., 47
Hawaiian M. S., 121
Ill. State M. S., 1126, 1270, 1359, 1366, 1581
Ind. State Hosp A., 1017, 1108, 1316
Inter-Allied Meeting of the Neurology S., 1256
Internat. Child Welfare Cong., 47
Internat. Comparative Pathology Cong., 600, 737
Internat. Conf. of Child Welfare, 1585
Internat. Cong. on History of M., 1507
Internat. Cong. of M. and Pharmacy, 1021
Internat. Cong. of Ophthalmology, 1584
Internat. Eugenics Cong., 663
Internat. History of M., Cong., 664, 666
Internat. M. and Pharmacy Cong., 124
Internat. Ophthalmologic Cong., 459, 736
Internat. Physiotherapy Cong., 121
Internat. Red Cross Conf., 1411
Internat. Sanitary Conf. of the Am. Republics, 393
Internat. Urologic S., 664
Internat. Urological S., 601
Interstate A. of Anesthetists, 1126, 1270, 1366, 1524
Ia. State M. S., 1126, 1270, 1504
Ia. State S. of M. Women, 1504
Italian M. Radiology Cong., 390
Italian M. S. of Mass., 1359
Italian Phys. A. of Am., 1359
Kan. Annual School for Health Instruction, 1505
Kan. M. S., 1126
League for Mental Prophylaxis and Hygiene, France, 1775
London Postgraduate M. A., 49
London Prevention of Venereal Diseases S., 323
La. M., Dental and Pharmaceutical A., 1505
La. State M. S., 1126
Madrid, Spain, Nat. Acad. of M., 462
Me. M. A., 1366, 1524, 1601, 1703
Md., M. and Chirurgical Fac. of, 1126
Md. Tuberculosis A., 1017
Masaryk, Hungary, Anti-tuberculosis League, 535
Massachusetts-Halifax Health Commission, 1507
Mass. M. S., 1126, 1270, 1366, 1524, 1772
Mass. Tuberculosis League, 1582
M. Education, Licensure, Public Health and Hosp. Cong., 251
M. S. of the State of N. Y., 1358, 1527
M. S. of N. C., 1358
M. Veterans of the World War, 1317
Mexican Biological S., 667
Mexican Child Cong., 188, 255, 462
Mex. City., Mex., Prophylaxis Against Venereal Diseases S., 667
Mich. A. of Industrial Phys. and Surg., 1690
Mich. State M. S., 1126, 1270, 1366, 1690
Military Surg. A., 1581
Minn., St. Paul and Sault Ste. Marie Railway Surg. A., 47
Miss. State M. A., 1126, 1270, 1409
Mo. S. of M. Secretaries, 1690
Mo. State M. A., 1126, 1176, 1270, 1366, 1690
Mont. M. A., 1524, 1601, 1703
Montpellier Faculty of M., 533
Nagyvarad, Hungary, M. S., 464
Nat. Conf. on Child Labor, 1256
Nat. M. A., 1584
Nat. M. Cong. in Peru, 1508
Nat. M. Cong., Uruguay, 1585
Nat. Tuberculosis A., 1270, 1366, 1524, 1583, 1601, 1703
Neb. State M. A., 1126, 1270, 1505
Nervous and Mental Diseases Research A., 121
Netherlands League for Mental Hygiene, 1585
Netherlands S., to Prevent the Spread of Venereal Disease, 531
Neurology S. (Pa.), 1256
Nevada State M. A., 1270, 1366, 1524, 1601, 1690, 1703
New England S. of Psychiatry, 1505
New England Women's M. S., 530
N. H. M. S., 1126, 1270, 1366, 1690
N. M. M. S., 1126
N. Y., M. S. of the State of, 1126, 1270, 1601
N. Y. Electrotherapeutic S., 1018
N. Y. State A. of Public Health Laboratories, 1505
N. Y., Women's M. S. of, 1255
N. C., M. S. of the State of, 1126, 1506
N. D. State M. A., 1126, 1270, 1366
Northland Internat. M. Cong., 188
Northland Pediatric Cong., 944
Northland Surg. Cong., 188
North Pacific Surg. A., 187
Norwegians Neurologists S., 322
Ohio State M. A., 1126, 1270, 1358
Okla. State M. A., 1126, 1270, 1366, 1582
Okla. Tuberculosis A., 1019
Ontario M. A., 1691
Pan-American Sanitary Cong., 322
Pan-Hellenic Hygiene and Demography Cong., 664
Paraguayan M. Cong., 1020
Paris Acad. of M., 188, 190, 255, 323, 392, 462, 531
Paris Acad. of Sciences, 601, 665
Paris M. Faculty, 531
Paris M. School Inspectors' S., 807
Paris Surg. S., 532
Peruvian Surg. S., 805
Porto Alegre, Brazil, M. S., 805
Porto Rico M. A., 944
Psychiatric Congress at Paris, 1411
Phys. & Surg. Industrial A. of Mich., 1775
Radiological S. of North America, 1126, 1270, 1366, 1524
R. I. M. S., 1126, 1270, 1366, 1524, 1690
Royal Acad. of M. Belgium, 393
Royal S. of Tropical M. & Hygiene of London, 1359
Santiago, Chile M. S., 47
Seaboard Air Line Ry. Surg. A., 121
Sioux Valley Eye & Ear Acad., Iowa, Nebraska & South Dakota, 187
Sociedad de Cirugia of Buenos Aires, 1584
South American Cong. of Dermatology & Syphilology, 1584
South American Cong. on Hygiene, Microbiology, 1585
S. C. M. A., 1126
S. C. Nurses' A., 1019
S. C. State Hosp. A., 1019
S. C. State M. A., 1019, 1358
S. C. State Public Health A., 1019
S. D. State M. A., 1126, 1270, 1366, 1583
Southern Calif. M. S., 1108
Southern Gastro-Enterological A., 46
Southern Minn. M. A., 1366, 1524, 1601, 1703
Southern Public Health Laboratory A., 1020
Southern Surg. A., 132
Southwest M. & Surg. A., 254
Spanish Acad. of M., 459
Spanish Nat. Acad. of M., 603
Spanish-Portugese Cong., 1257
State Pathological S. of Tex., 1506
Swedish M. A., 122
Swedish M. Research S., 188
Tenn. State M. A., 1019, 1256, 1359
Tex., State M. A. of, 1126, 1270, 1506
Tex. State S., 1359
Third Dist. M. S. (Ind.), 1316
Tri-State M. A., Carolinas and Va., 736
Tri-State Meeting (Oregon, Washington & Idaho), 1601, 1524, 1703
U. S. State M. Boards Federation, 876
Venezuelan M. Cong., 255
Vienna M. S., 1179
Western Electro-Therapeutic A., 1126
Western Surg. A., 46, 265
W. Va. State M. A., 1126, 1270, 1366

T

TABES DORSALIS, blood pressure and epinephrin treatment in, [Démètre] 1324
familial, [Burrow] 207
gastric ulcer suggesting tabetic crises, [Savignac & Alivisatos] 1536
induced fever in treatment of, [Wagner-Jauregg] 1717
juvenile, [Rosenheck] *572, [Parker] 818
mesenterica following influenza, [Melman] 408
oculocardiac reflex in, [Roubinovitch & others] 1135
posterior rhizotomy for relief of pain in gastric crisis, [Toorburn] 1614
specific treatment of, [Simon] 71
TACHYCARDIA and internal secretions, [Bonilla] 485
paroxysmal, [Wedd] 1794
paroxysmal, differentiation of, [Levine] 476
physostigmin in treatment of, [Lian & Welti] 1801
TAENIA, case of pyloric ulcer complicated by taenia saginata, which was vomited, and by taenia solium and strongyloides intestinalis, [Moser] *106
nana infestation, treatment for, 55
TALIPES, cause of failure after operation for clubfoot, [Lord] 1611
equinus, [Salaghi] 758
planus, causes of, [Rugh] 1367
TALMA operation for cirrhosis of liver, 610
TANLAC, 261
TANNIN compounds, astringency of, [Sollmann] 820
TARTAR emetic, intravenous injection of, [Benjamins] 902
TATTOOING, removal of, [Cattani] 968
TAXATION of medical journals in France, 392
TEA intoxication, [Starr] 1042
TEETH, infectious processes at roots of teeth and internal diseases, [Antonius & Czepa] 1327
inherited syphilis and dentition, [Sabouraud] 143
supernumerary, in orbit, [de Lapersonne] 1199
unerupted in upper jaw, [Sartori] 690
TEKARKIN, Edward Percy Robinson's cure for cancer, 1514—P
TELANGIECTASIS, hereditary, hemorrhagic, [Goldstein] 475
heredity of, [Freudenthal] 962
TELEGONY, 381—E
TELEPHONES, bacterial content of, [Saelhof] 1127, 1769—E
TEMPERATURE control as related to improvement in milk, cream and butter, [Kitchen] 1195
quasicontinuous record, [Woodhead & Jones] 1198
rectal, after amputation of thigh, [Lublin] 760
TENDONS, gaps in, treatment of, [Salomon] 759, [Rehn] 901
rupture of tendon of insertion of biceps flexor cubiti, [Nutt] *1825
TENNESSEE state board June examination, 331
TERMINOLOGY, scientific, 1587
TESTICLE and vasomotor reactions of penis, [Crawford & George] 1427
carcinoma of, in child, [Lee] 827
effect of ligation of vas deferens on, 1698
extract in hystero-epilepsy with delayed puberty, [Graves] 70
gonad grafts, [Falcone] 689
internal secretion of, [Massaglia] 270
reduction of, with short cord, [Sievers] 972
rejuvenation operations, 1026, [Drüner] 1204
Steinach's research on secondary sex characters, [Abramson] 348
sudden death of a man said to have been rejuvenated by Professor Steinach's operation, 1776
transplantation in South Africa, 1124
tri-orchid, [Ayyer] 685
tumors, histogenesis of, [Schultz & Eisendrath] 1530
TESTIMONY as to services of nurse not privileged, 1703-MI
distinction in lay testimony as to insanity and sanity, 1792-MI
knowledge not intended to be confidential, 957—MI
one physician not allowed to testify to confidence in another, 677—MI
TETANUS, antitetanic serum successful in severe case, [Carey] 619
antitoxin in prevention and treatment of, [Nicoll] *112
antitoxin, separation of, from associated protein, [Berg] *1820
atypical, [Prat] 826
bacilli in intestines of animals, [Ninni] 1617
bacillus, isolation of, [Ninni] 1374
cephalic, [Beaussart] 1711
cure of, [Sulzbacher] 1533
serotherapy in, [Etienne & Benech] 824
treatment of acute tetanus, report of successful case, [Kilduffe & McKenna] *20
unusual source of, 391
TETANY, calcium metabolism in, [Klein] 1287
diagnosis in adults, [Naville] 551
experimental investigations of, [Farner & Klinger] 558, 761
manifest tetany in infants, [Nassau] 1718
postoperative, [Pamherl] 1436
Trousseau phenomenon in, [Schäffer] 74
ultraviolet in, [Huldschinsky] 76
TETRACHLORETHANE poisoning, blood in, [Minot & Smith] 1606-ab
TEXAS reciprocity report, 1122-ME
state board November examination, 541
THEOBROMIN, action of caffein, theophyllin and, [Heathcote] 337
THEOPHYLLIN, action of caffein, theobromin and, [Heathcote] 337
THERAPEUTICS, doses for children, [Heering] 148
recent, [Lyon] 1537
THERMO-ESTHESIOMETER, clinical, [Sierra] 1325
THERMOMETERS, standardization of, 740

THERMOPENETRATION, experimental investigations on, [Kolmer & Liebesny] 828
in intermittent claudication, [Grünbaum] 829
THIRST, grave syndrome produced by damage from lack of water in newborn and other infants, [Meier] 1437
THOMAS splint, traction device for use with, [Schuemeier] 1005
THORACENTESIS, air embolism following, 1314-E
THORACOPAGUS, [Merolillo] 1202
delivered by cesarean section, [Bounds & Shanks] 1533
THORACOPLASTY, extrapleural, [Archibald] 474
THORAX, danger to life of rachitic involvement of, [Park & Howland] 1532
in rickets, 1845—E
practical bandage for, [Oden] *174
tumor, [Frank] *591
tumor, diagnosis of, [Fishberg & Steinbach] 1043
tumor, discernment of, by aid of diagnostic pneumothorax, [Fishberg] *581
wounds and tuberculosis, [Frisehbier] 214, [Seitler] 214
THORNWALDT'S disease and chorea, [Yerger] *166
THROATS, bacteria in, [Bloomfield] 819
syphilis, latent, [Gerber] 278
THROMBO-ANGEITIS obliterans, sodium citrate treatment of, [Steel] *429
THROMBOPHLEBITIS and septicemia, [Navarro & Matheu] 485
following delivery, [Smead] 889
of cavernous sinus, [Charlin] 1138
THROMBOPLASTIC, calcium as, 1364
THROMBOSIS, gangrene from, during arsenical treatment, [Oddo & Giraud] 1616
of coronary arteries, [Paullin] 821
of lateral sinus, unusual case of [Friedman & Greenfield] 67
portal, [Webster] 616
postoperative, prevention of, [Jaschke] 1326
sinus, septic, [Kopetzky] 337
venous, in chronic hemorrhagic conditions, [Weil & Bloch] 551
THRUSH complicated by acute polyarthritis in infant, [Goldring] *724
fungus parasite of, 1315—E
THUMB, reconstruction of, [Grégoire] 967, [Cipollino] 1803
supernumerary, [O'Day] 683
THYMUS and goiter, [Haberer] 557
function of, 1025
modification of constitution by thymus feeding, [Romeis] 1542
resection in exophthalmic goiter, [Pribram] 900
THYROGLOSSAL DUCT, cysts of, [Gilman] 683
THYROID: See also Goiter: Hyperthyroidism
THYROID, acute infection of, [Edwards] *637
and laryngeal function, [Judd] 200—ab
deficiency and somnolency, [Bonorino] 277
disease, [Mayo] 1196
disease, relation of acromegaly to, [Anders] 1606—ab
disease, value of basal metabolism studies in, [Lahey & Jordan] 1275
distribution of iodin in, [Van Dyke] 617
extract, influence of, on elimination of water and chlorids in infants, [Schiff & Peiper] 1716
in the tuberculous, [Couloud] 686
influence of, on suprarenals, [Herring] 270
relation of, to menstruation, [Levinsohn] 673—C, [Engelbach] 673—C, [Osborne] 674—C
tuberculosis, primary, in, [Rendleman & Marker] *306
THYROIDECTOMY, [Sebileau] 686
in horses, [Houssay] 970
influence of, on formation of immune bodies in dog, [Garibaldi] 759
partial, [Harper] 1133
THYROXIN, effect of, on growth, [Cameron & Carmichael] 1276
TIBIA, fracture of, treatment of, [Nigst] 899
reconstruction of, [Juvara] 1373
TICK fever, parasite of, [Leishmann] 340
TINEL'S SIGN, [Bower & Hawkins] 135
TOBACCO and nicotin, 180—E, [Busey] 468—C, [Bush] 468—C, [Traey] 469—C
effect of, on man, [Gies & others] 1859
smoke as disinfectant for mouth, [Puntoni] 276
smoking versus chewing, 1579—E
TOLYSIN, 113
TONA-VIN, 193—P
TONGUE, cancer of, [Regaud] 1434
TONSIL, chancre on, [Maselli] 1374
entameba found in, [Tibaldi] 621
etiology of acute nose, pharynx and tonsil inflammations, [Mudd & others] 1130
familial, peritonsillar, abscess, [Leegaard] 1808
hemorrhage, 2 cases following peritonsillar abscess, [Thomasson] *931
hook, combined pillar retractor and, [Painter] *240
hypertrophy of, subacute, [Portmann] 273
infection of, and diabetes, [Blodgett] 1132
infection of pharyngeal tonsil and chorea, [Yerger] *166
lymphosarcoma of, primary, [Fedeli] 969
phlegmon, peritonsillar, [Charbrol & others] 1200
roentgen-ray treatment of adenoids and, [Murphy & others] *228, [Witherbee] 477
route of infection in pulmonary tuberculosis, [Van Zwaluwenburg & Grabfield] 1128
surgery, aspirating dissector for, [Thomson] *1575
TONSILLECTOME, [Toll] *1164
TONSILLECTOMY, carotid arteries and hemorrhages in, 532
combined pillar retractor and tonsil hook, [Painter] *240
instrument, new, [Fulton] 681, [Toll] *1164
new devices combining dissection and suction for use in septum, tonsil and other operations, [Walker] *793
motor suction or vacuum apparatus for removal of blood from throat in, [West] *307
pulmonary abscess following, [Porter] 1133
TONSILLITIS patients carriers of hemolytic streptococci, [Havens & Taylor] 1127
TOOTH: See Teeth
TOOTH BRUSHES, increased duty on, [Hyatt] 1319—C
TORTICOLLIS, congenital, [Meyerding] 1277
TOXICOSIS in infants, [Moro] 1716
TOXIN, nature of, [Warden & others] 617
TRACHEA, cancer of, [Fraenkel] 1287
cancer of, primary, [Cayce] 1613
TRACHEOBRONCHIAL adenopathy, diagnosis and significance of, [Balycat] *988
glands, emergency roentgen-ray treatment of, [D'Oelsnitz & Carcopino] 1281
TRACHOMA at El Salvador, 663
compulsory notification of, 533
school for trachomatous in Argentine, 663
TRANSFUSION: See Blood Transfusion
TRANSLATION, humor of, 596—E
TRANSPLANTATION: See also Grafts
TRANSPLANTATION, delayed, of long pedicled flaps, [Blair] 201—ab
of fat, [Pennisi] 1202
reactions about transplanted tissues, [Fleisher] 1322
TRANSYLVANIA Library, 543, [Barkley] 1789
TREATAMIENTO ZENDEJAS, 1029—P
TREMATODE infections and snails, 1008—E
TREPHEDEMA, chronic, [Leri & Engelhard] 686
TRICHOCEPHALUS responsible for chronic appendicitis, [Echeverria] 623
TRICHOMONIASIS, [Bonaba] 413
methylene blue in, [Block] 271
TRICHOMYCOSIS of axilla, [Condorelli] 1374
TROPHEDEMA, chronic, acquired, [Garin] 212
TROPICAL MEDICINE, Far Eastern Association of, 322
future of research in, 1114
TROPICS, administration of arsphenamin in, [Nunez] 1697—C
American children in, [Bercovitz] *1649
pyrexias most common in Porto Rico, [Torregrosa] 1859
TROUSSEAU phenomenon in tetany, [Schäffer] 74
TRYPANOSOMIASIS, diagnosis of, 257
insect transmitting chagas' disease, [del Ponte] 970
tryparsamid in, [Pearce & Brown] 893
TRYPARSAMID in sleeping sickness, [Pearce & Brown] 893
TSUTSUGAMUSHI disease, etiology of, [Hayashi] 271
TUBERCULIN in epilepsy, [Croeket] 1197
reaction during menses, [Coulaud] 1049
test, safe and efficient, [Gammons] *1396
TUBERCULOSIS: See also under names of various organs, as Kidney, tuberculosis of
TUBERCULOSIS, abdominal, [Slesinger] 1709
alizarin test for, [Genoese] 1435
among ex-service men, 1583
and endemic goiter, [Coulaud] 896
and nostrums, [Klare] 1141
and uncinariasis, [Nedergaard] 814—C
and war, [Schmidt] 1437
antigen in tuberculous urine, [Ichok] 1710
apex, hilum and lower lobe lesions of tuberculosis in childhood, their relative frequency, [Vis] *1156
auto-urine test for, [Eliasberg & Schiff] 75, [Offenbacher] 147, [Gramen] 348, [Gibson & Carroll] *1381, [Alexander] 1544
bacilli, chemical constituents of, 610
bacilli, disinfecting action of sun's rays on, [Von Bergen] 344
bacilli, effect of mustard gas on, [Corper & Rensch] 1042
bacilli, excretion of, in bile, [Marchisotti] 1203
bacilli, in blood, [Distaso] 1134
bacilli transformed to saprophytes, [Sivori] 556
calcium and tuberculosis in rabbits, [Massini] 1201
campaign against, 1693
campaign against, in children in France, 531
carcinoma of vermiform appendix in sisters suffering from, [Primrose] 202
catarrhal colds in relation to, [Warnecke] 1438
cerium salts in, [Renon] 481
chaulmoogra oil in, [Kolmer & others] 1042
classification of, [Knobel] 207
conjugal, infectivity in, [Ward] 618
contracted in nursing service, [Braeuning] 1141
creatinin coefficient in, [Raphael & Eldridge] 1794
death of Escude from allergy caused by tuberculous antigen, 1777
death rates in various occupations, 37—ab
diagnosis of, [Citrino] 690
diet in, 329—ab
dispensaries in Prague, appropriation for, 535
dispensaries, use of drugs in, 1413
dispensary, functions of, 267—ab
erythema nodosum and, [Stokes] 335
fatigue as test of the tuberculous, [Pietroforte] 689
fluctuations in weight of tuberculous, [Møller] 1054
Friedmann's remedy for, Netherlands committee sent to investigate, 805
gastric ulcer in, [Aigrot & Gaillard] 1372
genital, in women, [Driessen] 148
healed, [Robertson] 890
heliotherapy in, [Hyde & Lo Grasso] 1530
hemorrhagic purpura and, [Garin] 276
heredity in, [Adams] 480, 1574—ab, 1768—E
TUBERCULOSIS, hospital beds for tuberculous children, 1117
hospital facilities for tuberculous veterans, 1412
immunity and, [Edel] 78
in Canada, [Porter] 618
in childhood, source of, [Royer] 866—E, 1030—C
in children, prevalence of, [Hamberger] 1439
in elderly, necessity for serologic tests for, [Ichok] 1049
in Framingham, [Armstrong] 890
in Germany since war, [Möllers] 1287
in infancy, [Dunn & Cohen] 678, [Bernard & Debre] 824
in infants and children, [Wollstein & Spence] 404
in older children, [Armand-Delille] 141
in primitive tribes and its bearing on tuberculosis of civilized communities, 246—E
infectivity of, 51
influence of fasting on antibodies in, [Ichok] 965
leukocytic response during reaction of artificial immunity in tuberculosis, [Hussey] 1194
metabolism and diet in, 592—E
metabolism experiments in grave, afebrile tuberculosis, [Grafe] 76
metabolism in, [McCann & Barr] 134
migration of indigent consumptives, 1665
miliary, in child, [Wimmer] 1865
mineral dusts and, [Gardner] 201
mortality from, [Jensen] 974
nutrition in relation to, 604
precipitin test for, [Ferro] 146
predisposition to, index of, [Hollaender] 77
prevention of, 1414
pulmonary, albumin in sputum an aid in early diagnosis of, [Alport] 1615
pulmonary, and bronchomoniliasis, [Macfie & Ingram] 1860
pulmonary, artificial pneumothorax in, [Kahn] 338, [Sangman] 903
pulmonary, artificial, pneumothorax with bilateral tuberculosis, [Bernard & Salomon] 274
pulmonary, auscultation of spine in diagnosis of, [Klare] 1376
pulmonary, blood transfusion in, [Freilich & others] 891
pulmonary, chondroituria in, [Dietl] 1543
pulmonary, chronic with small foci, [Bolle] 214
pulmonary, conditions mistaken for, [Stivelman] 474
pulmonary, chronic, primarily in lower lobe, [Rosenblatt] *1647
pulmonary, diagnosis of, in children, [Stewart] 823
pulmonary, diagnostic sign in, [Simon] 407
pulmonary, drooping shoulder sign of, [Rivers] 619
pulmonary, effect of artificial pneumothorax on tubercles, [Simon] 1426
pulmonary, effect of prolonged pneumothorax on tuberculosis of lungs of rabbits, following intravenous injection of tubercle bacilli, [Corper & Rensch] 202
pulmonary, in negroes, [Gruber] 1621
pulmonary, intestinal tuberculosis and anemia in consumptives, [Krag-Moller] 904
pulmonary, involvement of genitourinary tract in, [Peterson] 615
pulmonary, kidneys with, [Kieffer] 214, 1141
pulmonary, latent, [Cohen] 407
pulmonary, pathology of mediastinal glands in, [Gloyne] 1536
pulmonary, postural rest for, [Webb & others] *846, 1516—C, [McLean] 1516—C
pulmonary, present status of treatment of, [Torres] 212
pulmonary, prevention of, [Given] 894
pulmonary, prognosis of, [Arnould] 687, [Heise] 1705
pulmonary, pupil sign of, [Sergent] 1537
pulmonary, simulating exophthalmic goiter, [Janowski] 1047
pulmonary, surgical treatment of, [Naegeli] 76, [Gumersindo Sayago & Allende] 1325

TUBERCULOSIS, pulmonary, 6 years' experience with treatment, with partial antigens, [Ott] 416
pulmonary, sodium morrhuate in, [Biesenthal] 202
pulmonary, tenderness over tuberculous apex, [Lemoine] 341
pulmonary, tonsil route of infection in, [Van Zwaluwenburg & Grabfield] 1128
recreation centers for treatment of ambulant tuberculosis, [Collins] 1536
resistance to tuberculosis; nonimmunologic chemical factor worthy of consideration, [Corper & others] *1216
roentgen ray diagnosis and tuberculosis in infants and children, [O'Brien & Ames] *1474
roentgen-ray treatment of, present status of, [Wetterstrand] 148
sanatorium in Brazil, 1584
secretion of ammonia and amino-acids in, [Zandren] 903
serodiagnosis in children, [Cooke] 404
serodiagnosis in the elderly, [Ichok] 687
serodiagnosis, status of, 674
silicic acid in, [Kuhn] 147
spa test of recovery from, [Galup] 1200
Spahlinger serum for, 946, 1693
specific defenses in children, [Verdes Montenegro] 1435
spurious, of psychopathic origin, [de Fleury] 141
squint, mancinism and tubercle, [Rivers] 822
stability reaction of blood in, [Westergren] 1614
sunlight and artificial light therapy in, [Mayer] 1529
surgical, [Lanz] 78
surgical, diagnosis of, [Biancheri] 1202
surgical, heliotherapy in, [Negri] 73, 555
surgical, nonoperative treatment of, [Gauvain] 1860
surgical, roentgen ray treatment of, [Van Ree] 418
surgical, treatment of, [Steindler] 891
surgical, tuberculin test in, [Mau] 1436
team work in treatment of, 1687—ab
thyroid in, [Couloud] 686
training in, [Gauvain] 618
trauma and, [Orth] 1052, [Broca] 1373, [Korteweg] 1438
trauma of chest and, [Frischbier] 214, [Seitler] 214
treatment of tuberculous patients in general hospitals, 1665
tuberculin treatment, [de Bloeme] 78
tuberculous ulcers of comissures, [Bettazzi] 621
vaccination, artificial immunization against, 314—E
vaccine, autovaccine from sputum, [Korbsch] 1544
vaccine, Ferrán's, Castróman's lecture on, 1026
vaccine, immunizing, [Raw] 1534
western sanatoriums crowded, 389
world meeting on, 804
TUMOR: See also cancer and under names of various organs
TUMOR, action of buried tubes of radium emanation on normal and neoplastic tissues, [Bagg] 201
blood grouping in, [Alexander] 1614
changes in endocrine glands of tumor-bearing animals, [Hammet] 1321
diagnosis of cancer from tumor cells in exudates of serous cavities, [Quensel] 903
fat in diet as affecting tumors in hens, [Akamatsu] 827
inflammatory, slight fever from, [Cantieri] 1713
multiple, malignant, [Owen] *1329
nonoperative treatment with protein therapy, [Bier] 1542
radiotherapy of, combined, [Finzi] 275
TUNNEL, ventilation problems in, 1684—ab
TURCK, irritation form of, 1784
TYPHOID, [Flandin & Lemperiere] 896, [Courtois-Suffit & Bourgeois] 1048
bacilli, viability of, in bile, [Beckwith & Lyon] 406
TYPHOID bone disease, vaccine therapy of, [Sicard & Robineau] 1537
bacillus; influence of H-ion concentration on growth of, [Schoenholz & Meyer] 1858
carrier strains, [Christiansen & others] 1858
cost of, 1012—E
enteric fever, caused by Gaertner's bacillus, [Rosher & Wilson] 410
enteric group infection, [Harper] 273
epidemic, peculiarities of, [Bonaba] 1713
error in reporting Paterson (N. J.) mortality from, [Browne] 1187—C
in infants, [Vallino] 759, [Bourdillon] 899
in large cities of United States in 1920, *860
infections, comparative study of, [Meyer & others] 1858
lesions of, produced by bacillus faecalis-alkaligenes, [Ravenel] *720
oysters as cause of, 1778
peritonitis in, without perforation, [Svartz & Hanson] 1438
probably due to a carrier, 2 small outbreaks of, [Megrail & others] *1001
pseudotuberculous pulmonary symptoms in, [Lemierre & Deschamps] 1802
pyelitis, [Achard] 1864
Salem, Ohio, epidemic, clinical report, [Bunn] *1159
since the war, [Achard] 755, [Sergent] 1134
spine, [Moffat] *639
toxin, physiologic action of, [Sogen] 146
temperature during incubation of, [Roch & Saloz] 1049
vaccination, [Chauffard] 755, [Vincent] 824
vaccination against paratyphoid and, [Russell & Nichols] *177
vaccination in world's armies, results of, 1576—E
vaccination, massive infection of a vaccinated person with bacillus typhosus, [Grant] *514
vaccination, value of, [Romanes & Johnstone] 272
vaccine, dosage of antityphoid vaccine as nonspecific protein, 674
TYPHOID-PARATYPHOID Vaccine, 179
TYPHUS among immigrants, 530
at S. Paulo, [Uhlhoa Cintra & de Toledo Pisa] 556
bodies found in, [Ficai] 1617
campaign against, [Naslund] 121, 830
conference on, 736
etiology of, [Schultz] 474
history of, [Ilvento] 210
in Greece, 737
in Prague, 880
in South America, 1804
in Spain, 1692
in United States, 522—E
on Mexican border, 1774
outbreak of, 740
pathology and etiology of, [Wolbach] 1526—ab
personal prophylaxis against, [Naslund] 762
prophylaxis of, [Mitchell & Richardson] 1371
protozoon in relation to, [Montfallet] 900
request for typhus appropriation fails, 736
research, 1780
sanitary train to fight typhus, 1184
serodiagnosis of, [Sampietro] 621

U

ULCERS: See also under names of organs, as Stomach, ulcer of
ULCER healing, roentgenographic evidence of, [Buckstein] *231
torpid, treatment of, [Fischer] 348
treatment of cachar sore, [Sen Gupta] 753
treatment, ulcus cruris with strong solutions of sodium chlorid, [Kraus] 1141
trophic, following nerve section, [Brünning] 1288
tuberculous, of commissures, [Bettazzi] 621
ULNA, pseudarthrosis of, [Putzu] 1202
ULTRAVIOLET RAYS in tetany, [Huldschinsky] 76
UMBILICAL CORD, hernia into, [Tennent] 895
ligation of, [Brissit] 687
prolapse of, [Bermann] 1865
survival of fetus after cessation of pulsation, [Bermann] 552
UNCINARIASIS, [Kofoid & Tucker] 748
and tuberculosis, [Nedergaard] 814—C
hematoblasts in malaria and, [Leger] 755
Rockefeller Foundation hookworm expedition, 389
technic of chenopodium administration in, [Darling & Smillie] *419
UNITED STATES, medical impressions of, [Holmgren] 280, [Beukers] 974
UNIVERSITY of Illinois College of Medicine, proposed building plans of, 1032
of Paris, attendance at, 879
of Pennsylvania and medical education (Martin Luther of medical education), [Pepper] 1515—C
problems in Buenos Aires, 393
UNSANITARY or insanitary? 399
UREA, excretion, factors governing, [Austin & others] 1276
excretion, mechanism of, [Oliver] 893
in epilepsy, [Boutter & Rodriguez] 823
in urine, determination of, [Roman] 337
UREMIA, [Foster] *281
and digestive hemolysis with gastric ulcer, [LeNoir & others] 1048
and pulsus alternans, [Chalier & Contamin] 757, [Heitz] 1201
aseptic purulent meningitis in, [Bang] 1376
fatal, after neo-arsphenamin, [Lesné] 1433
in acute infections, [Marklen] 553
meningeal hemorrhage in [Chabé] 142
organotherapy of, [Rèmond & Menvielle] 965
URETER, calculi, [Morales Macedo] 827
calculi, multiple renal and ureteral stones in an infant of 11 months, with results of ureteronephrectomy, [Hinman] *237
calculus impacted in, [Andreè] 142
catheterization of, [Darget] 1324
catheterization of, through open bladder, [Phelip] 1712
cystic dilatation of lower end of, [Pollet] 1324
double surgery of [Legueu] 71
effect of surgical procedures on, [Harrington] 1530
implanting of, in bladder, [Pennisi] 555
malformations of, [Pizzetti] 1803
stricture of, and pyelitis, [Baker] 200—ab
strictures, new procedure for diagnosis of, [Goldstein] *171
suture of, [Gouverneur] 552
transplantation, [Day] 616, [Coffey] 1707
URETERITIS, bladder symptoms due to, [Hunner] 337
URETEROCELES, [Lavandera] 683
URETHRA, calculi, external urethrotomy for, [Diamantis] 142
calculus, analgesia to aid in expulsion of, [Bivona] 1285
ideal urethral instillating syringe, [Montejo] 1186—C
improved urethral instillating syringe, [Moore] *176, [Havens] 329—C
injury of male urethra, treatment of [Linnartz] 487
plastic reconstruction of, [Budde] 1265
secondary infection of, [Lavenant] 1712
stricture, [Giuseppi] 1709
stricture of female urethra, [Heinrichsdorff] 279
tampons for diagnostic purposes, [Kritzler] 1328
URETHRITIS, gonorrheal, vaccines and serums in, [Geraghty] *35
meningococcus, [Dumont & Baron] 552
URETHROTOMY, external, for calculi in children, [Diamantis] 142
URIC ACID in blood, excessive, [Chauffard & others] 412
in blood in toxemias of pregnancy, [Williams] *1297
new aspects of physiology of, 657—E
URINARY TRACT, [Davis] 1797
cystin calculi in, [Morner] 560
infection in children, 211
infections, rôle of lymphatics in, [David & Mattill] 545
management of, in paraplegic patients, [David] *494
URINATION, physiology and pathology of, [Pleschner] 147
URINE, albumin in, determination and elimination of [Bergell] 1719
alkaline carbonates in, new tests for [Mitchell] 1043
chlorids in, in influenza, [Eisleb] 901
chlorin in, [Cameron & Hollenberg] 66
creatinin and acetone in, determination of, [Goeckel] 1130
diagnostic significance of substances with double polarizing power in, [Gross] 486
dysentery bacillus in, of infant, [Creighton & others] 819
elimination of urine and renal secretion, [Cottet] 1282
enrichment chamber for microscopic examination of, [Pflaumer] 973
formaldehyd in, test for, [Pittarelli] 211
glycuronuria in, [Chiary & Caille] 1433
hemolytic coefficient of, [Amati] 1137
hemolytic substance in, [Ponder] 1044
in syphilis, report of laboratory studies, including Wassermann reaction in 69 cases, [Klauder & Kolmer] *102
incontinence and disturbances of circulation, [Possert - Rollett] 1805
incontinence, devices to correct, [Ombrèdanne] 144
incontinence, treatment of, 329
mites found in, [Dickson] 822
oxalates in, 1265
quantitative tests for diabetic urine, [Claudius] 1439
reducing substance in, [Schloss] 959
secretion of, effect of hypophysis extracts on, [Brunn] 279
substances in, which act like vitamins, [Curatolo] 146
sugar in infancy, 867—E
sugar in, mycologic test for [Iacono] 413
sugar tolerance in new-born, [Feldmann] 1718
sulphocyanate content of, of pellagrins, [Sullivan & Dawson] 892
Test for Tuberculosis: See under Tuberculosis.
tuberculous, tuberculosis antigen in, [Ichok] 1710
urea in, determination of, [Roman] 337
uric acid in, in gout and gravel, [Chauffard & others] 1049
urobilin, testing for, [Lopes] 146
URISEPTIC PILLS, 1029—P
UROBILIN in duodenal secretion, [Strauss & Hahn] 726
testing for, [Lopes] 146
UROBILINURIA in pregnancy, [Mordre] 1376
UROLOGY, outline for postgraduate study in, 733
practical, [LeFur] 1048
URTICARIA, [Flandin] 756
formaldehyd, [Guyot] 682
from rapid eating, [Pagniez & de Gennes] 1801
in malaria, [Froes] 826
UTAH state board January examination, 1420
state board October examination, 331
UTERUS, action of castor oil on, [Cooper] 335
action of emmenagogue oils on, [Gunn] 547
action of quinin on pregnant uterus, [Acton] 684
adnexitis, arsenicals in treatment of [Lares] 1436
adnexitis as complication of pregnancy, [Martius] 1327
adenomyoma, submucous, [Schwarz] 1857
adenomyoma, subperitoneal, [Cullen, 1530
air and gas in, [Fink] 1542

UTERUS, bacteriology of normal puerperal uterus, [Loeser] 626
cancer, analysis of failures in radium, treatment of [Taussig] 63
cancer, [Deaver] 132—ab
cancer, cold cautery in inoperable case, [Cole] 619
Cancer in cervix stump, [Polak] 962
cancer of uterine cervix, [Faure] 481
cancer, radiologic treatment of, [Bèclére] 1324
cancer, radiotherapy of, [Benthin] 1718
cancer, radium in, [Kohlmann] 132—ab, [Nordentoft] 904
chancre of cervix of gravid uterue, [Lantuèjoul] 142
collifixation of, [Schäfer] 1204
effect of nursing and castration on, [Kuramitsu & Loeb] 1608
fibroids, myomectomy, radium and roentgen ray in, [Vineberg] 406
fibroids, roentgen-ray therapy of, [Eden & Provis] 822
fibromas and gestation, [Reeb] 1434
fibroma, raising the pelvis for radiotherapy of, [Hartmann] 1135
fibroma, technic for removal, [Dartigues] 1538
fibromyomas, radium treatment of, [Nogier] 825
hemorrhage, radium in nonmalignant uterine bleeding, [Anderson] 1424—ab
hypernephroma in, [Hartmann & Peyron] 71
inversion of, [Loriente] 556, [Huntington] 1275
inversion of, complete, [Campbell] *1396
inversion of, operation for, [Zaletel] 142
involution, vascular changes during, [Evans] 1280
myoma and childbearing, [Hindermann] 417
myoma, malignant, [Jacquin] 1433
myoma, results of roentgen irradiation of, [Zweifel] 1052
prolapse, [Hartmann] 1537
prolapse, interpositio uteri for, [Peffer] 1805
radical versus conservative operation on uterine appendages, [Benson] 1704—ab
retroversion, modification of Baldy-Webster operation, [Bagley] *791
retrodeviation of, treatment of, [Ciulla] 899
rupture, diagnosis of, [Keller] 1433
rupture, sign of threatened rupture, [Auer] 77
sarcoma, radio therapy of, [Béclère] 825
torsion of, [Alvarado] 1138
tuberculosis of uterine adnexa, [Monchotti] 687, [Lenormant & Mouloguet] 1283
ventrifixation, ileus as consequences of, [Kastrup] 692
ventrifixation, salpingitis after, [Caraven] 1283
wounds of, at term, [Constaniesco] 967
VACCINATION: See also under names of diseases as Typhoid, Vaccination in
VACCINATION, direful facts for antivaccination cult, 117—E
from newspaper's point of view, 1268
invalid ordinance relative to, 1601—MI
new site for, [Goldberger] 205
no liability for damages in requiring vaccination, 1422—MI
revaccination lesions, [Gastinel] 482
value of, 1667
VACCINE THERAPY: See also under names of diseases
VACCINE THERAPY, 115—E, [Cheinisse] 1137
general considerations regarding, [Flexner] *33
reactions to killed bacteria introduced into blood, 183—E
VACCINES and serums in therapy, 115—E
antistreptococcus, [Weaver] *34
autovaccine from sputum, [Korbsch] 1544
detoxicated, [Thomson] 1198
liability of state for death from, 1366—MI
mixed, bacterial, 1826
VACCINES, polyvalent, for colds; modern substitute for shot gun prescription, 182—E
state control of, 946
VACCINIA, generalized, [Thomsen] 1720
VAGINA, absence of, [Eising] *31
absence, plastic construction of vagina in, [Neugebauer] 1142
artificial, [Brenner] 1436
constitution of mucous membranes in relation to latent microbism, with especial reference to vaginal flora and puerperal fever, [Loeser] 829
diphtheritic membrane in, with bacillary dysentery, [Lemann] 1274
instrument for aseptic vaginal manipulation, [Kuhn] 1529
primary tumors of, [Piccagnoni] 969
relaxation of vaginal outlet: is the obstetrician responsible? [Burch] 200—ab
VAGOTONIA and hyperchlorhydria, [Talentoni] 622
influence of, in clinic, [Mora] 759
VAGUS, distribution and quantitative action of, [Cruickshank] 269
bilateral, vagotomy, [Ozorio de Almeida] 212
VALESCO, 53—P
VARICELLA: See Chickenpox
VARICOCELE, results of operation for, [Douglas] *716
VARICOSE VEINS, circulation in varices, [Magnus 1716
embolism from, [Amaudrut] 274
obliteration of, [Sicard & Paraf 274
of female pelvis, [Emge] 683
spiral sutures without incision for, [Schulze] 1206
treatment of, [Klapp] 1287, [Nobili] 1803
VARIOLA: See Smallpox
VAS DEFERENS, effect of ligation of, on testes, 1698
VASOMOTOR phenomena, parallel, in skin and air passages, [Azzi] 1713
VASOSTOMY, modification of, permitting frequent irrigations of vesicles, [Hess] *1349
VEGETABLES, boiled, carbohydrates in, [O'Reilly & McCabe] 1276
VENA CAVA, inferior, obliteration of, [Chalier & Longy] 1616
VENEREAL DISEASES, 1114
campaign against, in Far East, 1115
dangerous medical publicity, 1509
in U. S. Navy, 434—ab
legal liability for, 1747—ab
penalizing the communication of, 48
Pennsylvania idea and venereal problem, [Bachmann] 1520—ME
prevention of, 323, 1181, 1183, 1665, 1693
prophylaxis in Mexico, 667
progress in dermatology and, [Milian & others] 1136
public health activity and private practice in venereal disease control, [Stokes] 1266—ME, [Silverberg] 1594—C
wife allowed damages against husband for infecting her with, 249—E, 265
working of "lex veneris," 198
VENESECTION, influence of, on retained waste products, [Becher] 829
VENEZUELA, pathology of, [Risquez] 827
vital statistics of, 530
VENTILATION problems in tunnel, 1684—ab
VERMONT state board February examination, 1699
VERNIX CASEOSA, medicolegal test for, [Freire & Favero] 690
VERONAL: See Barbital
VERONAL-SODIUM TABLES, 179
VERRUCA, etiology of common warts, their production in second generation, [Kingery] *440, [Sutton] 744—C
peruana, [Arce] 1540
removal of, [Lawless] 335
VERSION: See Labor
VERTEBRA, bilateral forward dislocation of fifth cervical vertebra, with reduction by manipulation, [Langworthy] *447
caries of upper vertebrae, [Rümke] 626
cervical, dislocation of, without cord symptoms, [Jorge] 346
diseases, rare, [Guleke] 1716
VERTEBRA, fifth lumbar, deformity fo, [Cauciaire] 756
fifth lumbar, sacralization of, [Delherm & Thoyer-Rozat] 686
nonoperative treatment of fractures of cervical vertebrae with cord injury, [Osnato] *1737
VERTIGO of central origin, [Gradenigo] 758
VETERAN Service Administration, 1107—E
Bureau, amalgamation bill passes House, 1776
Bureau, bill for, 1410, 1584
investigation on care of, 1776
VIENNA, clinics in, 1411
health of, 535
physicians of, financial aid for, 1020
University, number of students and courses at, 1512
VINCENTS ANGINA and scarlet fever, [Mironesco] 1049
arsenicals in, [Borrello] 344
VINOL, 326—P
VIRGIN ISLANDS, public health activities in, 738
VIRGINIA state board December examination, 815
VISCERA, familial situs inversus, [Ochsenius] 76
VISION, impairment of, during pregnancy, [Coutela] 1616
without eyes, [Cantonnet] 1863
VITAL STATISTICS, 1777
bill adopted by Iowa, 1106—E
encouraging, 602
for first half of 1920, French, 665
in England, 391
in London, improved, 738
in Vienna, 1117
legislation, 1664
of Berlin during recent years, 809
of Germany and France, 1590
of Rio de Janeiro, 1774
West Virginia adopts model law, 1173—E
VITAMINS, appetite and digestion, 40—E, [Karr] 66
avitaminosis and inanition, [Lumiere] 342
disorders caused by a deficiency of vitamins or accessory food factors, [Hess] *693
B, effect of alkali on, [Osborne & Leavenworth] 892
B, rapid method for determination of water-soluble vitamin B, [Berman] *307
effect of lack of, on lymphoid tissue, [Cramer & others] 1709
in culture medium, [Jimenez] 1865
ophthalmia associated with a dietary deficiency in fat soluble vitamin (A), [Wason] *908
reserves of, in organism, [Lumiere] 554
sensitiveness of vitamins A and C toward oxidative influences, 1577—E
similarity between vitamins and hormones, 261
stability of antiscorbutic vitamin, [Ellis & others] 1368
storage of, in body, 1354—E
substances in urine which act like, [Curatolo] 146
swelling of pinna early sign of deficient antiscorbutic vitamin, [Sheasby] 1134
test for antiberiberi vitamin and its practical application, [Funk and Dubin] 67
VITEX peduncularis in malaria, use of, [Vaughan] 752
VITILIGO, [Klippel & Weil] 483
VIVISECTION, antivivisection legislation, 1664
futility of attempts to convince an antivivisectionist, 384—E
VOCAL CORD, chorditis fibrinosa, [Kelly] 479
VOLSTEAD ACT: See Prohibition
VOLVULUS at duodenojejunal angle, roentgen observation of, [Perkins] *995
of kinked intestinal loop, [Fritsch] 1438
of sigmoid flexure, radical cure of, [Lange] 829
of small intestine, [Cohen] 1707
VOMITING, habitual, in infants, [Epstein] 691
periodic, with acetonuria, [Marfan] 480
prolonged, [Sussini & Casaubon] 1540
VULVA, dystrophia of, [Stajano] 1051
kraurosis of, [Reder] 200—ab

W

WALDEYER, Wilhelm, death of, 669
WAR, achievement of Army Medical Department in, in light of general medical progress, [Ireland] *763
effect of, on sanitary knowledge, 464
effect of, on science, [Arce] 622
in relation to chemistry, 532
in relation to mental diseases, [Kraepelin] 625
medical history of, appropriations for medical activities, 123
Medical Veterans of World War, 1317
memorial to medical victims of, in Belgium, 1692
Risk Act and the medical services created under it, [Rogers] *1079, *1165, 1107—E
Risk Insurance, claims before Bureau of, 1114
WARTHIN and Starry's silver-agar cover-glass method for demonstration of spirochaeta pallida in tissues, [Warthin & Starry] *234
WARTS: See Verruca
WASHINGTON state board July examination, 58
WASSERMANN TEST, [Seelman] 271
after treatment, [Simon] 1425
and its limitations in diagnosis and treatment, [Rohdenburg & others] *14
comparison of Sachs-Georgi and, [Taniguchi] 1044, [Kilduffe] 1274
complement in, [Prunell] 826
diagnostic value of, 50
dilution unit in, [Peyre] 687
effect of intravenous administration of arsphenamin, neo-arsphenamin and mercury on Wassermann in normal serums, [Kilduff] *1489
in encephalitis, [Duhot & Crampon] 1801
in human milk, [Rusca] 968
in insane, [Berkeley-Hill] 1431
in mental diseases; indications for antisyphilitic therapy, [Jackson & Pike] *360
in nonsyphilitics, [Williams] 1608
in obstetrics and validity of Colles' law, 1171—E
negative, [Pinard] 824
official control of, 255
question of positive Wassermann reactions caused by intravenous administration of arsphenamin, [Katsainos] 195—C, [Beeson] 195—C
with secretions, transudates and exudates in syphilis, with note on origin of complement fixing antibody, [Klauder & Kolmer] *1635
WATER, bacteriology of Ganges River water, [Rosenberger] 548
effect of lime in drinking water, [Opitz] 1139
elimination of water and salt by infants, [Stransky & Weber] 692
fever in infants due to depletion of water reserve, [Grulee & Bonar] 959
grave syndrome produced by damage from lack of water in newborn and other infants, [Meier] 1437
hygiene of drinking water on steamships, 121
influence of thyroid treatment on elimination of water and chlorids in infants, [Schiff & Peiper] 1716
Paris' supply of spring and river water, 1587
purification and sterilization with lime, [Smit] 279
viability of hemolytic streptococci in, [Livingston] 1127
WATER-GLASS, poisoning with, [Eichhorst] 275
WEIL'S DISEASE: See Jaundice, Infectious
WELCH, W. H., elected honorary member of the Royal Academy of Belgium, 808
WEST VIRGINIA adopts model law, 1173—E
state board January examination, 1699
state board July examination, 196
state board October examination, 885
WHISKY, medicinal use of, 524—E

WHITE'S WONDER WORKER, 671—P
WHOOPING COUGH. [Meyer] 1720
and influenza, [Ruche] 901
and measles, [Pelfort] 484
bacteriology of, [Libert] 273
benzyl benzoate in, 330
contracted at birth, [Phillips] 817
convulsions and spasmophilia, [Blühdorn] 77, 1543
empyema following, [Morrison] 1129
ether in, [Genoese] 969
lymphocytosis of, [Hess] 1376
plus pneumonia in infant, [Fernandez] 1540
treatment of, [Döbeli] 1201
treatment with silver nitrate, [Lederer] 1205
vaccine, [Davison] *242, 466—C, [Luttinger] 466—C, [Van Metre] 466—C
vaccine therapy of, [Cammarata] 413, [Rewait] 1131
WIFE allowed damages against husband for infecting her with venereal disease, 249—E, 265
WILDBOLZ Urine Test: See Tuberculosis, auto-urine test
WILLIAMS, DAWSON, editor of British Medical Journal, knighted, 317—E
WILSON, HORACE PLUMMER, protests premature announcement of death, [Wilson] 1121—C
WITNESSES, fees demanded by expert witnesses allowed, 544—Ml
WOMAN'S Foundation for Health, meeting of, 321
WOMEN, mortality rates of college women, 1106—E
size of, [Mosher] 750
WOOD preserving industry, zinc chlorid poisoning among workers in, [McCord & Kilker] *442
WOODHEAD, G. SIMS, resigns editorship, 664
WOODS, EDWARD J., INC, fake tobacco habit cure is denied the use of the mails, 811—P
WORK, HUBERT, appointed assistant postmaster general, 944
WORKMEN'S COMPENSATION and malingering, [Giordano] 1374
WORMS and epilepsy, [Block] 1129
prenatal infestation with parasitic worms, [Cort] *170
WOUNDED: See Soldiers; War; Wounds
WOUNDS: See also under names of organs and regions
WOUNDS, bandageless treatment of, [Braun] 1805
continuous bath in treatment of, [Sacken] 558
diphtheria of, [Löhr] 346
healing of, [Ingebrigtsen] 348
infected, bacteriology of, [Sweetser] 475
saving suppurating incisions, [Royster] 478, [E. Watkins] 478
transfixion of body by steel rod, [Lake] 1535
WRIST, dislocation of carpal scaphoid, [Ewing] *1078
stiff metacarpophalangeal joints, treatment of, [Dickson] 893
traumatic lesions of, [Destot] 1801
WURTZ, A., monument to, 1775
WYOMING state board February examination, 1699
state board June examination, 128
WYOMING state board October examination, 541

X

XANTHROCHROMIA of spinal fluid, [Leschke] 1541

Y

YELLOW FEVER in Mexico, 462
in Peru, [Noguchi & Kligler] 893
prophylactic inoculation against [Noguchi & Parcja] *96
studies on, [Noguchi] 748
transmission of; cases occurring in Vera Cruz in 1920, together with isolation of leptospira icteroides, [Grovas] *362

Z

ZAMORA, peculiar "reporting" by physicians of, 1259
ZINC CHLORID poisoning, report of outbreak among workers in wood preserving industry, [McCord & Kilker] *442

AUTHOR INDEX

In this Index are the names of the authors of articles which have appeared in THE JOURNAL, the names of those who have read papers before Societies as published in THE JOURNAL and those whose articles have been abstracted in the Current Medical Literature Department. The * preceding the page reference indicates that the article appeared in full in THE JOURNAL. The author's name is followed by a brief clue to the subject of the article.

A

Aach, A. B., Reconstruction of bladder, 482
Abeberry Oneto, A., Anatomy of duodenum and pancreas, 277
Abels, H., Scurvy, 559; Fever and dentition, 902
Abente Ilacdo, F., Encephalitis, 1051
Abercrombie, T. F., Public health work and physicians' reports, 1703
Abernathy, S., Radium in gynecology, 1424
Abernetty, C., Clinical phenomena of puerperium, 1805
Abrahamsen, H., Separation of head of femur, 1054; Köhler's disease, 1328
Abrami, P., Test for insufficiency of liver, 275; Diabetes, 967; Protein therapy, 1137
Abramson, E., Steinach's research on sex, 348
Abt, I. A., Influenzal meningitis, 1607
Achard, C., Streptococcus septicemia, 482; Typhoid, 755
Achard, H. P., Typhoid pyelitis, 1864
Acton, H. W., Action of quinin on pregnant uterus, 684
Adams, A., Tuberculosis, 480
Adams, D. K., Spinal fluid in sclerosis, 964
Adams, D. S., Gallbladder disease, *710
Adams, F. D., Carcinoma of pancreas, 749
Adamson, W. W., Tuberculosis of myocardium, 340
Adler, E., Occult blood in stools, 1287
Adler, F. H., Cancer of pancreas, *158
Adson, A. W., Brachial plexus injuries, 1603
Agasse-Lafont, E., Gastric ulcer, 896
Agnew, J. H., Pulmonary stenosis following pneumonia, 338
Agote, L., Stomach-gallbladder-duodenum syndrome, 277
Ahlswede, E., Keloids, 749
Aievoli, E., Surgery of the mamma, 969; Surgery of pituitary body, 1138; Trauma and skin disease, 1539; Enterostomy in peritonitis, 1713; Bladder tumors, 1864
Aigrot, G., Fractures of femur, 208; Epithelioma in kidney pelvis, 275; Gastric ulcer, 1372
Aimard, J., Ulcer of duodenum, 824
Aimes, A., Acidosis in surgery, 1712
Akamatsu, N., Fat in diet affecting tumors, 827
Alajouanine, Illuminating gas poisoning, 1616
Albert, H., Classification of diphtheria bacilli, 201; Stain for diphtheria bacilli, *240
Albert, J., Enterocolitis, 68
Albertoni, P., Heat sense and trophic lesions, 1137
Alcaraz, R. A., Antibodies, 1865
Alderson, H. E., Poison oak dermatitis, 1610
Alexander, H., Pneumothorax, 1288; Urine test for tuberculosis, 1544
Alexander, H. L., Asthma, 750; Horse serum and precipitin response, 1368
Alexander, M. E., Influenza, 268
Alexander, W., Blood grouping in malignant disease, 1614
Alikhan, M., Reflex neurosis, 413
Alivisatos, A. S., Hemorrhagic rectocolitis, 140; Gastric ulcer suggesting tabetic crises, 1536
Allen, F. M., Experimental diabetes, 269, 334; Influence of age on pancreas, 614; Influence of cold on pancreas, 614; Pregnancy and diabetes, 614; Diet and exercise in diabetes, 817
Allen, J., Diphtheria carrier, 69
Allen, K., Diphtheria toxin and antitoxin, 822
Allen, R. C., Heart block in diphtheria, 895
Allende, J. M., Tuberculosis, 1325
Allison, N., Tuberculosis of bone, 1530
Almasio, P., Encephalitis, 1050
de Almeida, T., Extragenital chancre, 690
Aloi, V., Ether-oil by rectum, 211; Gastro-intestinal hemorrhage after herniotomy, 1202
Alport, A. C., Albumin in sputum aid in early diagnosis of tuberculosis, 1615
Als, E., Hemoptysis, 148
Alsever, W. D., Hypertension, 1528
Alvarado Wall, J., Bone implant in Pott's disease, 1138; Torsion of uterus, 1138
Alves da Roche, A., Foot-and-mouth disease, 212
Alwens, Heart in nephritis, 827
Alzona, F., Pain in iliac fossa with chronic constipation, 1201
Amantea, G., Epilepsy, 555
Amati, A., Urine-hemolysis coefficient, 1137
Amaudrut, J., Embolism, 274
Amblard, L.-A., Sphygmometrograph, 1048
Ambrozic, M., Macrogenitosomia praecox, 1376
Amersbach, Carcinoma of larynx, 828
Ames, F. B., Tuberculosis, *1474
Ameuille, P., Nephritis, 1282; d'Herelle's bacteriophagum, 1800
Amoss, H. L., Poliomyelitis, *110; Encephalitis and poliomyelitis, 893; Epidemiology, 1525
Anders, H. E., Atresia of anus and rectum, 972
Anders, J. M., Acromegaly and thyroid disease, 1606
Anderson, R. A., Pfeiffer's bacillus, 1532
Anderson, W. S., Radium in uterine bleeding, 1424
Anderssen, G., Curability of tuberculous meningitis, 1808
de Andrade, G., Glaucoma, 146
André, Calculi in ureter, 142
Andresen, L., Electrotherapy in gout, 1720
de Angelis, F., Spinal meningitis, 1538
Angioni, G., Surgery of kidneys, 1619
Antonelli, G., Diabetes insipidus and infantilism, 73
Antonius, E., Dental pathology and internal disease, 1327
Aperlo, G., Purpura from iodoform poisoning, 72
Apert, Ureosecretory constant, 341
Arbeit, Neurosyphilis, 71
Arboleda, A., Tuberculous meningitis, 1050
Arce, J., Effect of war on science, 622; Peruvian verruga, 1540
Archibald, E., Extrapleural thoracoplasty, 474
Argañaraz, R., Parenteral injections of milk in eye disease, 1051
Arias Schreiber, M., Endocrines and arthritism, 827
Arkwright, J. A., Variation of bacteria to agglutination, 822
Arloing, F., Therapeutic anaphylactic shock, 1048
Arluck, S. S., Missed abortion, 683
Armand-Delille, P., Tuberculosis, 141; Gangrene of pharynx, 552
Armand Ugon, A., Hydatid cyst of lung, 1713; Anovulvar herpes zoster, 1865
Armstrong, D. B., Social uses of medicine, 201; Tuberculosis, 890
Armstrong, R. R., Serology of pneumococci, 895
Arnold, H. D., Model qualifying examination, 937
Arnold, L., Streptococcus, 1130
Arnould, E., Tuberculosis, 687
Arnstein, N., Serologic relationships, 67; Antiorgan serums, 1796
Arocena, F., Syphilitic croup, 414
Arrigoni, C., Pilocarpin for edema of glottis, 72; Edema with pleurisy, 1050
Arrillaga, F. C., Black heart disease, 1540
Asami, G., Heteroplastic bone formation, 136
Ascoli, M., Roentgen-ray in asthma, 270
Asher, L., Hormone therapy, 209
Ashhurst, A. P. C., Necropsy record, 540
Asjes, J. P., Poisoning from chocolate, 280
Asteriadès, T., Femoral hernia, 896
Aub, J. C., Basal metabolism in traumatic shock, 269; Chemical changes in blood in traumatic shock, 269; Oxygen in blood in traumatic shock, 269
Aubertin, C., Benzene in leukemia, 1283; Eosinophil leukemia, 1712
Auc, O., Diaphragmatic hernia, 971
Auer, J., Roentgen ray, *301; Constriction of blood vessels by epinephrin, 1427
Auer, W., Rupture of uterus, 77
Ausset, E., Children's seashore sanatorium, 140
Austin, J. H., Urea excretion, 1276
Austregesilo, A., Cataphrenias, 969
Ayer, G. D., Infections of maxillary antrum, 1704
Ayer, S. H., Determination of bacteria in milk, 136; Washed agar culture medium, 136
Ayyer, V. R. S., Tri-orchid, 685
Azzi, A., Parallel vasomotor phenomena in skin and air passages, 1713

B

Baar, H., Macrogenitosomia praecox, 1376
Babcock, R. H., Heart patients, *1067
Babcock, W. W., Operations on stomach, 1604
Bachmann, R. A., Venereal problem, 1520
Bacigalupo, J., Antibodies, 1865
Bacnsch, Lymphomas, 558
Baer, J. L., Expulsion of placenta, *566; Breast infections, 1370
Baer, W. S., Orthopedic surgery, 821
Baetjer, F. H., Abdominal lesions, 268
Bagg, H. J., Buried tubes of radium emanation, 201
Bagley, W. R., Retroversion, *791
Bain, W., Action of electrical treatments on blood, 1536
Bainbridge, W. S., Mammary tumors and intestinal toxemia, 889
Baker, E., Tourniquets made from inner tubes, *590
Baker, J. N., Ureteral stricture and pyelitis, 200
Bakes, J., Diaphragmatic hernia, 1866
Balfour, A., Smallpox, 964
Balfour, D. C., Hepaticoduodenostomy, 1129
Bálint, A., Residual nitrogen, 75; Functioning of kidneys, 691; Atropin and action of epinephrin, 972
Ballantyne, J. W., Maternity hospital, 894
Ballin, M., Granuloma, *1333; Pancreatic cyst, *1484
Balsamo, M., Ether-oil by rectum, 73
Balvay, A., Intratracheal injections, 757
Balyeat, R. M., Tracheobronchial adenopathy, *988
Bang, F., Aneurysm of spinal cord artery, 1720
Bang, O., Meningitis, 1376
Banister, J. B., Encephalitis and pregnancy, 1046
Bankart, A. S. B., Postural deformities, 1534
Banzhaz, E. J., Adding cresol to antiserums, 1322
Barach, A. L., Pneumonia, 1525
Barach, J. H., Cardiovascular affections, *1211
Barber, H., Renal dwarfism, 1861
Barber, H. W., Gastric analysis in acne rosacea, 273
Barbier, L., Fracture of sternum, 1801
Barbour, H. G., Epinephrin, *492
Barclay, H., Removal of appendix, 962
Bard, L., Angina pectoris and Raynaud's disease, 757
Bardet, G., Energy-generating drugs, 824
Bardin, J., Diphtheria antitoxin in mumps, 483
Barilari, M. J., Asthma, 1139
Barker, H. L., Sacral anesthesia, 1704
Barker, L. F., Group diagnosis, 338; Future of medicine, 1527
Barkley, A. H., Transylvania Library, 1789
Barkman, A., Traumatic spondylitis, 1439
Barlocco, A., Cardiovascular system after exercise, 345
Barlow, N., Pneumothorax, *653
Barney, J. D., Disease of kidney, 65
Baron, Meningococcus urethritis, 552
Barr, D. P., Metabolism in tuberculosis, 134; Respiratory mechanism in cardiac dyspnea, 269; Carbon dioxid absorption curve in anemia, 892; Carbon dioxid tension of blood, 892; Carbon dioxid tension of blood in cardiac dyspnea, 892
Barré, J. A., Pressure of spinal fluid, 896; Eye in encephalitis, 1615; Postencephalitic Parkinsonian syndrome, 1615
Barrett, J., Voluntary control of fusion faculty, 1133
Barries, E. H. R., Herpes and varicella, 1535
Barringer, T. B., Jr., Heart failure, *1143
Barry, T. R., Syphilis, 1423
Bartholomew, R. A., Pregnancy, *912
Bartlett, W., Local anesthesia, 200; Painless hypodermoclysis, 890
Bartram, Treatment of puerperal fever with human serum, 1806
Bartrina, J. M., Reflexes of genito-urinary apparatus, 1617
Basset, A., Fracture of femur, 824
Battle, W. H., Permanent drainage of only kidney, 1535
Bauer, E. L., Schick testing, 1859
Bauer, K. H., Surgical diseases, 1139
Baughman, G., Pyelitis in pregnancy, 889
Baumberger, J. P., Effect of smoking on glass blowers, 1706
Baumier, Brain tumor, 686
Bazán, F., Multiple exostoses, 1325
Bazy, P., Pneumococcus infection, 1432
Beach, W. M., Derodidymus (dicephalus), *1748
Beall, C. G., Basal metabolism, *1639
Beall, F. C., Bile duct injection, *1483
Bean, H. C., Hereditary edema, 1531
Beatty, W., Sporotrichosis, 1197
Beaussart, P., Cephalic tetanus, 1711
Becher, E., Venesection, 829; Indican in body, 971; Residual nitrogen in tissues, 1051; Indican in kidney disease, 1325
Becker, F., Blood pressure, 1053
Becker, G., Carriers of bothriocephalus, 830
Beckey, K., Gynecologic disturbances after burns, 417
Beckman, M., Virulent and avirulent streptococci, 691
Beckmann, K., Edema, 1051, 1287
Beckwith, T. D., Typhoid bacillus in bile, 406
Béclère, A., Radiotherapy of uterine sarcomas, 825; Radiotherapy of ductless glands, 897; Radiotherapy of uterine cancer, 1324; Roentgen treatment of myoma, 1538
Béclère, H., Pneumocolon, 966
Beeson, B. B., Wassermann reactions, 196; Localized argyria, *1006
Begle, H. L., Filaria Infestation, *1301
Begtrup-Hansen, T., Artificial pneumothorax in hemoptysis, 1622
Behan, B., Lymphatic drainage of ascitic abdomen through paraffined veins, 1705
Behrend, M., Rhinoplasty, *1752
Belfield, W. T., Invasion of endometrium by spirochetes, 1363
Belknap, R. W., Blood groups, *724, 953
Bell, W. B., Puerperal infections, 1708
Belot, J., Radiotherapy in goiter, 620
Beltrami, P., Anthrax, 1619

Bénard, R., Transient hemoclasis after puncture of hydatid cyst, 1134; Hysteria, 1200
Benech, J., Tetanus, 824
Benedict, F. G., Basal metabolism, 1277
Benjamin, A. E., Operations on prostate, 266
Benjamins, C. E., Tartar emetic intravenously, 902
Bennett, T. I., Gastric and respiratory response to meals, 1613
Benon, R., Hyperthymia, 412; Constitutional dysthymia, 825
Bensaude, R., Rectal tumors, 1283
Benson, M. T., Operation on uterine appendages, 1704
Benthin, W., Radiotherapy, 1326, 1718
Bérard, L., Separation of pubic bones in riders, 1048; Castration for male pseudohermaphrodites, 1537
Bercovitz, N., American children in tropics, *1649
Berg, W. N., Tetanus antitoxin, *1820
Bergé, A., Transient hemoclasis after puncture of hydatid cyst, 1134
Bergeim, O., Vitamin content of honey, 1608
Bergell, P., Determination and elimination of albumin, 1719
von Bergen, J., Disinfecting power of sunlight, 344
Berger, H. C., Eosinophilia in chorea, 1607
Bergmark, G., Indiarubber ball sound after cough, 1054
Bergstrand, H., Parathyroid bodies and Bright's disease, 903; Parathyroid glands, 1807
Bériel, L., Brain tumors, 482
Berkeley-Hill, O., Wassermann in insane, 1431
Berkman, D. M., Operations on diabetics, 407
Berman, L., Vitamin B index, *307
Bermann, S. E., Survival of fetus after cord no longer pulsates, 552; Prolapse of cord, 1865
Bernard, L., Pneumothorax with bilateral tuberculosis, 274; Tuberculosis in infant, 824
de Berne-Lagarde, R., Dangers of puncture of bladder, 142
Berner, J. H., Addison's disease, 1376
Bernheim-Karrer, Melena in newly born, 1718.
Berro, R., Abortive measles, 759.
Berry, J. Goiter, 1798
Bertelsen, A., Public health service in Greenland, 1866
Bertolini, A., Residual nitrogen of blood, 1864
Bertolotti, M., Malformation of cervical spine, 210
Best, E. J., Contents of stomach, 334
Bettazzi, G., Tuberculous ulcers of commissures, 621
Beukers, A. C. M., Impressions of America, 974
Beumer, Lipase in blood, 1437
Beumer, H., Raying suprarenals in diabetes, 1718
Bevan, A. D., Diverticula of esophagus, *285; Modern scientific medicine, 730
Bezançon, F., Sputum in asthma, 341; Dyspnea in cardiorenal disease, 1802
Bhattacharjee, S. R., Iodin intravenously, 1197
Biancheri, T. M., Surgical tuberculosis, 1202
Bianchi, B., Protein therapy in puerperal infection, 211
Bidou, G., Instrumental orthopedics, 897
Bieber, W., Diphtheria toxin-antitoxin, 624
Bienfait, Digestive disturbance, 1281
Bier, A., Tumors, 1542
Bierring, K., Erythrocyte count in normal, 280
Bierring, W. L., Education and licensure, 936
Biesenthaal, M., Tuberculosis, 202
Bigelow, E. B., Blood chemistry, 1531
Bigelow, W. D., Thermal death point, 204
Bigger, J. W., Plague, 1046
Biggs, H. M., Volstead act, 1592
Bilancioni, G., Sarcoma of ear, 1285
Billet, H., Blocking of splanchnic nerves, 1434
Billings, F., Future of practice, *349; Undergraduate medical curriculum, 872; Policy of American conference on hospital service, 939
Binet, L., Mountain sickness, 1136; Blood pressure under serotherapy, 1433
Bing, H. I., Red blood corpuscles, 904
Birkelo, C. C., Scoliosis, *786
Bishop, L. F., Palpitation, *787
Bittorf, A., Endothelial cells in blood, 486; Toxic swelling of liver, 1325
Bivona, S., Calculus in urethra, 1285
Bjure, A., Pressure in artificial pneumothorax, 560
Blackfan, K. D., Meningitis, *36
Blackham, R. J., Milk in tropics, 70
Blacklock, B., Anopheles experiments, 139; Differential leukocyte counts, 963; Tree breeding anophelines, 1046
Blair, T. S., Drug addicts, 608; Habit indulgence in cactaceous plants among Indians, 1033
Blair, V. P., Delayed transplantation of long pedicled flaps, 201
Blake, F. G., Influenza lesions, 136; Influenza inoculation, 136; Measles, 1194, 1527; Acquired immunity after measles, 1532
Blake, K. D., Daylight in schoolroom, 1785
Blakeslee, G. A., Encephalitis with recrudescence, 1612
Blamoutier, Aneurysm of aorta, 1800
Blamoutier, P., Herpes zoster in anus region, 965; Amebic abscess, 1049
Blanc, C., Encephalitis, 756
Blanc, J., Reaction of biologic mediums, 823
Blanc Fortacín, J., Bone implants in Pott's disease, 1051
Blanchard, A., Encephalitis, 897
Blanchard, W., Anterior bow-legs, 546
Blanco, P., Tumor in knee, 1427
Blankenhorn, M. A., Leukemia, *583
Blankinship, R. C., Goiter, 1430
Blanton, H. W., Cardiac standstill, *1220
Blanton, W. B., Cardiac standstill, *1220; Hemochromatosis, 1320
Blatteis, S. R., Myelosis in infectious disease, 1528
Blau, N. F., Fat metabolism in diabetes, 134
Blauner, S. A., Diphtheria, 1607
Blechmann, G., Syphilitic newly born, 143
Blegvad, N. R., Tuberculosis of larynx, 903
Blegvad, O., Amblyopia due to alcohol, 488
Bloch, M., Venous thrombosis, 551
Bloch, R., Continent gastrostomy, 144; Fracture of femur, 1711
Block, E. B., Worms and epilepsy, 1129
Block, F. B., Mesenteric embolism, 891
Block, M., Trichomonas infestation, 271
Blodgett, S. H., Diabetes, 1132
Bloedorn, W. A., Lymphoblastosis, 1040; Bronchial spirochetosis, *1559
de Bloeme, P. J. L., Tuberculosis, 78
Bloodgood, J. C., Diagnosis of breast lesions, 133; Bone tumors, 206
Bloom, G. H., Anesthesia, *437
Bloom, W., Relation of prostate to mental efficiency, 751
Bloomfield, A. L., Mechanism of bacillus carrier state, 474; Carriers of Friedlander's bacillus, 616; Bacteria in healthy throats, 819; Common colds, 1532
Blühdorn, K., Whooping-cough and spasmophilia, 77, 1543
Blumenau, E., Cirrhosis of liver, 346
Boas, H., Gonococcus infection of rectum, 78
Boas, I., Tests for occult blood, 346
Bock, A. V., Blood plasma, 475; Acid-base equilibrium in disease, 893
Bockenheimer, P., Ethyl chlorid spray, 487; Exposure of articulation of jaw, 1622
Boddy, E. C., Group consultation clinic, 1527
Boeck, W. C., Diarrhea, 893
Boehme, G. F., Jr., Standardizing knee jerk test, 138
de Boer, S., Ventricular fibrillation, 1052
Bogendörfer, Venous and capillary blood, 828
Boidin, L., Erysipelas, 1049
Boigey, Fatigue charts, 1538
Boigey, M., Absorption of hot drinks, 1047
Boitel, W., Goiter, 209
von Bokay, J., Protracted intubation, 75
von Bókay, Z., Open Meckel diverticulum, 972; Spasm of pylorus, 1716
Bolle, G., Tuberculosis, 214
Bolognesi, G., Interruption of spermatic passages, 1618; Primary tumor in aponeurosis, 1619
Bolten, G. C., Osteopsathyrosis, 1288; Ascending neuritis, 1438
Bolten, H., Vasomotor trophic neuroses, 560
Bonaba, J., Trichomoniasis, 413; Measles, 759; Typhoid, 1713
Bonansea, S. J., Eugenics, 1540
Bonar, B. E., Rickets, *850; Fever due to depletion of water reserve, 959; Indicanuria in new-born, 1273
Bonavia, L. L., Filaria in eye, 346
Boncour, G. P., Puberty in abnormal, 687
Bond, C. J., Autohemagglutination, 272, 339
Bonilla, E., Tachycardia and internal secretions, 485; Fatal obesity, 555
Bonnamour, S., Diphtheria antitoxin in mumps, 483
Bonnet, L. M., Varioliform syphilid, 1863
Bonnet, P., Appendicular syndrome in dysentery, 1372; Fracture of sternum, 1801
Bonorino Cuenca, J., Beef antitoxin, 1714
Bonorino Udaondo, C., Thyroid deficiency, 277
Bonsmann, M. R., Colloidal reactions, 901
Boothby, W. M., Basal metabolism, *84
Borchers, E., Transplantation of parathyroids, 974; Vagus innervation of stomach, 1715
Borchgrevink, O. C., Local anesthesia for abdominal operations, 78
Bordet, F., Residual nitrogen, 824; Encephalitis, 1048
Bordier, H., Dangers from radium, 1432, 1711
Bordin, Uric acid in urine, 1049
Borelli, E., Luxation of fingers, 826
Borrello, F. P., Arsenicals in angina, 345
Bory, L., Pellagra, 275; Marriage of syphilitics, 898
Borzini, A., Bone and joint disease, 1285
Bosch Arana, G., Cinematization, 826; 1372
Bosisio, R., Estimation of gastric digestive juices by Michaelis' method, 689
Bossert, O., Spasmophilia, 1325
Bossert-Rollett, Enuresis and circulatory disturbances, 1805
Botelho Vieira, J. P., Gastritis in syphilis, 414
Botey, R., Obstruction of nose, 969
Botzian, R., Bilirubin in serum, 761
Bouché, G., Allergic phlegmons, 1711
Bouchut, L., Gastroradiculitis and enteroradiculitis, 1047
Boulin, R., Encephalitis, 620; Gangrene of pharynx, 1047
Bounds, E. H., Thoracopagus, 1534
Bourdillon, P., Typhoid, 899
Bourgeois, F., Typhoid, 1048
Bourges, H., Hemolytic jaundice in helminthiasis, 552
Bourgin, Syphilitic neuritis after cmetin, 72
Bourne, A. W., Puerperal salpingoperitonitis, 1198
Bourne, G., Complete left pneumothorax, 1370
Bourquelot, E., Isolation of active principles of plants, 341
Boussin, M., Radiography of circulation in placenta, 1135
Boutet, A., Hypertrichosis, 208
Boutter, H., Urea in epilepsy, 823
Bouttier, Encephalitis, 1200
Boveri, P., Foot sign of paralysis, 1285
Bowcock, H. M., Transfusions in anemia, 1193
Bowen, C. F., Lead block for radium needles, *1397
Bower, J. O., Tinel's sign, 135
Boyd, M. F., Clinical pathologist, 538
Boyd, W., Tissue resistance in malignant disease, 1369
Braasch, W. F., Phenolsulphonephthalein test, 1427
Brachman, D. S., Auricular fibrillation, 895
Brady, L., Tuberculosis of kidney, 616
Braeuning, H., Tuberculosis, 1141
Brahmachari, U. N., Blood pressure during injection of quinin, 479
Braisted, W. C., Address, 1681
Brandenstein, Renal cysts, 416
Brandes, M., Dislocation of hip, 1436
Branham, J. H., Surgical conditions of liver and biliary tracts, 614
Branham, S. E., Influenza, 820
Branham, V. C., Multiple myeloma, 547
Brattström, E., Cancer of breast, 974
Braun, Bandageless treatment of wounds, 1805
Braun, W., Skin grafting, 1621
Breakstone, B., Diaphragmatic hernia, 1367
Bréchot, A., Ecchymoses, 968
Brennemann, J., Ulcerated meatus, 404
Brenner, M., Artificial vagina, 1436
Brereton, M., Lung diseases, 1426
Brewer, G. E., Intermittent hydronephrosis, 1797
Brieger, E., Resistance of erythrocytes to hypotonic saline, 828
Brin, L., Arsphenamin erythrodermia, 143
Brindeau, A., Radiography of circulation in placenta, 1135; Decapsulation in eclampsia, 1537
Brissaud, E., Protein therapy, 1137
Brisset, A., Ligation of umbilical cord, 687
Broadwin, I. T., Familial myotonia atrophica, 548
Broca, A., Semicircular canals, 824; Traumatism and surgical tuberculosis, 1373
Brock, S., Endocrine disturbances, 475
Brocq, L., Dermatoses in the emotional, 755; Jaundice, 1199
Broders, A. C., Squamous cell epithelioma, 890; Lymphosarcoma of stomach, 1796
Brodhead, G. L., Placenta praevia, 476
Brodier, Dermatology and venerology, 1136
Brodin, P., Uric acid in blood, 412
Broer-Lindemann, G., Symphysiotomy, 415
Bronfenbrenner, J., Anesthesia in botulism, *1741
Brooks, B., Amputation, *94; Bloodless amputation at hip joint, 329
Brooks, E. B., Unequal pupils, *1145
Brooks, H., Heart in pneumonia, 334; Hyperthyroidism, 1321; Medical profession and Volstead act, 1592; Method for study of early arterial changes, 1606
Brooks, M. M., Effect of bile salts and saponin on respiration, 1130
Brophy, T. W., Cleft palate, 683
Broughton-Alcock, W., Quinin in malaria, 1860
Brouha, M., Cesarean section, 1283
Brousse, Pneumococcus arthritis, 825
Brown, A., Malnutrition, 962
Brown, A. J., Making new anal sphincter, 202
Brown, E. E., Myelocytic variations in leukemic blood, 1043
Brown, H. H., Appendicitis, 550
Brown, L., Intestinal tuberculosis, 1527
Brown, L. T., Physical defects and disease, 268
Brown, K. C., Headache, 338
Brown, S. A., Volstead act, 1592
Brown, W., Emotional memories, 549
Brown, W. H., Syphilitic infection, 65; Syphilis: latent infections, 748; Sleeping sickness, 893; Clinical types of syphilis, 1039; Experimental syphilis, 1368; superinfection in syphilis, 1532
Browne, J. ., Typhoid, 1187
Browning, C. H., Antiseptic potency of acriflavine, 1614
Broyles, E. N., Influence of pituitary on growth, 616
Brulé, Malaria, 481
Bruni, Sexual neurasthenia, 1539
Brüning, Rachitic curvatures, 1204
Brüning, A., Suprarenals in epilepsy, 692
Brüning, F., Trophic ulcers after nerve section, 1288
Brunn, F., Effect on diuresis of sodium chlorid, 77; Effect of hypophysis extracts on secretion of urine, 279
von Brunn, M., Renal calculi, 74
Brunner, A., Negative respiratory pressure in surgical hemorrhage, 1865
Brunner, F., Enterostomy, 1803
Brunner, I. H., Influence of X-rays on brain, 971
Bruns, O., Tonus function of stomach, 75
Brush, F., Exercise in heart disease, 681
Bruusgaard, E., Syphilis in second generation, 1808
Bruzzone, C., Intratracheal administration of arsphenamin, 345
Bryant, J., Ileal regurgitation, 334
Buchacker, W., Ophthalmia neonatorum, 1542
Buchbinder, J. R., Pneumatic rupture, *518
Buckman, T. E., Blood platelets, *427

Buckstein, J., Ulcer healing, *231
Budde, W., Reconstruction of urethra and esophagus, 1205
Buff, J. H., Infection of maxillary antrum, 1704
Bulkley, L. D., Cancer mortality, 548
Bullard, E. A., Gynecologic backache, 1529
Bullrich, R. A., Diabetes, 970
Bumke, O., Suprarenals in epilepsy, 1141
Bumpus, H. C., Jr., Carcinoma of prostate, 478; Focal infection and pyelonephritis, 1040
Bunn, W. H., Typhoid, *1159
Bunting, C. H., Vicarious blood platelet formation, 336; Fate of lymphocyte, 1532
Burch, L. E., Relaxation of vaginal outlet, 200
Burckhardt, H., Semisitting position for patient in bed, 1437
Burgess, A. H., Abdominal crises, 207
Burgos, C., Pseudo-urinary abscesses, 414
Burke, J., Exstrophy of bladder, 475
Burke, V., Botulism, 1039
Burlingame, C. C., Physicians in industry and general practice, 129
Burnand, R., Bilateral pneumothorax, 686; Spontaneous pneumothorax complicating artificial pneumothorax, 1371; Pleural adhesions after pneumothorax, 1616
Burnier, R., Syphilitic mastitis, 1434
Burrow, J. Le F., Familial tabes, 207
Burrows, E. C., Colostomy, *647
Burrows, W. F., Colostomy, *647
Buscaino, V. M., Dementia praecox, 1375
Busey, C., "Nicotin and tobacco," 468
Bush, A. D., Nicotin and tobacco, 468
Businco, A., Neuroglioma of pineal gland, 1285
Busman, G. J., Wassermann-fast syphills, 268; Arsphenamin reaction, *1302
Bussa Lay, E., Ventrifixation and pregnancy, 1202
Bussy, Phlegmons of orbit, 342; Radio-therapy in interstitial keratitis, 1712
Butler, E. B., Fredet-Rammstedt operation, 405
Butts, D. C. A., Immunity of bovine udder to carcinoma, 1429

C

Cabot, H., Surgery and surgical specialties, 870; Colon bacillus infection of kidney, 962
Cade, H. M., Appendicitis, 550
Cádiz, M., Serums and vaccines, 899
Caille, E., Glycuronuria test, 1433
Cain, A., Rectal tumors, 1283
Caldwell, C. E., Fractures of skull, 132
Caldwell, J. H., Intestinal obstruction, 1533
Calhoun, H. A., Effect of nonspecific protein on diphtheria, 678
Calloway, J. T., Pregnancy, *912
Calvé, J., Coxa plana, 1863
Calvin, J. K., Aneurysms of thoracic aorta, 1273
Cambessédès, Urosecretory constant, 341
Cameron, A. L., Lipoma, *778
Cameron, A. T., Chlorin in urine, 66; Effect of thyroxin on growth, 1276
Caminiti, R., Frontal sinusitis, 1618
Cammarata, A., Pertussis, 413
Cammidge, P. J., Difference value of blood, 1710
Campbell, F., Inversion of uterus, *1396
Campbell, M. F., Granuloma inguinale, *648
Camus, J., Pituitary research, 270
Cantani, A., Angle between heart and liver, 899
Cantieri, C., Slight fever from inflammatory tumor, 1713
Cantonnet, A., Squint, 412, 1863; Vision without eyes, 1863
Caplesco, C. P., Appendicular jaundice, 1432
Caprario, E., Ophthalmoplegia, 413
Capurro, R., Syphilis, 826
Caraven, J., Salpingitis after ventrifixation of uterus, 1283
Carcopino, Tracheabronchial adenopathies, 1281
de Cardenal, H. G., Sydenham and encephalitis, 1324; Ataxia of fingers, 1862
Cardenal, S., Epilepsy, 556
Carey, T. V., Tetanus, 619
Carle, M., Gonorrhea, 1136
Carlevaro, J. C., Cervical dystocia, 1713
Carlson, A. J., Visceral sensory nervous system, 64; What fasting means, 128
Carmichael, J., Effect of thyroxin on growth, 1276
Carnot, P., Postprandial defecation, 1434
Carp, L., Epicondylitis humeri, 1196
Carpi, U., Artificial pneumothorax, 1435
Carr, J. G., Anemia, 268
Carrara, M., Pulmonary docimasia, 969
Carroll, J., Heart in pneumonia, 334
Carroll, W. E., Auto-urine test, *1381
Carter, H. F., Anopheles experiments, 139; Leukocyte counts, 963
Cartin, H. J., Acrodynia, 682
de Carvalho, A., Eczema of ear, 1203
Carver, A. E., Herpes-varicella infection, 895
Cary, E. H., Relativities in medicine, 821
Cary, W. E., Diabetic coma, *1393
Casaubón, A., Opalescent effusions, 759; Multiple exostoses, 1325; Prolonged vomiting, 1540
Caspari, Tuberculosis of kidney, 1135
Cassanello, R., Prolapse of colon, 899
Castellá, J., Epilepsy, 556
Castellani, A., Sprue, 1044
Castex, A., Spurious adenoid disturbance, 342
Castex, M. R., Genital dystrophy, 277; Recklinghausen's disease, 277; Cerebral angiomas, 484
Castillo Nájera, F., Endemic goiter, 1325
Castiñeiras, M., Meningitis, 1541
Castronuovo, G., Infections and diabetes, 211
Cathala, V., Resection of promontory with contracted pelvis, 1617
Cathcart, C. W., Epididymitis and orchitis, 1133
Cattani, P., Removal of tattooing, 968
Cattier, Gonorrhea, 1373
Caucci, A., Transplantation of ileocecal valve, 969
Cauley, E., Pulmonary regurgitation, 549
Caulfield, A. H. W., Hay-fever, *1071
Caussade, G., Pneumococcus infection, 1281
Caussade, L., Meningitis, 966
Cavazza, E., Gastroptosis, 689
Cavengt Gutiérrez, A., Meningococcus meningitis, 74
Cawston, F. G., Schistosoma japonicum infestation, 619; Leprosy, 1197, Infections due to snails, 1615
Cayce, E. B., Carcinoma of trachea, 1613
Cecil, R. L., Experimental influenza lesions, 136; Influenza inoculation, 136; Pneumococcus vaccine, *178; Experimental influenza studies, 1041
Ceillier, A., Para-osteo-arthropathy, 1136
Cernezzi, A., Posterior gastro-enterostomy, 899
Cesbron, M. H., Radium in rectal cancer, 897
Cevario, L., Tumors in salivary glands, 621; Double femoral hernia, 1202
Cezar de Andrade, P., Omental pseudocysts, 622
Chabé, A., Meningeal hemorrhage in uremia, 142
Chabrol, Peritonsillar phlegmon, 1200
Chalier, A., Ether by rectum, 898
Chalier, J., Pulsus alternans and uremia, 757; Obliteration of inferior vena cava, 1616
Chambers, H., Effect of X-ray on resistance to cancer, 339; Effect of roentgen rays on lymphocytes, 340
Chambrelent, Stillbirths, 342
Chand, G., Extirpation of pancreas, 753
Chapin, C. V., Preventive medicine, *215
Chargin, L., Antisyphilitic therapy, *1154
Charlin, C., Thrombophlebitis of cavernous sinus, 1138
Charlton, A. M., Diphtheria, *30
Charrier, A., Arthritis, 966
Chatterjee, G. C., Dysenteric lesions, 1132
Chatzkelsohn, B., Walking splint with elastic extension, 972
Chauffard, A., Cholesterin cycle, 273; Uric acid in blood, 412; Typhoid, 755; Deposits of cholesterin, 823; Uremic pericarditis, 1048; Uric acid in urine, 1049; Hemorrhagic pancreatitis, 1281; Gout and cholesterin, 1800
Cheatle, G. L., Breast tumor, 894
Cheever, D., Goiter, 545
Chelmisse, L., Poisoning, 144; Encephalitis, 967; Vaccine therapy, 1137; Sugar infusion in heart disease, 1434; Corpus luteum in vomiting of pregnancy, 1538
Chelmonski, A., Alimentary disease of bone, 898
Cherry, T. H., Gonorrhea, *1572
Chevallereau, A., Myopia, 1863
Cheyrou, Heat stroke, 966
Chiari, D. O. M., Tuberculous disease of ankle, 972
Chiaudano, C., Injections of milk in surgical affections, 1202
Chievitz, I., Secretion of hydrochloric acid, 418
Chifoliau, Inguinal adenitis, 1373
Chiray, M., Induced glycuronuria test, 1433; Syphilitic pleuroperitonitis, 1862
Chirié, J. L., Venesection in eclampsia, 1616
Chironi, P., Fascia implants, 1435
Chown, G., Schick test, 1705
Christensen, S., Pneumococcus types, 1807
Christian, H. A., Hypertension, 1528
Christian, M., Anguish neurosis, 1284
Christiansen, C. R., Typhoid carrier strains, 1858
Christlansen, V., Double thalamic syndrome, 483
Christie, A. C., Lung tumors, 1320
Christoffersen, N. R., Pleural adhesions, 1328
Christopherson, J. B., Intravenous injection of antimony, 1046
Chubb, G., Fistula of Stenson's duct, 684
Churchill, F. S., Medical school inspection, 269
Ciampi, L., Postnatal phrenasthenia, 1541
Cignozzi, O., Eventration and ventral hernia, 1803
Cipollino, O., Intermetacarpolysis, 1803
Citrino, C., Tuberculosis, 690
Ciuffini, P., Syphilitic disease of nervous system, 1375
Ciulla, M., Retrodeviation of uterus, 899
Cividali, A., Gastrocolic fistula, 73
Clark, A. B., Loss of speech following anesthesia, 273
Clark, A. J., Absorption from peritoneal cavity, 547
Clark, E. D., Fibroma of ovary, 1794
Clark, J. H., Action of light on leukocyte count, 748
Clark, L. P., Mental therapy, 1277
Clark, O., Staphylococcus septicemia, 74; Syphilitic meningitis, 146; Splenectomy for cirrhosis, 690
Clark, W. A., Joint measurements, 137; Protractor for measuring joint rotation, 1427
Clarke, C. K., Juvenile delinquency and mental defect, 270
Clarke, L. B., Ductless gland therapy, 546
Clarke, T. C., Cancer, 410
Claude, H., Abscesses in brain, 342; Encephalitis, 897
Claudius, M., Tests for diabetic urine, 1439
Cleisz, L., Pelvis after hip disease, 686
Clerc, A., Quinin in heart disease, 1282
Clogne, R., Puerperal infection, 1537
Clough, M. C., Reaction following transfusion, 682
Clough, P. W., Reaction following transfusion, 682
Cobet, R., Pleural effusions, 1287
Coburn, R. C., Carbon dioxid after anesthesia, 672
Coda, M., Anemia in malaria, 1374
Coe, H. C., Physical training, 1419
Coffey, R. C., Transplantation of ureters, 1707
Cohen, C., Purpura, 965
Cohen, H., Volvulus of small Intestine, 1707
Cohen, M., Intussusception, 1273
Cohen, M. B., Pruritus, *377
Cohen, S. A., Tuberculosis, 678
Cohen, S. S.: See Solis-Cohen, S.
Cohn, A. E., Pharmacology of quinidin, 1605
Cohn, S., Gout and nervous system, 1805
Cohnheim, P., Prophylaxis of gastric and duodenal ulcer, 1714
Coke, F., Asthma and anaphylaxis, 1045
Cokkinis, A. J., Myelocele, 1045
Colanéri, L.-J., Injury of semilunar cartilage, 898
Cole, H. N., Skin cancer, 408
Cole, P. P., Cold cautery in cancer, 619
Cole, R., Antipneumococcus serum, *111
Colebrook, L., Actinomycosis, 1536
Coleman, C. C., Head injuries, 132
Coleman, R. B., Massage of heart, 684
Coleman, W., Volstead act, 1592
Colistro, C. P., Chorio-epithelioma, 1865
Collen, H., Fractures, 483
Collier, C., Pyothorax, 1424
Collins, A. N., Peritonitis, 407
Collins, C. U., Volkmann's contracture, 135
Collins, F. G., Recreation centers for tuberculous, 1536
Collins, K. R., Epidermophyton, 335
Collip, J. B., Anesthesia and blood reaction, 272; Acid base exchange between plasma and blood cells, 1276; Epinephrin, 1608
Comby, J., Migraine, 481; Progressive lenticular degeneration, 481; Scurvy, 1200
Condorelli, L., Trichomycosis, 1374
Conn, H. J., Rose bengal as bacteria stain, 1130
Connell, J. T., Nature of hemolysins, 617; Nature of toxins, 617
Connet, H., Epinephrin and blood pressure, 64
Constantinesco, P., Trauma of uterus at term, 967
Contamin, N., Ulsus alternans and uremia, 757
Conti, L., Cerebral hemorrhage, 1137
Cook, M. W., Hemotoxin production, 819
Cooke, G. C., Splint, *1162
Cooke, J. V., Tuberculosis, 404
Coon, C. E., Arthritis, 1604
Cooper, C. F., Differential leukocyte counts, 963
Cooper, G., Accidental influenza inoculations, 679
Cooper, St. C., Action of castor oil on uterus, 335
Cooperman, M. B., Ankle injuries, 204
Coppez, H., Protein treatment in ophthalmology, 1863
Coppridge, W. M., Cancer of bladder, *1496
Corinaldesi, S., Influence of food on metabolism, 210
Cornell, B. S., Acidemia, *715
Corner, G. W., Internal migration of ovum, 1193
Cornil, L., Goiter, 620; Paroxysmal dyspnea, 620
Cornish, P. C., Jr., Carcinoma of duodenum, 64
Corper, H. J., Pneumothorax and tuberculosis, 202; Tuberculous pleural effusions, 202; Mustard gas and antibody formation, 1042; Mustard gas and tubercle bacillus, 1042; Absorption from pleural cavity, 1128; Tuberculosis, *1216
Cort, W. W., Parasitic worms, *170
Cortés Lladó, A., Dysmenorrhea, 1286
Costa, Gonococcus arthritis, 1538
da Costa, A. F., Jr., Radium in cancers, 1138
da Costa, S. M., Tuberculosis of skin, 347
Coste, Pulmonary gangrene, 1862
Cottet, J., Elimination of urine and renal secretion, 1282
Cottin, E., Tricuspid stenosis, 754; Cancer of lung, 1047
Cotton, T. F., Endocarditis, 139
Coughlin, W. T., Fifth root resection, 267
Couinaud, P., Puerperal infection, 1537
Coulaud, E., Goiter, 620; Thyroid in tuberculous, 686; Tuberculosis and endemic goiter, 896; Tuberculin reaction during menses, 1049
Councilman, W. T., Plaguelike infections, 1525
Courtois-Suffit, Typhoid, 1048
Coutela, C., Vision during pregnancy, 1616
Coutière, Physiology and reserve forces, 1281
Couvelaire, A., Pregnancy after cesarean section, 552; Retinitis in pregnant, 686
Cowan, M. L., Influenza, 272; Spontaneous and artificial pulmonary lesions, 1044
Cowdry, E. V., Reticulum in blood cells, 477
Cowie, D. M., Arthritis, *310
Cox, A., National health insurance, *1308, *1350, *1397
Coyan, A., Leukemia, 1134

Cozzolino, O., Blood in rachitis, 688; Brain in mongoloid idiocy, 689
Craig, S. L., Effect of X-ray on tonsils, *228
Craik, R., Ringworm, 1710
Cramer, A., Famine osteomalacia, 209; Cancer of lung, 1047
Cramer, W., Lack of vitamins and lymphoid tissue, 1709
Crampon, P., Benzoin reaction in spinal fluid, 1281; Wassermann in encephalitis, 1801
Crampton, C. W., Physical efficiency, 1121
Crane, A. A., Savenay splint, *589
Crane, C. G., Sinus infection, *28
Crawford, A. C., Testes and vasomotor reactions of penis, 1427
Crawford, J. R., Thoracic aneurysm, *1395
Creighton, C., Dysentery bacillus in urine, 819
Crémieu, R., Puerperal thrombosis, 1284
de Crespigny, C. T. C., Hydatid of heart, 1615
Creyx, M., Mechanism of respiration, 21
Criado Aguilar, F., Little's disease, 484
Crichlow, N., Antimony in gangosa, 1280
Crile, G. W., Cancer of rectum and large intestine, 132; Shock and exhaustion, *149; Relation of liver to abdominal surgery, 614; Exhaustion, 1192
Crisler, J. A., Gallbladder surgery, 1424
Crocket, J., Tuberculin in epilepsy, 1197
Crohn, B. B., Gallbladder disease, *1567
Croll, H. M., Carbohydrates in food, 1706
Cross, H. B., Staining of phagocytes, 819
Crowe, H. W., Rheumatoid arthritis, 69
Cruchet, R., Encephalitis, 274, 756; Spirit of observation in medicine, 756
Cruickshank, E. W. H., Distribution and quantitative action of vagi, 269
Csépai, K., Blood pressure under epinephrin plus papaverin, 1806
Cullen, T. S., Subperitoneal adenomyoma, 1530
Culler, R. M., Operations on aged, *1158
Culver, H., Protein injections, *311
Culvyhouse, E. O., Hemotoxin production, 819
Cumming, R. E., Vas puncture for vesiculitis, 751
Cummings, C. J., Prohibition, 260
Cunéo, B., Perineal hysterectomy, 1283
Cunha Lopes, Jr., Testing for urobilin, 146
Cunningham, T. D., Oxygen in blood in traumatic shock, 269
Curatolo, F., Urine as vitamin, 146; Sodium lactate in diabetes, 484
Cushing, H., Acoustic neuromas, 1611; Pituitary disorders, *1721
Cushny, A. R., Hyocins and hyoscyamins, 820
Czepa, A., Dental pathology and internal disease, 1327
Czoniczer, G., Purin metabolism, 1287

D

Da Fano, C., Encephalitis, 894
D'Agostino, F., Gastrostomy, 1618
Dalmeyer, Blood pigment vs. porphyrin, 1807
Dalous, Rat-bite disease, 1049
Da Matta, A. A., Granulomatosis, 213
Damaye, H., Infectious mental confusion, 141; Eschars and atrophy of brain, 482
Dana, C. L., Volstead act, 1592
Dandy, W. E., Hydrocephalus in chondrodystropy, 616; Surgical treatment of hydrocephalus, 683; Idiopathic hydrocephalus, 1193
Daniels, A. L., Deficiency in heat treated milks, 66
Danysz, Silver salvarsan and luargol, 757
Danysz, J., Entero-antigens in dysentery, 1802
Dargallo, R., Stain for elastic fibers in sputum, 623
Dargein, Dilatation of cecum, 756
Darget, R., Kidney after prostatectomy, 482; Cathcterization of ureter, 1324
Darling, S. T., Chenopodium, *419
Darré, H., Diphtheria, 1324
Dart, A. E., Bile acids in bile, 892
Dartigues, L., Hysterotomy for fibromyectomy, 1538
Das, B., Syphilitic pyrexia, 272
Datta, L., Paroxysmal hemoglobinuria, 146
Dausset, H., Fatigue charts, 1538
Dautrebande, L., Radioscopy of heart, 965
Dauwe, F., Heredity of gastric secretion, 70
David, J., Prophylaxis of ophthalmias, 72
David, V. C., Paraplegia, *494; Lymphatics in urinary tract infections, 545
Davidson, C. F., Abdominal pregnancy, *590
Davidson, H. J., Gastric lavage in eclampsia, 1708
Davis, B. B., Stomach surgery, 267
Davis, D. M., Germicidal tests with gonococcus, 204; Cultural characteristics of gonococcus, 336; Mercurochrome-220, *844; Germicides and gonococcus, 1797
Davis, E. G., Urinary antisepsis, 817; 1797
Davis, E. P., Toxemia of pregnancy, *1811
Davis, G. A., Malnutrition, 962
Davis, J. H., Anaphylaxis, *721
Davis, L. C., Influence of chaulmoogra oil on tubercle bacillus, 1042
Davis, L. H., Hyperglycemia production by ether and chloroform, 615
Davis, T. K., Gold curve in encephalitis, 474, Psychiatric aspects of encephalitis, 1609
Davison, W. C., Pertussis vaccine, *242, 467; Dysentery bacillus in urine, 819
Dawson, P. R., Sulphocyanate content of saliva and urine of pellagrins, 892; Urine in pellagra, 1320
Day, R. V., Ureter transplantations, 616
Dean, A. L., Chaulmoogra oil, *1470
Deaver, J. B., Cancer of uterus, 132; Gastric ulcers, 683; Prostatectomy, 1192
Debenedetti, E. E., Familial alkaptonuria, 345
Debray, M., Gonococcus arthritis, 411; Pleurisy, 896; Cold as factor in sclerodermia, 965
Debré, R., Tuberculosis, 824
Debrunner, H., Spastic adductor contracture, 1713
Dederer, C., Forceps, *1499
Dedichen, L., Physical effort and heart, 903
Degkwitz, R., Measles, 1376
Degrais, Radium in leukemia, 620, 965
Dejerine, Para-osteo-arthropathy, 1136
Dekker, J., Therapeutic antianaphylaxis, 1328
De Kruif, P. H., Microbic species, *651
Delagénière, H., Osteoperiosteal transplants, 1372
Delahet, Anaphylactic meningitis, 141
Delanoe, Sulphur in psoriasis, 72
Delbet, P., Secondary tumors of bones, 140; Chondroma, 275
Delgado, G. E., Gastric ulcer, 1286
Delgado Palacios, G., Blackwater fever, 622
Delherm, L., Sacralization of fifth lumbar vertebra, 686
Delphey, E. V., Compulsory health and workmen's compensation insurance, 206
Demelin, L., Parturient muscles, 209
Démètre, P. E., Blood pressure and epinephrin in tabes, 1324
Denéchau, Encephalitis, 756
Denéchau, E., Operative treatment of ulcer, 896
Denis, W., Calcium in blood, 404; Diet and chlorin concentration of milk, 1706
Denny, G. P., Anemia, 475
Deschamps, P. N., Typhoid lung lesions, 1802
Desfosses, P., Manometer mask, 897
Desmarest, E., Nitrous oxid and cholemia, 1200
Desmoulière, A., Asthenia of syphilitic origin, 967; Syphilis, 1372
Desnoes, P. H., Sponge in abdomen, *24
Desoutter, R., Pituitary polyuria, 688
D'Espine, A., Gallop rhythm, 686
Destot, E., Traumatic lesions of wrist, 1801
Detweiler, H. K., Influenza, 272; Spontaneous and artificial pulmonary lesions, 1044
Deusch, G., Blood in myxedema, 971; Dilatation of vessels, 1719
Devaux, A., Asthenia of syphilitic origin, 967; Syphilis, 1372
Devlin, F. E., Occupational therapy, 269
Devraigne, L., Obstretics and gynecology, 1616
Dezwarte, Sign of pregnancy, 966
Diamantis, Calculus in urethra, 142
Dible, J. H., Enterococcus and fecal streptococci, 821
Dickson, J. A., Stiff joints, 894
Dickson, W. E. C., Mites in urine, 822
Dietl, K., Chondroituria in tuberculosis, 1543
Dietrich, H. A., Tubal pregnancy, 1719
Diez, S., Diabetes and trauma, 1435
Dijonneau, Rehabilitation of disabled, 274
Diller, T., Practitioners and medical freedom, 398
Dillon, I. H., Interdepartmental Social Hygiene Board, 195
Dimmel, H., Infectious irritation of bone marrow, 1327
Dirken, M. N. J., Gaseous interchanges in rowers, 1053
Distaso, A., Tubercle bacilli in blood, 1134
Divito, J., Hemoptysis, 900
Djurberg, V., Historical museums, 1544
Döbeli, E., Whooping cough, 1201
Dobson, J. F., Kidney function in enlarged prostate, 963
Dock, W., Heteroplastic bone formation, 136
Dodds, E. C., Gastric and respiratory response to meals, 1613
D'Oelsnitz, Tracheobronchial adenopathies, 1281
Doi, Y., Antirabis inoculation of dogs, 1799
Domingo, E., Dysentery, 68
Donaldson, B. F., Syphilis with heart disease, 1798
Donati, M., Chronic constipation, 1201
Donovan, R. E., Bile peritonitis, 1804
Donzelot, Auricular-ventricular innervation, 1862
Doolcy, M. S., New digitalis body, 1610
Dopter, Pathogenic power of Morgan's bacillus and Castellani's bacillus, 1199
Dorman, F. A., Dry labor, 1794
Dorner, A., Phosphoric acid in kidney disease, 901
Dorner, G., Water intake and blood pressure, 486
Douay, E., Infected abortion, 1283
Douglas, J., Varicocele, *716
Doumer, E., Coagulation in erythremia, 1049
Downes, W. A., Tumors of ovary, *443
Doyle, G. N., Oriental sore, 339
Drachter, R., Rigidity of posterior abdominal walls, 625
Dresel, K., Reduction of sugar in blood and urine, 760
Drew, A. H., Lack of vitamins and lymphoid tissue, 1709
Dreyer, G., Enumeration of blood cells and bacteria, 685; Quantitative serum reaction in syphilis, 1709
Driessen, L. F., Genital tuberculosis, 148
Drinker, C. K., Quantitative distribution of particulate material, 477
Drouin, H., Cerium salts in tuberculosis, 481
Drügg, W., Carcinoma, 278
Drüner, L., Rejuvenation operations, 1204; Stereoroentgenographic obstetric measurements, 1622
Dubin, H. E., Antiberiberi vitamin, 67
Dubois, C., Syphilitic psychoses, 685
Du Boss, F. G., Pelvic infections, 200
Du Bray, E. S., Primary mesothelioma of pleura, 134; Aneurysm of descending thoracic aorta, 1128
Dubreuil-Chambardel, L., Congenital dislocation, 342; Absence of neck, 1802
Dubreuilh, W., Sclerodermia, 755
Dubs, J., Suturing of musculature to golter stump, 559; Enterostomy in peritonitis, 758; Poliomyelitis, 1284
Ducastaing, R., Intestinal hemorrhage at kelotomy, 967
Duffy, W. C., Hypophysial duct tumors, 64, 203
Dufour, H., Gonococcus rheumatism, 141; Gonococcus arthritis, 411; Antihemorrhagic serum, 620; Pleurisy, 896; Cold as factor in sclerodermia, 965
Dufourmentel, Peritonsillar phlegmon, 1200
Dufourmentel, L., Prognathism, 1284
Dufourt, A., Therapeutic anaphylactic shock, 1048
Duhot, E., Benzoin reaction, 1281; Wassermann in encephalitis, 1801; Syphilis plus febrile rheumatism, 1863
Dujardin, Brain tumor, 686
Dujarier, Gangrene of pharynx, 552
Dumarest, F., Effusion with pneumothorax, 823
Dumont, J., Meningococcus urethritis, 552
Duncan, J. W., Foot drop, *23
Dundas, G. H. G., Ophthalmia before birth, 550
Dunderdale, E., Herpes and varicella, 1535
Dunet, C., Ether by rectum, 898; Castration for male pseudohermaphrodites, 1537
Dunlap, L. G., Arsenic, *568
Dunn, C. H., Tuberculosis, 678
Dupont, J., Fracture of acetabulum, 967
Durand, Protein therapy, 758
Durand, H., Gastric ulcer, 896
Duret, H., Concussion of brain, 555
Duval, P., Cecum and colon stasis, 685; Fixation of right colon, 1284
Duverger, Eye in encephalitis, 1615
Duvoir, Intra-uterine "drowning" of fetus, 1616
Dyas, F. G., Chronic pain, 265

E

Earle, H. G., Kymograph attachment for Benedict metabolimeter, 1535
Earle, W. C., Rupture of aortic aneurysm, *1750
Eason, J., Age incidence of anemia, 139
Ebaugh, F. G., Epilepsy, 336
Ebbell, B., Medicine in Egypt, 1439
Eberle, D., Ascarids in liver, 344
Eberson, F., Latent syphilis, *160, 1274; Dissemination of spirochaeta pallida, 749
Ebnöther, G., Incarcerated obturator hernia, 758
Eccles, W. M., Acute abdominal infections, 1708
Echeverría Marulanda, A., Trichocephalus and appendicitis, 623
Echols, G. L., Pellagra, *1337; Syphilis among insane, 1704
Eckstein, I. A., Respiration, 1543
Edel, K., Tuberculosis, 78
Edelmann, A., Toe sign in meningitis, 1205
Edelstein, F., Passage of salts through placenta, 347
Eden, T. W., Uterine fibroids, 822
Edgecombe, W., Action of electrical treatments on blood, 1536
Edgerton, M. T., Jr., Headaches, 1704
Edmunds, C. W., Pharmacology, 868
Edwards, C. R., Thyroid infection, *637
Eggleston, C., Digitalis therapy, 268
Ehrenreich, S., Atropin and infant eye, 1544
Ehrström, R., Sex and pathogenesis of disease, 1288
Eichhorst, H., Water-glass poisoning, 275
Eichmeyer, W., Gallstone surgery, 416
Eicke, H., Kidney block under mercury and arsphenamin, 1715
Einhorn, M., Introducing salts into duodenum, 681
Eiselsberg, A., Gastric ulcer, 760
Eisendrath, D. N., Testis tumors, 1530
Eising, E. H., Hematometra, *31
Eisleb, H., Chlorids in urine, 901
Elder, J. C., Botulism, 1039
Eldridge, N., Creatinin coefficient in tuberculosis, 1794
Eliasberg, Wildbolz urine test, 75; Infiltration of child lung, 973
Eliason, E. L., Tying a flat knot, *1348
de Elizalde, P., Butter-flour mixture in infant feeding, 1865
Elizalde, P. I., Syphilis of lung, 759; Black heart disease, 1540
Ellinger, A., Imbibition power and osmosis, 1052
Elliott, A. R., High blood pressure stasis, *1467
Elliott, J. A., Arsphenamin and kidney functions, 65
Ellis, A. G., Naming animal parasites, 672
Ellis, N. R., Antiscorbutic potency of milk powders, 1367; Stability of antiscorbutic vitamin, 1368
Elsberg, C. A., Spinal cord tumor, 476; Spinal cord surgery, 1603
Ely, F. A., Encephalitis, 820
Emerson, C. P., Mold infections of lung, 1524; Teaching of general medicine, 869

Emge, L. A., Varicose veins of pelvis, 683
Émile-Weil, P., Hemostasis, 1199; Hirsutism, 1282; Pulmonary gangrene, 1862
Emmons, R. V. B., Intrapalpebral mallein test, 67
Enebuske, C. J., Arterial tension, 1426
Engelhard, Trophedema, 686
Engelkens, J. H., Forceps children, 78
Engels, C. F., Proteogens, 1593
Enghoff, H., Herpes zoster, 1544
Engman, M. F., Latent syphilis, *160, 1274; Acne vaccine therapy, *176; Cutaneous sensitization test, 1039
Epstein, B., Habitual vomiting, 691
Erby, H., Transmission of specific immune bodies, 204
Erdman, A. F., Anesthesia with nitro-oxygenized ether vapor, 1605
Erdmann, J. F., Syphilis as cause of ulcer, 1367
Erlanger, J., Effect on blood of injection of glucose and gum acacia, 63; Blood pressure, 748; Graduate instruction in physiology, 868
Escher, A., Sarcoma of bones, 760
Escomel, E., Blood germ carriers, 144; Mycoses, 622; Sterility from narrow uterine cervix, 622; Science and art in primitive Peru, 1138; Blood germ carriers, 1286; Autoserotherapy of infections, 1375; Endoscopy, 1540
Esposto, N., Pharmacologic study of myroxylon, 622
Esser, J. F. S., Costal cartilage as support for eyeball, 1053
Esten, J., Hernia, 972
Esty, J. R., Determining thermal death point, 204
Etienne, G., Tetanus, 824
Evans, G., Diabetes insipidus with glycosuria, 479; Vascular changes during uterine involution, 1280; Arteriosclerosis and kidney disease, 1861
Evatt, E. J. R., Luxation of shoulder, 1535
Eversbusch, G., Pathologically hard muscles, 1542
Ewart, G. A., Rupture of duodenal ulcer, 1197
Ewing, D. A., Dislocation of carpal scaphoid, *1078
Ewing, E. M., Diabetic dietary, *300
Ewing, J., Postgraduate teaching in pathology, 868; Encephalitis, 1186
Eyzaguirre, R., Carbohydrates promote flow of milk, 1138

F

Faber, H. K., Infantile scurvy, 1273
Faber, K., Gastric achylia, 140; Glycosuria threshold, 1142; Glycosuria threshold in diabetes, 1142; Gastric hypersecretion and ulcer, 1720; Auricular fibrillation and quinidin, 1808
Fabris, S., Epitrachlear adenitis, 1435
Fagiuoli, A., Asthma, 270
Fahr, T., Nephrosclerosis, 971
Falcone, E., Gonad grafts, 689
Fales, H. L., Food requirements, 404
v. Falkenhausen, M., Accidental murmur over pulmonary artery, 691; Toxic swelling of liver, 1325
Falkov, M., Toxicity of neo-arsphenamin, 1276
Fallon, M. F., Ovarian pregnancy, 679
Fantozzi, G., Osteomyelitis of ribs, 622
Farner, E., Tetany, 558, 761
Farr, C. E., Picric acid, 475; Gibson-Mikulicz tampon in appendicitis, 1367
Farr, R. E., Pneumoperitoneum, *725
Farrar, L. K. P., Glucose to prevent acidosis, 1369
Faught, E. E., Modified Sachs-Georgi test, 137
Faure, J. L., Cancer of cervix, 481
Faure-Beaulieu, M., Pneumocolon, 966
Favero, F., Test for vernix caseosa, 690
Fay, T. S., Scabies, 335
Feenstra, T. P., Potassium ions and surviving heart, 347
Feil, A., Spina bifida, 344
Feinier, L., Epilepsy, *500; Cerebellar fits, 1040
Feis, O., Erasmus and plague, 1325
Feldmann, P., Sugar tolerance in new-born, 1718
Félix, A., Protection against radium, 1538
Fellner, O. O., Ovaries during gestation, 1438
Fenger, F., Age and pancreatic enzymes, 1706
Fenn, W. O., Phagocytosis of solid particles, 1130
Fenner, F. D., Malformation of rectum, 821
Ferguson, M. I. H., Nutrition, 1046
Fermi, C., Malaria, 1374
Fernandez, F., Whooping cough plus pneumonia, 1540
Fernández Martínez, F., Abdominal arteriosclerosis, 1375
Ferrand, M., Tabes, 71
Ferrannini, A., Aneurysm of aorta, 1374
Ferrell, J. A., Public health careers, *489
Ferreri, G., Respiration after laryngostomy, 1137
Ferro, L., Tuberculosis, 146
Feterman, J., Cinchophen in rheumatic fever, *1728
Feuillade, H., Sciatica, 275
Feusier, M. L., Typhoid, 1858; Gallbladder infections, 1858
Ficai, G., Typhus, 1617
Ficklen, E. A., Pedunculated body in knee, *1499
Fiebig, M., Pseudobulbar paralysis, 900
Fieschi, D., Rupture of kidney, 1618
Fiessinger, Spirocheturia, 1049
Fiessinger, C., Syphilitic aoritis, 1800
Fiessinger, N., Malignant endocarditis, 481
Figenschau, K. J., Addison's disease, 1376
Figueras Ballester, L., Heat stroke and sun stroke, 1619
Fildes, P., Effect of blood pigment on growth of B. influenzae, 1044
Findlay, G. M., Pellagra, 340; Pigments of suprarenals, 340
Findley, L., Encephalitis, 550
Fink, K., Air and gas in uterus, 1542
Finks, A. J., Soy bean flour, 1608
Finney, J. M. T., Acute intestinal obstruction, 1708
Finochietto, E., Intracranial hypertension, 623
Finochietto, R., Operative pneumothorax, 278
Finsterer, H., Gastric ulcer, 558; Stomach hemorrhage, 691
Finzi, N. S., Radiotherapy of tumors, 275
Fiorenza, L., Ophthalmoplegia, 1435
Fischer, Appendicitis, 1805
Fischer, A., Influence of external heat on gastric secretion, 344
Fischer, A. W., Hypertrophy of prostate, 1715
Fischer, J. F., Torpid ulcer, 348
Fischer, W., Surgery of prostate, 487
Fishberg, M., Spirochetal pulmonary gangrene, 475; Intrathoracic neoplasms, *581, 1043; Pulmonary sequels of influenza, 1128
Fitz, R., Hyperthyroidism and diabetes, 1040
Flagg, P. J., Synergistic colonic analgesia, 469
Flandin, C., Urticaria, 756; Typhoid, 896
Fleischner, E. C., Heart displacement by emphysema, 679
Fleisher, M. S., Serologic relationships, 67; Reactions about transplanted tissues, 1322; Study of transplanted tissue, 1322; Anti-organ serums, 1796
Flesch-Thebesius, M., Intestinal occlusion from adhesions, 347
Fletcher, H. Q., Blood transfusion, 1424
de Fleury, M., Spurious tuberculosis, 141
Flexner, S., Biologic therapy, *33; Bacillary dysentery, *108; Epidemiology, 1525
Flint, E. R., Intestinal obstruction, 1799
Floyd, R., Bright's disease, 1195
Flue, P. C., Survival of stegomyia fasciata at low temperature, 1807
Foerster, A., Duodenal disturbances from adhesions, 1140
Foggie, W. E., Neuritis during pregnancy, 1280
Foix, Ophthalmoplegia, 274
Fol, Ileus with myoclonus, 1862
Foley, J. A., Hemorrhage from stomach, 679
Fonio, A., Coagulation of blood, 1137
Fontaine, Lipase in blood serum, 1437
Fontes, A., Action of oils on bacteria, 1138
Foot, N. C., Gaucher's splenomegaly, 1607
Forbes, H. S., Carbon monoxid poisoing, 1706
Fordyce, J. A., Neurosyphilis, 1127
Forestier, J., Hiccup with otitis, 1134; Suppurative ependymitis, 1373; Blood in malignant disease, 1712
Forster, A. M., Postural rest, *846
Forsyth, J. A. C., Difference value of blood, 1710
Fossataro, E., Trauma of hand, 968
Foster, H. E., Encephalitis, *1300
Foster, N. B., Uremia, *281; Tuberculosis of spine, 337; Pneumonia, 1859
Fothergill, W. E., Use and misuse of curet, 479
Foti, P., Leishmaniasis, 1137
Fouarge, L., Chloroform anesthesia, 1861
Foulds, G. S., Anuria, *368
Fowler, J. S., Decapsulation for nephritis, 963
Fox, C. M., Drainage in empyema, *1653
Fox, C. P., Sr., Gallbladder surgery, 1424
Fox, G. H., Dermatologic etymology, 1274
Fraenkel, E., Eye disease with influenza, 624; Cancer of trachea, 1287
Fraenkel, M., Stimulative roentgen-ray doses, 902; Roentgen rays in extra-uterine pregnancy, 1719
de Francesco E., Fracture of humerus, 759
Francioni, C., Encephalitis, 1618
François, J., Continent artificial anus, 1802
Frank, E., Renal glycosuria as aid in diagnosis of pregnancy, 1141
Frank, H. M., Bone changes after scurvy, 1376
Frank, L. W., Intrathoracic tumor, *591
Frankel, L. K., Organization of public for health work, 1016
Frankenstein, C., Growth of prematurely born, 347
Fraser, J., Decapsulation for nephritis, 963; Persistent vitelline artery, 1798
Frazier, C. H., Trigeminal neuralgia, *107; Postgraduate instruction in surgery, 732; Intracranial surgery, 1602
Freese, E. M., Wound of heart, *520
Freidell, H. F., Apparatus for administering fluids, *724
Freilich, E. B., Transfusion in tuberculosis, 891
Freire, O., Test for vernix caseosa, 690
Frenkel, H., Injury of eye, 1863
Frenkel-Tissot, H. C., Sugar in blood in mountain climate, 827; Albuminuria from sports, 829
Freudenberg, I. E., Intestinal fermentation, 1716
Freudenthal, W., Heredity of telangiectases, 962
Freund, E., Secretion of sweat, 973
Frey, E., Erythrocyte-destroying action of spleen, 557
Frick, J. M., Proctitis sphingos, 962
Fricker, E., Occult bleeding in diagnosis of cancer, 1201
Fridericia, L. S., Duration of systole, 1328
Frieboes, W., Pepsin fomentations, 901
Friedberg, E., Vegetative nervous system, 1805
Friedenwald, J., X-ray diagnosis of abdominal lesions, 268; Gastro-intestinal carcinoma, 1606
Friedlander, A., Tumors of mesentery, 890
Friedman, G. A., Suprarenal cortex and goiter, 681
Friedman, J., Lateral sinus thrombosis, 67
Frischbier, Wounds of chest and tuberculosis, 214
Fritsch, K., Volvulus of kinked intestinal loop, 1438
Frœlich, Growth epiphysitis, 412
Fróes, J. A. G., Urticaria in malaria, 826
Frølich, T., Weight of young infants, 1510
Frost, W. D., Diphtheria, *30
Frühwald, R., Spirochete findings in lymphatic glands, 973
Fry, W. K., Cleft palate, 1044
Fuà, R., Melena neonatorum, 345
Fuchs, A., Eye symptoms in syphilis, 1052
Fuchs, E., Anatomy of eye, 557
Fuchs, L., Measurement of venous pressure, 1051
Fulchiero, A., Reaction of heart to epinephrin, 555
Fulton, J. A., Tonsillectomy instrument, 681
Fumarola, G., Tumor of auditory nerve, 1137
Funk, C., Antiberiberi vitamin, 67
Fuse, G., Anatomy of brain-stem, 624; Brain stem, 1541

G

Gabe, W. E., Fibroma of ovary, 1794
Gaenslen, E. J., Syphilitic epiphysitis in adolescence, 546
de Gaetano, L., Twisted foot, 1285
Gagel, P., Contracted pelvis, 626
Gähwyler, M., Enlargement of bronchial glands, 1538
Gaillard, R., Gastric ulcer in tuberculous, 1372
Gaines, L. M., Encephalitis, 203
Gál, F., Bacillus coli and induced peritonitis, 417
Galant, S., Psychiatry, 899
Galdi, F., Percussion of kidney, 211; Mycosis of lung, 758
Gallart Monès, F., Intervisceral ganglion, 1536
Gallavardin, L., Diastolic gallop, 341; Hemoptysis vs. pulmonary èdema, 1282; Aortic stenosis, 1284; Insufficiency of left ventricle, 1371
Galliot, Digestion hemoclasis in syphilis, 1136
Gallo, A. G., Hernia of intestine, 690
Galop, M., Pseudarthrosis, 274
Galup, J., Spa test in tuberculosis, 1200
Gammons, H. F., Artificial pneumothorax, 328; Tuberculin test, *1396
Gandy, C., Gastric ulcer, 481
Ganter, J., Resorption from pleural effusions, 1287
Garbat, A. L., Wassermann test, *14
García del Diestro, J., Kala-azar, 689
García Díaz, D., Hemorrhagic purpura, 1203
García Guijarro, F., Functional tests of liver, 1286
García Huidobro, H., Operations on stomach, 899
Garcin, Gonococcus arthritis, 1538
Garçon, Medical syndicates, 687
Gardin, C., Streptococcus septicemia, 482
Gardner, E. L., Acid-fast actinomycetes, 1042
Gardner, L. U., Mineral dusts and tuberculosis, 201
Gardner, W. C., Emphysema, *503
Garel, J., Trauma of larynx, 342
Garibaldi, A., Thyroid-parathyroidectomy, 759
Garin, G., Trophedema, 212; Hemorrhagic purpura and tuberculosis, 276; Banti's disease, 1374; Rhizomelic spondylosis, 1539
Garland, J., Splenic aneurysm, 1275
Garnier, M., Classification of jaundice, 72; Diagnosis of infectious jaundice, 482; Primary infectious jaundice, 554
Garrahan, J. P., Pericarditis, 414; Poliomyelitis, 1714
Gastinel, P., Revaccination lesions, 483; Plague, 1048; Hemoclasis and benzoin reaction, 1537
Gastou, P., By-effects of arsphenamin, 71; Marriage of syphilitics, 552
Gates, F. L., Measuring sterile solutions, 477; Influenza, *640; Nasopharyngeal secretions in influenzae, 893; Infectivity of nasopharyngeal secretions in influenza, 1194
de Gaudino, M. T. F., Ovarian tumors with pregnancy, 1804
Gauss, H., Effect of morphin on alkali reserve of blood, 547; Tuberculosis, *1216
Gauthier, P., Puerperal thrombosis, 1284
Gauvain, H., Training in tuberculosis, 618; Surgical tuberculosis, 1860
Gavião Gonzaga, A., Nosography, 1540
Gaviati, Chancres of hand, 1285
Gavino, C., Diphtheria, 68
Gay, F. P., Vaccines in influenza, *244; Streptococcus empyema, 405
Gayet, Puerperal endocarditis, 1200
Geelmuyden, H. C., Migration of fat, 1328
Geilinger, W., Gastric ulcers, 688
Geist, S. H., Chronic pelvic peritonitis, 328; Chorio-epithelioma, 1708
Gejrot, W., Discharge of meconium during delivery, 418
Gelera, M., Defensive potency of serum, 211; Coagulating time of blood, 1137

Gelien, J., Diphtheria carriers, 1532
Gelinsky, E., Local anesthesia and erysipelas, 1288
Gelma, E., Sialorrhea in encephalitis, 1284
Gelpke, H., Congenital defects of spinal cord, 1326
de Gennes, L., Urticaria, 1801
Genoese, G., Pertussis, 969; Alizarin test for tuberculosis, 1435
George, J. M., Testes and vasomotor reactions of penis, 1427
Georgesco, G., Exclusion of pylorus, 757
Georgieff, C., Streptococci, *1003
Geraghty, J. T., Gonorrheal urethritis, *35
Gerbay, Abortive treatment of syphilis, 143; Digestion hemoclasis in syphilis, 1136
Gerber, Syphilis of throat, 278
Gerdon, C., Asthma in fur dye-workers, 147
Gerstenberger, H. J., Anaphylaxis, *721; Malt soup extract as antiscorbutic, 1273
Gerstley, J. R., Pediatrics, *1633
Ghelfi, A., Raynaud's disease and syphilis, 1138
Giannettasio, N., Decompressive craniotomy for pituitary symptoms, 1203
Giannuli, Pseudosyringomyelia and chronic poliomyelitis, 555
Gibson, A., Muscular infantilism, 1040; Dislocation of shoulder, 1041; Dislocation of sacro-iliac joint, 1487; Mechanism of foot in walking, 1796
Gibson, C. B., Auto-urine test, *1381
Gibson, C. L., Rubber dam Mikulicz tampon, 1367
Gibson, R. H., Alkaptonuria, 1525
Gies, W. J., Effect of tobacco on man, 1859
Giffin, H. Z., Anemia, *290; Splenectomy, 1131
Gifford, H., Molluscum conjunctivitis, 1795
Gifford, S. R., Molluscum conjunctivitis, 1795
Gignoux, A., Trauma of larynx, 342
Gil Vernet, S., Intervisceral ganglion, 1536
Gilbert, A., Febrile syphilis of liver, 1433
Gilbert, G. B., Bronchiectasis, *714; Postural rest, *846
Gilbert, J. A., Amnesia, 406
Gilberti, P., Perforation of intestine by ascarids, 484
Gil-Casares, M., Adhesive pericarditis, 624
Gilchrist, K., Malaria, 550
Gillies, H. D., Cleft palate, 1044
Gilman, P. K., Cysts of thyroglossal duct, 683
Giltner, H. A., Anesthesia in mastoidectomy, 1783
Giordano, D., Malingering and workmen's compensation, 1374
Giordano, V., Occupational amyotrophy, 1285
Giorgi, E., Scurvy, 689
Giraud, P., Thrombosis under arsenical treatment, 1616
de Gironcoli, F., Gastric ulcer and fat tissue necrosis, 1202
Giroux, L., Eosinophil leukemia, 1712
Giroux, R., Pulse wave, 897; Speed of arterial blood wave, 1862
Gismondi, A., Dextrin in infant feeding, 1539
Gitlow, S., Polycythemia vera, 681; Diaphragmatic hernia, 1367
Giuseppi, P. L., Urethral stricture, 1709
Given, H. C., Tuberculosis, 894
Gjørup, E., Bacteriophagum intestinale, 1808
Glaessner, K., Pancreas disturbances in dysentery, 213
Glaser, F., Streptothricosis of lung, 1719
Glass, E., Hemorrhagic pancreatitis, 761
Glénard, R., Diabetes and gout, 1802; Enteroptosis, 1862
Glenn, J. E., Vas puncture for vesiculitis, 751
Glenny, A. T., Diphtheria toxin and antitoxin, 822
Glynne, S. R., Mediastinal glands in tuberculosis, 1536
Goddu, L. A. O., Fascia lata to mobilize stiff knee, 750
Godoy Tavares, J., Mercury in stomach disease, 690
Goebel, F., Spasm of sphincter ani and Hirschsprung's disease, 761
Goeckel, H. J., Creatinin and acetone in urine, 1130
Goetze, O., Blocking of phrenic nerve, 559
Goetzky, F., Glycemia, 1376
Goiffon, R., Fat acids and ammonia in stools, 1047
Goldberg, S., Mesenteric embolism, 891
Goldberger, I. H., New site for vaccination, 205
Goldblatt, H., Leukemia, *583
Golden, W. W., Dislocation of semilunar bone, *446
Goldman, A., Nose, pharynx and tonsil inflammation, 1130
Goldring, M., Thrush complicated by polyarthritis, *724
Goldschmidt, W., Postoperative intestinal disease, 762
Goldstein, A. E., Ureteral strictures, *171
Goldstein, H. I., Telangiectasis, 475
Gomez, L., Diphtheria, 68
Gómez Repiso, D., Strychnin poisoning, 557
Gonzáles, T., Intracranial hypertension, 623
Gonzáles Barrio, N., Kala-azar, 689
Goodall, J. S., Kymograph attachment for Benedict metabolimeter, 1535
Goodman, H., Prophylaxis of syphilis, 397
Goodpasture, E. W., Myocardial necrosis in hyperthyroidism, *1545; Protozoan-like cells in infants' tissues, 1607
Gordin, A. E., Plaster rope cast, 1196
Gordon, A., Polymorphism of encephalitis, 67; Contralateral plantar reflex, 137; Heroin intoxication, *927; Syphilis of nervous system, 1608
Gordon, G. S., Suprapubic prostatectomy, 1705
Gordon, H., Lefthandedness in mentally defective, 1323
Gordon, M. H., Hemolytic streptococci, 1615
Gorke, H., Aplastic anemia after arsphenamin, 625
Goto, K., Renal threshold for glucose, 750
Gougerot, H., Pathogenesis of neurorecurrence, 143; Skin diseases and syphilis in 1920, 143
Goulden, E. A., Sciatica, 1370
Gourdon, J., Rehabilitation of disabled, 274; Scoliosis, 411
Gouverneur, R., Suture of ureter, 552
Gow, A. E., Peptone injections, 754
Goynaroff, E., Bordet-Gengou reaction in aortic lesions, 1043
Grabfield, G. P., Tonsil route of infection in tuberculosis, 1128
Grad, H., Hemorrhage in ectopic gestation, 614; Shortening of round ligaments, 889
Gradenigo, G., Vertigo of central origin, 758; Ligation of jugular vein in otitis, 1050
Gradwohl, R. B. H., Laboratory technician, 127
Grafe, E., Metabolism in tuberculosis, 76; Obesity, 486; Muscular tone and general metabolism, 1052
Graff, E., Amenorrhea, 1717
Graham, E. A., Hepatitis and cholecystitis, 545; Pleural exudates, *784; Asphyxia, 890
Graham, E. E., Infant feeding, 1859
Graham, G., Glycemia and glycosuria, 1709, 1860
Graham, J. R., Cutaneous anthrax, 67
Graham, R., Botulism in cattle, 617; Botulism, *1743
Gralka, R., Spasmophilia, 1325
Gram, H. C., Hemoglobin and erythrocyte count in venous blood, 418; Anemia of pregnancy, 692; Blood platelets as indicators of hemorrhagic diathesis, 904; Blood platelet count, 1328
Gramén, K., Urine test for tuberculosis, 348
Grant, B. C., Typhoid vaccination, *514
Grant, S. B., Nose, pharynx and tonsil inflammation, 1130
Grassi, B., Campaign against malaria, 1374
Graves, T. C., Hystero-epilepsy, 70
Graves, W. P., Appendicitis, 1192
Gray, E. A., Spontaneous pneumothorax, *1147
Gray, G. A., Mercurochrome for diphtheria carriers, 1321; Drying pipets, *1826
Greco, F., Preparation of suture material, 1713
Greeley, H., Lung diseases, 1426
Green, F. R., Social medicine, *1477
Greenbaum, S. S., Creeping eruption, 1274
Greenberg, D., Tuberculous pneumonia, 404
Greenberg, J. P., Tuberculous salpingitis, 819; Auricular flutter and fibrillation in pregnancy, 1363
Greene, C. H., Syphilis in fetus, 1193
Greenfield, S. D., Lateral sinus thrombosis, 67
Greenthal, R. M., Meningitis, 678
Greenwood, W. O., Artificial respiration, 1709
Gregg, R., Lactose determination, 680
Grégoire, R., Graft of toe on thumb, 967; Fixation of right colon, 1284
Grenet, H., Cerium salts in tuberculosis, 481
Gretsel, H., Amputation neuroma, 1053
Gribbon, M. R., Nutrition in Vienna, 1046
Grigant, A., Cholesterin cycle, 273; Uric acid in blood, 412; Local deposits of cholesterin, 823; Uric acid in urine, 1049
Grivot, M., Staphylococcus meningitis, 686
Groenewege, J., Destruction of cellulose by aerobic bacteria, 279
Grönberg, J., Defensive ferments in blood, 830
Gross, O., Anisotropic substances in urine, 486
Gross, S. S., Trifacial neuralgia, 1042
Grosse, A., Spontaneous deliveries after cesarean section, 141; Hemorrhage from detachment of placenta, 554
Grossman, J., Subluxation of head of radius, 137
Grossman, M., Encephalitis, 1610
Grote, L. R., Colitis with endocrine disturbances, 1541
Grovas, P. P., Yellow fever, *362
Grove, G. H., Gastro-intestinal carcinoma, 1606
Grover, J. I., Stools, *365
Gruber, G. B., Tuberculosis, 1621
Grulee, C. G., Fever due to depletion of water reserve, 959
Grünbaum, R., Intermittent claudication, 829
Gudzent, Gout, 1205
Guedel, A. E., Ether anesthesia, 1131
Guelpa, G., Gout, 345
Guggisberg, H., Necrosis of myomas during pregnancy, 1713
Guibal, P., Intraspinal anesthesia, 1373
Guilbert, Pelviradiometry, 825
Guillain, G., Benzoin spinal fluid test, 208; Sclerosis in patches, 274; Contagion of encephalitis, 411; Syphilis simulating encephalitis, 966; Benzoin reaction in spinal fluid, 1324
Guilleaume, E., Simultaneous pulse curves, 825
Guilleminot, H., Roentgen-ray dosage, 1324
Guinon, Plague, 1134
Guisez, J., Valvular stenosis of esophagus, 685; Intrabronchial injections in pulmonary gangrene, 1136
Gulbransen, R., Antiseptic potency of acriflavine, 1614
Guldmann, T., Milky ascites, 1622
Guleke, Vertebral disease, 1716
Gumersindo Sayago, Tuberculosis, 1325
Gunn, H., Ameba-like leukocytes, 1610
Gunn, J. A., Massage of heart, 409
Gunn, J. W. C., Action of emmenagogue oils on uterus, 547
Günther, H., Hematoporphyria, 971
Guthrie, C. G., Avirulent diphtheria bacilli, 819; Diphtheria carriers, 1532
Gutiérrez, A., Hematometra and appendicitis, 1619
Gutmann, R. A., Encephalitis, 896; Transient hemoclasis after puncture of hydatid cyst, 1134
Guyot, J., Oculocardiac reflex, 142
Guyot, J. D., Formaldehyd urticaria, 682
Gwathmey, J. T., Colonic analgesia, *222; Synergistic analgesia, 1604
Gwerder, J., Artificial pneumothorax, 1538

H

de Haas, A. K. J., Autonomic heart center and heart innervation, 347
Haastert, F., Kidney functioning, 827
Habein, H. C., Transfusion, *358
Haberer, Goiter and thymus, 557; Jejunal peptic ulcer, 1620
Haessler, F. H., Epithelioma of bladder, *446
Haffner, R., Infarcts in placenta, 1433
Haggard, H. W., Carbon dioxid after anesthesia, 672
Haggard, W. D., Cancer problem, 821
Hahn, L., Urobilin in duodenal secretion, 762
Haines, W. H., Renorenal reflex, 548
Hajek, J., Diaphragmatic hernia, 751
Hale, H. E., Hernia of pleura, 205
Hall, I. C., Chemical criteria of anaeroblosis, 617; Obligate anaerobes in respiratory infections, 819; Filtrable virus not cause of influenza, 820
Hall, T. G., Serologic relationships, 67
Hall-Edwards, J. F., Gastroptosis, 1709
Hallez, G. L., Anemia, 553
Hallisey, J. E., Blood platelets, *427
Hallock, D. H., Postdiphtheritic paralysis, 1429
Hamburger, F., Tuberculosis, 1439
Hamilton, A., Anilin tumors of bladder, 1707
Hamilton, A. S., Graduate training in neuropsychiatry, 732
Hämmerli, A., Hyperplasia of salivary gland, 487
Hammerschmidt, J., Preservation of complement, 973
Hammett, F. S., Creatin, *502; Endocrine glands in tumor bearing animals, 1321; Stimulation of intestinal mechanism by sodium carbonate, 1608; Isolated duodenal segment, 1608
Handley, W. S., Breast cancer, 684
Hanns, A., Encephalitis, 209; Neoplasm at cardia, 685
Hannum, E., Nature of antibody, 1194
Hanrahan, E. M., Jr., Rhinophyma, 819
Hansen, I., Postoperative atony of stomach, 280
Hansen, O. A., Arsenic poisoning, 960
Hanson, R., Peritonitis in typhoid, 1438
Hanssen, O., Neurosyphilis, 903
Hanzlik, P. J., Cinchophen in rheumatic fever, *1728
Happ, W. M., Encephalitis, 1610
Happel, H. E., Susceptibility to iodin, *1164; Oxygen in gynecologic diagnosis, 1534
Harbin, R. M., Kidney infections with appendicitis, 682
Harbitz, F., Spondylitis deformans, 78; Peritonitis with milky ascites, 560; Encephalitis neonatorum, 560; Curability of tuberculous meningitis, 817
Harbo, H. G., Alkaline reserve of plasma, 66
Harding, M. C., Arthritis, 405, 616
Harding, M. E., Diphtheria, 1371
Hare, H. A., Aortic aneurysm, *587
Harley, T. W., Ovarian cyst, 753
Haro, F., Headache, 346
Harper, C. A., Organization of public for health work, 1015
Harper, J., Partial thyroidectomy, 1133
Harper, J. R., Enteric group infection, 273
Harper, P., Leprosy, 272
Harrington, S. W., Effect on kidney and ureter of surgical procedures, 1530
Harris, F. G., Eczema, 1425
Harris I., Digitalis and blood pressure, 1861
Harris, J. A., Basal metabolism, 1277
Harris, S. H. Papilloma of bladder, 1800
Harris, W., Leukemic polyneuritis, 550
Hart, C., Streptothricosis of lung, 1719
Hart, E. B., Antiscorbutic potency of milk powders, 1367; Stability of antiscorbutic vitamin, 1368
Hartenberg, P., Melancholia, 1538
Hartleib, H., Lengthening of leg, 1438
Hartmann, H., Hypernephroma in uterus, 71; Radiotherapy of fibromas, 1135; Genital prolapse, 1537, 1711; Perineal hysterectomy, 1711
de Hartogh, J., Psychoses and internal secretions, 347
Hartz, H. J., Sponge in abdomen, 1533
Harvier, Encephalitis, 552, 554
Harzer, F. A., Palpation of right ventricle, 901
Hasebe, K., Racial differences in scapula, 1541
Hasenbein, H., Cane sugar and focal reactions, 625
Haskell, C. C., Pituitary extract, *1390
Haskins, J. B., Conservation of menstrual function, 1424
Haslam, T. P., Brain culture medium, 137
Hasley, C. K., Syphilis, *8

Hassin, G. B., Cerebral porosis, 135; Aid to Russian physicians, 609; Polioencephalitis, 1609
Hastings, A. B., Blood changes after pylorus closure, 1276; Parathyroidectomy and blood chemistry, 1276
Hastrup, R., Ileus as consequence of ventrofixation, 692
Hatcher, R. A., Digitalis, *508; Medical profession and Volstead act, 1592
Hatfield, C. J., Organization of public for health work, 1016
Hauch, E., Exceptionally small newly born, 141
Haudek, M., Gastric ulcer, 1621
Haughwout, F. G., Dysentery, 68
Haultain, W. F. T., Labor in encephalitis, 1045
Hausmann, M., Cysticerous in cerebellum, 344
Havens, F. Z., Urethral Instillating syringe, 329
Havens, L. C., Tonsillitis patients carriers of streptococci, 1127
Hawk, P. B., Gastric analysis, *371, *564; Gastric residuum, *1340; Vitamin content of honey, 1608
Hawkes, C. E., Promotions in Medical Reserve Corps, 53; Torsion of omentum, *107
Hawkins, I. L., Tinel's sign, 135
Hayashi, N., Tsutsugamushi disease, 271
Hayem, G., Contents of fasting stomach, 620; Fluid in fasting stomach, 686, 824
Hayman, J. M., Jr., Scabies, 335
Hays, H. M., Syphilitic manifestation in nose, *1575
Haythorn, S. R., Spirochaeta pallida in tissue, *725
Hazen, H. H., Cancer, *1222
Healy, W., Hemochromatosis, 1320
Heard, J. D., Electrocardiogram, 334
Heathcote, R. S. A., Action of caffein, theobromin and theophyllin, 337
Heaton, T., Sprue, 70
Heering, A. B., Doses for children, 148
Heile, Spasm of ileocecal valve sphincter, 1806
Hein, G. E., Electrocardiogram, 334
Heine, L., Milk injections in retinitis, 625
Heinekamp, W. J. R., Chloroform modifies action of epinephrin, 271
Heinrichsdorff, Strieture of urethra, 279; Stupor and eclampsia, 1204
Heise, F. H., Tuberculosis, 1705
Heissen, F., Sarcina in stomach, 1287
Heitz, J., Uremia with pulsus alternans, 1201
Hektoen, L., Bence-Jones protein, *929; Effect of mustard gas on antibody formation, 1042
Heller, O., Intestinal fermentation, 1716
Hellwig, A., Diffuse colloid struma, 761
Hélouin, Flaking power of serum, 1434
Henderson, G. E. W., Painless labor, 1133
Henderson, M. S., Dislocation of shoulder, 266; Bone grafting, 682
Henderson, Y., Carbon dioxid after anesthesia, 672
Henius, K., Pneumothorax in pleural disease, 1287
Hennessy, P. H., Rupture of spleen, 479
Henrici, A. T., Acid-fast actinomycetes, 1042
Henriksen, P. B., Cultivation of nerve tissue, 1054
Henry, A. K., New instrument, 1535
Herbst, R. H., Epithelioma, *918
Hering, E., Soft parts and blood pressure measurements, 827
Herman, L., Blood changes in renal calculus, 891; Prognosis in prostatectomy, 1192
Hermann, E., Diphtheria, 147
Herrera Vegas, A., Hemoglobinuric fever, 827
Herrick, F. C., Trauma as factor in hydronephrosis, 751; Polycystic kidney, 752
Herrick, J. B., Medicine and medical specialties, 731; Specialist and practitioner, *975
Herrick, W. W., Purpura fulminans, 55
Herring, P. T., Effect of pregnancy on viscera, 207; Influence of thyroid on suprarenals, 270
Herrman, C., Measles, 1264
Herrmann, E. T., Polycythemia vera, 1131
Herrold, R. D., Gonorrhea, *225
Hertzler, Pin method for approximating patella fragments, 1196
Hess, A. F., Nutritional disorders, *693
Hess, E. F., Vasostomy, *1349
Hess, O., Encephalitis, 1717
Hess, R., Whooping cough, 1376
d'Heucqneville, R., Pleural adhesions, 1136
Hewitt, H. W., Picric acid as skin antiseptic, 1529
Heyd, C. G., Surgical affections of right quadrant, 1604
Heyer, C. R., Psychic gastric secretion, 1714
Hiess, V., Cervicovaginal fistulas, 1142; Placenta praevia, 1542
Higgins, H. L., Acetone in breath, 336
Higgins, J. A., Benzyl esters, 1426
Higgins, W. H., Cerebral manifestations in cardiorenal disease, 1133
Higginson, C. G., Sapremic glycosuria, 963
Highman, W. J., Acne, 407
Hijmans, F., Records of medical science, 280
Hildebrandt, W., Auscultation over clavicle, 625
Hill, L., Measurement of capillary blood pressure, 1044; Pressure in kidney capillaries, 1370
Hill, R., Laminectomy for meningitis, 267
Hindermann, E., Myoma and childbearing, 417
Hinman, F., Renal stones, *237
Hirsch, E. P., Leukocytosis and blood alkali reserve, 1042
Hirsch, I. S., Atresia of esophagus, *1491
Hirsh, A. B., Physical therapeutics, 1428
Hirst, J. C., Corpus luteum, *772; Metranoikter, *1825
Hitzenberger, Metabolism with vascular hypertonia, 1327
Hobbs, R., Gonorrhea in pregnant women, 480
Hochenbichler, A., Cleavage of fetal membranes, 1542
Hodgson, F. G., Fractures, 1704
Hodson, V. S., Emetin in liver abscess, 1432
Hoffman, M. H., Transfusion, *358
Hoffman, P. B., Malignant edema, *308
Hoffmann, G., Congenital megacolon, 1436
Hofstadt, F., Late effects of encephalitis, 1052
Hogan, J. J., Influenzal pneumonia, 1279
Hoidale, A. D., Appendix in hernia, *930
Holfelder, H., Roentgen-ray doses, 1716
Hollaender, H., Tuberculosis, 77
Holland, C. T., Hour-glass stomach, 409
Hollander, L., Acne, 1425
Hollenberg, M. S., Chlorin in urine, 66
Hollingsworth, I. P. P., Group medicine, 1189
Holly, L. E., Nature of hemolysins, 617; Nature of toxins, 617
Holmes, W. H., Hemiplegia, *1640
Holmgren, I., Medical impressions of America, 280
Holmstrom, R., Encephalitis, 1808
Holst, S. F., Ligation of hepatic artery, 348
Holt, L. E., Food requirements, 404
Holten, C., Tuberculous meningitis, 480
Holyoke, F., Removal of tube in pleural cavity, *1078
Holzberg, H. L., Contraction ring dystocia, *1654
Holzer, P., Jaundice, 1325
Hooker, D. R., Capillaries, 64
Hooper, P. Leprosy 1860
Horgan, E. J., Accessory pancreatic tissue, 1530
Horilleno, F., Enterocolitis, 68
Horiuchi, Y., Blood fat, 66; Lipemia in anemia, 66
Hornung, R., Syphilis and pregnancy, 626
Horsley, J. S., Ulcer of jejunum following gastro-enterostomy, 200; Gastro-enterostomy, *354; Gastric ulcer, 952
Høst, H. F., Calomel diuresis, 348; Diabetic coma, 348
Houdard, L., Disarticulation of foot to heel, 825
Houdmont, H., Radioscopy of heart, 965; Chloroform anesthesia, 1861
Houghton, J. E., Lymphoblastosis, 1040; Bronchial spirochetosis, *1559
House, S. J., Hemorrhagic meningoencephalitis in anthrax, 203
Householder, R., Enlargement of spleen, *1556
Houssay, B. A., Experimental goiter, 970; Thyroidectomy in horses, 970
Howard, C. P., Alkaptonuria, 1525
Howard, H. A. H., Difference value of blood, 1710
Howard, J., Percussion note, *1229
Howard, W. T., Jr., Death rate due to childbirth, 1127
Howe, H. S., Encephalitis and endocrine glands, 1278; Extramedullary fibroneuroma, 1611
Howell, K. M., Antibody formation and leukemia, 134; Blood changes and antibody production after injection of pneumococcus lipovaccine, 204; Streptococcus agglutinin, 204; Transmission of immune bodies, 204
Howland, J., Rachitic involvement of thorax, 1532
Hoxie, C. H., Low blood pressure, 1533
Hoyne, A. L., Laryngeal diphtheria, *1305
Hruby, A. J., Transfusion in tuberculosis, 891
Huber, J., Uremic pericarditis, 1048; Spirocheturia in syphilis, 1049
Hubert, J., Mushroom poisoning, 824
Hudelo, Marriage of syphilitics, 552
Huese, J. F. O., Hysteric attitudes, 1053
Huet, P. A., Hysterectomy, 1135
Huffman, L. F., Diaphragmatic hernia, 202
Hug, E., Thyroidectomy in horses, 970
Huldschinsky, K., Tetany, 76
Hull, M., Age and pancreatic enzymes, 1706
Hull, T. G., Modified Sachs-Georgi test, 137
Hülse, W., Volhard's theory of glomerulonephritis, 761
Humbert, J., Inguinal adenitis, 1373
Hunner, G. L., Bladder symptoms due to ureteritis, 337
Hunt, E. L., Neurosyphilis, 1608
Hunt, R., Arsphenamin, *854
Hunter, E. W., Volstead act, 1782
Huntington, J. L., Inversion of uterus, 1275; Sheppard-Towner bill, 1593
Huntoon, F. M., Chemical nature of antibody, 1194
Hürzeler, O., Influence of ovaries on glycemia, 1805
Husler, J., Epileptic children, 1543
Hussey, R. G., Effect of X-ray on tonsils, *228; Effect of cellular reaction induced by roentgen rays on cancer grafts, 1194; Leukocytic response during reaction of artificial immunity in tuberculosis, 1194
Hustin, A., Allergic phlegmons, 1711
Huston, J., Fate of lymphocyte, 1532
Hutcheson, J. M., Splenomegaly, *571
Hutchison, H. S., Ostcomalacia, 1535
Hutchison, R., Abdominal pain, 409
Hyatt, T. P., Duty on tooth brushes, 1319
Hyde, C. L., Heliotherapy in tuberculosis, 1530
Hylkema, B., Poisoning from cheese, 148; Malaria, 830; Transmission of malaria by mosquito, 1807
Hyman, A., Tumors of kidney, 1196

I

Iacono, I., Sugar in urine, 413
Iagnov, S., Peptone in hemophilia, 967
Iancovesco, N., Digestion hemolysis test for insufficiency of liver, 275; Alimentary hemolysis in diabetes, 967
Iankoff, I., Atypical varicella, 341
Ibañez Benavente, A., Suture of blood vessels, 1139
Ibrahim, J., Spasmophilia, 1052
Ichok, G., Serodiagnosis of tuberculosis in elderly, 687, 1049; Fasting and -antibodies in tuberculous, 965; Tuberculosis antigen in tuberculous urine, 1710
Ilvento, A., Typhus, 210
Imaz Apphattie, I. L., Hydatid cyst, 900
Imbert, L., Flap for correction of perineum, 686
Imboden, H. M., Diaphragmatic hernia, 202
Imre, J., Jr., Plastic surgery, *1293
Indelli, A., Plastic closure of femoral canal, 1803
Ingebrigtsen, R., Healing of superficial wound, 348; Entero-anastomosis in ileus, 1206
Ingraham H. O. Fetal deaths 1857
Ingram A. Bronchomoniliasis and tuberculosis, 1860
Ingram, R., Chaddock's sign, 962
Ireland, M. W., Medical Department in World War, *763
Irons, E. E., Systemic infections, *627
Ishibashi, M., Adenoma, 1287
Israeli, C., Gonococci, *1497
Inspa, V., Neurofibromatosis, 1864
Ivens, F., Antigonococcus serum, 549
Izard, Myasthenia, 756

J

Jackson, C., Safety-pins in stomach, *577
Jackson, C. M. Embryology, *497; Graduate work in anatomy, 801
Jackson, E., Visual fatigue, 817; Daylight in schoolroom, 1785
Jackson, J. A., Wassermann reaction, *360
Jacob, P., Hemoclasis and benzoin reaction, 1537
Jacobs, O., Injury of semilunar cartilage of knee, 898
Jacobson, E., Nervous Irritability and progressive relaxation, 1427
Jacoulet, F., Industrial nitrous poisoning, 144
Jacquelin, A., Syphilitic aneurysm of pulmonary artery, 341; Liver and kidney disease with gastric ulcer, 411, 1711; Uremia and digestive hemolysis, 1048; Dyspnea in carodiorenal disease, 1802
Jacquelin, C., Dyspepsia, 1800; Gastro-radiculitis, 1803
Jacquet, P., Sclerosis in patches, 274; Syphilis simulating encephalitis, 966
Jacquin, P., Myoma of uterus, 1433
Jaeger, H., Suicides with electric current, 828
Jager, R., Influence of chaulmoogra oil on tubercle bacillus, 1042
Jagerink, T. A., Spondylitis, 1438
Jagoda, S., Bile duct injection, *1483
James, C. S., Colitis, *240
James, R. F., Nephritis, *505, 744
James, W. B., Medical profession and Volstead act, 1592
Janet, H., Malignant endocarditis, 481; Pleuroperitonitis, 1862
Jannink, E. H., Potassium ions and surviving heart, 347
Janowski, W., Blood pressure in arteriosclerosis, 208; Pulse in nephritis and arteriosclerosis, 823; Thyrotuberculosis, 1047
Jansen, H., Sciatica, 1054
Jansma, J. R., History of medicine, 1622
Janssen, P., Indications for intravesicular intervention, 1141
Japiot, Radiotherapy in interstitial keratitis, 1712
Japiot, P., Sciatica, 1135
Jarno, L., Reflux of duodenal secretion into stomach, 559; Opium and gastric secretion, 901; Activity of fasting stomach, 1714
v. Jaschke, R. T., Postoperative thrombosis, 1326
Jastram, M., Tumors of knee, 416; Influence of iodin on ovaries, 558
Javarone, N., Leishmaniasis, 1137
Jeandelize, P., Wounds of lacrinal apparatus, 1863
Jeanneney, G., Oculocardiac reflex, 142
Jeans, P. C., Hereditary syphilis, *167
Jehn, W., Projectiles in lungs, 760
Jeidell, H., Immunization against diphtheria, 1429
Jemma, G., Leukolysins, 413
Jemma, R., Urinary sepsis, 211
Jenkins, C. E., Bacilius in hiccup, 619; Gonococcus, 1799; Decalcifying and dehydrating fixative, 1799
Jenny, E., Quinidin for heart, 1373
Jensen, C., Mortality from tuberculosis, 974
Jensen, V., Picrocarmine, 1614
Jeppsson, J., Phosphates in spasmophilia, 1621
Jessen, Cancer mortality, 210
Jewesbury, R. C., Clinic for syphilitic children, 1709
Jiménez, J., Vitamins in mediums, 1865
Johansen, A. H., Growth of bacteria and reacton of culture medium, 974
Johns, C. O., Soy bean flour, 1608
Johns, L. J., Pelvic infections, 1703
Johnson, E. J., Abdominal operations, 1424
Johnson, F. E., Arthritis, 678
Johnson, H. C., Examination in chemistry, 1854
Johnson, H. G., Streptococcus infection, 68
Johnson, J. P., Malaria, 550
Johnson, P. P., Megacolon, 546
Johnston, J. A., Schoolchild and his problems, 1703

Johnstone, G. G., Typhoid inoculation, 272
Joland, Abuse of exercises, 686
Jonas, A. F., Intra-abdominal injuries, 961; Appendicitis, *1821
Jones, B. L., Encephalitis, 818
Jones, E. G., Goiter, 1704
Jones, F. S., Sour milk, 477
Jones, H. M., Device for measuring rate of metabolism, 475
Jones, J. G., Emphysema, *503
Jones, L. W., Adventure in atropism, 813
Jones, R., Better training in orthopedics, 752
de Jong, S. I., Sputum in asthma, 341; Dyspnea in cardiorenal disease, 1802
Jonnesco, T., Angina pectoris, 1200
Jordan, A. C., Prevention of cancer, 339
Jordan, E. O., Vaccination against influenza, 1322
Jordan, S. M., Metabolism in thyroid disease, 1275
Jorge, J. M., Dislocation of vertebra without cord symptoms, 346; Cystic lymphangioma, 759; Actinomycosis of lower jaw, 1286; Sinusitis in infants, 1540
Jörgensen, G., Leukocyte count and attitude, 1206
Josefson, A., Diagnosis through small particles, 903
Josephi, A., Cerebral glycosuria with neurosyphilis, 1710
Joslin, E. P., Diabetes, *79
Josué, O., Rheumatismal heart disease, 1282
Jousset, A., Lowering of blood pressure under serotherapy, 1433
Juarros, C., Arsphenamin in sclerosis, 970
Judd, E. S., Laryngeal function in thyroid cases, 200; Cysts of pancreas, 752
Judet, H., Fracture of femur, 685
Jumon, H., Hyperhidrosis, 1373
Juvara, E., Reconstruction and fixation of fractured bone, 342; Reconstruction of upper tibia, 1373; Loofah in surgery, 1864

K

Kafka, V., Hydrops universalis, 1053; Tubal tuberculous processes, 1203
Kahane, M., Galvanopalpation, 138
Kahler, H., Blood pressure after lumbar puncture, 973
Kahn, I. S., Pneumothorax in tuberculosis, 338
Kahn, Maurice, Artresia of ileum with microcolon, *721
Kahn, Max, Angina pectoris, *570; Effect of tobacco on man, 1859
Kahn, R. L., Removal of amboceptor from blood, 680
Kahn, W., Tolerance for grape sugar, 972
Kaiser, A. D., Atropin in hypertonic state, 138
Kalliwoda, G., Tubal sterilization, 1204
Kanoky, J. P., Fall of blood pressure after injections of neo-arsphenamin, 1419
Kapauan, A. M., Diphtheria, 68
Kappis, M., Loose bodies, 416, 487; Osteochondritis, 416
Karger, P., Deep X-ray treatment, 147
Karo, W., Decapsulation in nephritis, 558
Karr, W. G., Water soluble vitamin is appetite provoking, 66
Karsner, H. T., Transfusion, *88, 260
Karström, W., Vaccine therapy in paradysentery, 1054
Kast, L., Significance of slight glycosuria, 334
Katsainos, G. M., Positive Wassermann reactions caused by intravenous administration of arsphenamin, 195
Katsch, G., Alkaptone and acetone, 901
Katz, L. N., Ventricular systole, 1130
Kay, M. B., Hypopituitarism, 1706
Kay, W. E., Endocrine disturbances, 475
Kear, L. V., Hypothyroidism and underactivity of suprarenals, *1349
Keating, F., Daylight in schoolroom, 1785
Keen, W. W., Encyclopedia Britannica and introduction of anesthesia, 884
Keeser, Gout, 1205
Keller, R., Rupture of uterus, 1433
Kellogg, E. L., Duodenal obstruction, 1858
Kellogg, W. A., Duodenal obstruction, 1858
Kelly, A. B., Chorditis fibrinosa, 479
Kelly, H. A., Request for data, 1594
Kendall, E. C., Chemical influence of ductless gland constituents, 1196; Phenolsulphonephthalein test, 1427
Kettle, E. H., Splenomegaly, 340; Endothelioma, 1710
Keysser, F., Transmission of cancer, 760
Kidd, F., Decapsulation in nephritis, 1045
Kidd, W. S., Action of electrical treatments on blood, 1536
Kieffer, O., Kidney disease in tuberculosis, 214, 1141
Kiely, C. E., Intracranial pressure, *517; Emotions and suprarenal glands, 680
Kilduffe, R. A., Tetanus, *20; Pathologist as a consultant, 54; Wassermann and Sachs-Georgi tests, 1274; Wassermann test, *1489
Kilker, C. H., Zinc chlorid poisoning, *442
Kimura, T., Suprarenal tumors, 74
Kingery, L. B., Syphilis, *12; Warts, *440
Kipp, H. A., Cholesterol in blood in pneumonia, 66
Kippel, M., Vitiligo, 483
Királyfi, Emaciation preceding arteriosclerosis, 625
Kirby, G. H., Mental disease, *1062; Encephalitis, 1609
Kirchner, W. C. G., Sigmoido-uterine fistula, 1857
Kirk, C. C., Luminal in epilepsy, 1430
Kirkland, S. A., Vesical neoplasms, 1703
Kirschner, Esophagoplasty, 760
Kirstein, F., Intake of fluid in first 2 weeks of life, 626
Kissmeyer, A., Film treatment in dermatology, 1439
Kitchen, J. M. W., Temperature control as related to improvement in milk, cream and butter, 1195
Klapp, Varicose veins, 1287
Klare, K., Tuberculosis and nostrums, 1141; Auscultation of spine in diagnosis of tuberculous glands, 1376
Klauder, J. V., Spinal fluid in neurosyphilis, 65; Urine in syphilis, *102; Yaws, 1273; Creeping eruption, 1274; Wassermann test, *1635
Klee, P., Innervation of stomach, 827
Kleeblatt, F., Appendix stones, 762
Klein, C. J. J. G., Calcium metabolism in tetany, 1287
Klein, W., Foreign bacteria influencing intestinal flora, 1543
Kleinberg, S., Osteo-arthropathy, *435
Kleiner, I. S., Microcolorimeter, *172
Kleinschmidt, Resection of stomach, 760
af Klercker, K. O., Spasmophilia, 1621
Kligler, I. J., Yellow fever, 893
Kline, B. S., Spirochetal pulmonary gangrene, 475
Klinger, R., Tetany, 558, 761; Goiter, 621
Klinkert, D., Gout, 347; Allergic immunity and anaphylaxis, 1807
Klose, H. Surgical topography of struma, 416
Klugh, G. F., Vaccines in bronchitis, 1704
Knobel, W. B., Tuberculosis, 208
Knowles, F. C., Hypertrichiasis, 1131
Knox, J. H. M., Jr., Erysipelas, 1612
Koch, W. F., Koch Cancer Remedy, 537
Kodama, R., Eye in anaphylaxis, 406
Koebbe, E. E., Local anesthesia, *1334
Koechlin, H., Hemorrhage from cancer, 1284
Kofoid, C. A., Hookworm infection, 748
Kogerer, H., Morphin addicts, 1205
Kohda, K., Lepra bacillus, 1800
Köhl, E., Goiter at base of tongue, 1617
Köhler, R., Ileus and peritonitis during pregnancy, 828; Organ extracts as oxytocics, 1620
Kohlmann, W., Radium in carcinoma, 132
Kolmer, J. A., Urine in syphilis, *102; Influence of chaulmoogra oil on tubercle bacillus, 1042; Histologic changes produced by arsphenamin, 1274; Histologic changes produced by mercury, 1274; Histologic changes produced by neo-arsphenamin, 1274; Wassermann test, *1635; Sodium arsphenamin, *1823
Kolmer, W., Thermopenetration, 828
Koltonski, H., Osteomalacia, 1620
Koopman, J., Occult blood, 901
v. Koos, A., Atresia of duodenum, 75
Kopaczewski, W., Anti-anaphylaxis, 551
Kopetzky, S. J., Septic sinus thrombosis, 337
Kopp, J. G., Cinnabar for x-ray examination, 418
Körbl, H., Hot air as hemostatic in operations, 1327
Korbsch, Sugar solution by vein, 1436
Korbsch, R., Autovaccine from sputum, 1544
Korteweg, R., Traum and tuberculosis, 1438
Kosmak, G. W., Splenic leukemia in pregnancy, 889; Sheppard-Towner bill, 1319
Köster, K., Blood during heliotherapy, 1140
Kötter, R., Fracture of olecranon, 972
Kottmann, K., Relations between blood and organs, 210
Krabbe, K. H., Dementia praecox with myoclonus, 1544
Kraepelin, War and mental diseases, 625
Kraft, A., Streptococci in appendix, 819
Krag-Möller, Intestinal tuberculosis, 904
Kramer, B., Potassium in blood serum, 1368
Kraske, Hard gastric ulcer, 1715
Kraus, F., Sodium chlorid in ulcus cruris, 1141
Kraus, R., Anthrax, 1619; Beef antitoxin, 1714; Heterobacteriotherapy and protein therapy, 1804; Typhus, 1804
Kraus, W. K., Gold curve in encephalitis, 474
Krause, H., Placenta praevia cervicalis, 1718
Kretschmer, Infantile paralysis, 761
Krauss, E., Nephrosis with Bence-Jones' albuminuria, 557
Kretschmer, H. L., Cyst of kidney, 337; Postgraduate study in urology, 733; Ulcer of bladder, *990; Abscess of prostate, 1196
Kreuter, E., Osteochondritis deformans juvenilis coxae, 77; Ligation of arteries in goiter operations, 692
Kritzler, H., Urethral tampons, 1328
Krogius, A., Dupuytren's contraction, 148
Krumwiede, C., Microbal studies of respiratory infections, 679; Adding cresol to antiserums, 1322; Agglutinins not lipoidal, 1795
Kudelski, Encephalitis, 896
Kuhlmann, B., Alkalinity of blood, 827
Kühn, A., Silicic acid in tuberculosis, 147
Kuhn, O. E., Instrument for vaginal manipulation, 1529
Kummer, Ileus with myoclonus, 1862
Kummer, E., Epilepsy, 145
Kuno, N., Renal threshold for glucose, 750
Kuramitsu, C., Effect of nursing and castration on uterus, 1608
Kurtz, C., Alimentary amenorrhea, 1541
Küss, G., Disarticulation of foot to heel, 825
Küttner, H., Extirpation of suprarenals in epilepsy, 1141; Postoperative hiccup, 1715
Kylin, E., Capillary blood pressure, 903
Kyrklund, R., Resisting powers of prematurely born, 1621

L

Labat, G., Splanchnic analgesia, 894
de la Barrera, J. M., Typhus, 1804
Labbé, H., Acidosis in diabetes, 824
Labbé, M., Acidosis with pregnancy, 1616; Diabetes, 1802
Laborde, E., Blocking of splanchnic nerves, 1434
Ladd, W. E., Megacolon, 545; Gaucher's splenomegaly, 1607
Laffaille, Flaccid paralysis, 412
Lafon, C., Embolism in retina, 966
Lahey, F. H., Basal metabolism in thyroid disease, 1275
Laignel-Lavastine, Hypertrichosis, 208; French neurology, 1135; Illuminating gas poisoning, 1616
Laird, D. A., Carcinoma of stomach, 963
Lakaye, R., Postarsenical neurosyphilis, 70
Lake, N. C., Incision for appendectomy, 753; Transfixion of body by steel rod, 1535
Lambert, S. W., Volstead act, 1592; Arthritis, 1604
Lambright, G. L., Leukemia, 817
Lampronti, G., Arthritis, 1374
Lamson, O. F., Movable bodies in knee, 266
Lamy, M., Gastroradiculitis and enteroradiculitis, 1047
Lancaster, W. B., Graduate training in ophthalmology, 799
Landis, H. R. M., Familial diabetes, 1606
Lane, C. G., Procain dermatitis, 1039
Lane, J. E., Alkalization apparatus, *175
Lane, W. T., Cancer of colon, 273
Lang, A., Russell's fuchsin bodies, 1322
Lange, F., Pathologically hard muscles, 1542
Lange, H., Carbohydrate metabolism, 901
Lange, W., Volvulus of sigmoid, 829
de Langen, C. D., Low fever, 279
Langensklöld, F., Osteitis fibrosa, 830
Langeron, L., Therapeutic anaphylactic shock, 1048; Sequelae of intraspinal anesthesia, 1372
Langley, G. J., Lymphadenoma, 1708
Langlois, J. P., Mountain sickness, 1136
Langrock, E. G., Placenta praevia, 478
Langstein, Pyelitis, 1543
Langworthy, M., Cervical dislocation, *447
Lankhout, J., Syphilis and kidney disease, 626
Lantuéjoul, P., Chancre of cervix impeding delivery, 141
Lanz, O., Tuberculosis, 78; Furuncles on lip, 348
Lanz, W., Acidity of stomach content, 1714
de Lapersonne, F., Supernumerary teeth in orbit, 1199
Lapeyre, N. C., Sarcoma of rectum, 1864
Lares, R. I., Arsenicals in adnexitis, 1436
de la Riviére, R. D., Bacilli carriers, 1800
Larkins, F. E., Anemia caused by roentgen ray, 1431
Laroche, G., Benzoin spinal fluid test, 208; Cholesterin cycle, 273; Local deposits of cholesterin, 823; Benzoin reaction in spinal fluid, 1324
Larsen, E. E., Pituitary extract and water balance, 1606
Larsen, E. J., Dysregulatio ammoniaci, 1808
Lascombes, Nitrous oxid and cholemia, 1200
Lasserre, Fracture of joints and separation of epiphyses, 1324
Lasserre, C., Edema after inguinal operation, 1862
Laubry, C., Velocity of pulse wave, 897; Coagulation in erythremia, 1049; Speed of arterial blood wave, 1862
de Laulerie, J., Encephalitis, 897
Laurell, H., Osteosclerosis, 560; Respiratory phenomena with pneumothorax, 1054
Laurent, M., Oculocardiac reflex, 1135
Lauric, T. F., Tumors of kidney, 1601
Lauritzen, M., Creatinuria and acidosis, 903, 1719
Lauzier, J., Oculocardiac reflex, 1135
Lavandera, M., Ureteroceles, 683
Lavedan, J., Leukemia, 1134
de la Vega, E., Purtscher's disease, 1619
Lavenant, A., Secondary infection of urethra, 1712
Läwen, A., Suppurative peritonitis, 1715
Lawless, T. K., Warts, 335
Lazzarini, T., Transverse presentation in twins, 210
Leahy, S. R., Encephalitis, *373
Leak, W. N., Oiling fluids for antimosquito work, 964
Leake, W. H., Relation of antibody and antigen to serum disease, 1532
Leavenworth, C. S., Effect of alkali on vitamin B, 892
Le Blanc, F., Sporotricosis of lung, 135
Lecène, P., Gastric ulcer in middle portion, 553
Lechelle, P., Benzoin spinal fluid test, 208; Sclerosis in patches, 274; Contagion of encephalitis, 411; Syphilis simulating encephalitis, 966; Benzoin reaction in spinal fluid, 1324

Leconte, High blood pressure, 1283; Venous septicemia, 1434
Ledderhose, C., Dupuytren's contracture and arthritis deformans, 1326
Lederer, R., Pertussis, 1205
Ledford, H. P., Endocarditis, 678
Lee, C. S., Cancer of testicle, 827
Lee, R. I., Physical defects and disease, 268; Preventive medicine, 269
Leegaard, F., Familial angina phlegmonosa, 1808
Lefebvre, C., Surgery of ileocecal valve, 1864
Le Fur, R., Practical urology, 1048
Leger, M., Hematoblasts in malaria and ankylostomiasis, 755
Legrand, R., Syphilis plus febrile rheumatism, 1863
Legray, Carbon monoxid poisoning, 72
Legueu, F., Double ureters, 71
Le Hello, Y., Antihemorrhagic serum, 620
Leidy, J., Jr., Helminthology and parasitology, 261
Leighton, W. E., Spinal cord lesions, 267
Leishman, W. B., Parasite of tick fever, 340
Leist, M., Gastric secretion, 1327
Lejars, F., Amputation for gangrene, 411
Lellis, A., Anguish neuroses, 1203
Lelong, J., Effusion with artificial pneumothorax, 823
Lemaire, H., Vomiting in meningitis, 343
Lemann, I. I., Bacillary dysentery with diphtheritic membrane in vagina, 1274
Lemierre, A., Typhoid lung lesions, 1802
Lemoine, G. H., Tenderness over tuberculous apex, 342
Le Monnier, Y. R., Tapping of heart, 821
Lempérière, J., Typhoid, 896
Lenger, R., Traumatic aneurysms, 273
Lenhart, C. H., Endocrines and respiratory exchange, 269
von Lennep, H., Spinal cord tumors, 972
Lenoble, E., Brain tumor, 686
Le Noir, P., Liver and kidney disease with gastric ulcer, 411, 1711; Gastric ulcer, 896; Insufficiency of liver with stomach disease, 1047; Uremia and digestive hemolysis, 1048
Lenormant, Tuberculosis of adnexa, 1283
Lenormant, C., Burns, 412; Avulsion of scalp, 553; Aneurysm of carotid, 824
Léo, G., Excision of spleen, 825; Helminthiasis and dysmenorrhea, 1199
de Leon, W., Protozoal dysentery, 68
Leonard, V. N., Evolution of practice, *421; Private medical practice, 731; The doctor's defense, 744
Lepehne, G., Bilirubin in blood, 1051
Lépine, J., Encephalitis, 140
Lerche, W., Suppuration in mediastinum, 1196
Lereboullet, Myasthenia, 756
Lereboullet, P., Pediatrics in 1920, 411
Léri, A., Hemicraniosis, 141; Trophedema, 686
Leriche, R., Capillary circulation, 825; Trophic ulceration, 1372
Lermann, W. W., Gastric residuum, *1340
Lermoyez, Carbon monoxid poisoning, 72; Malaria, 481
Leroux, R., Pneumonia in aged, 1800
Leschke, E., Xanthochromia, 1541
Lesné, Uremia after neo-arsphenamin, 1433; Fatal therapeutic shock, 1862
Letulle, M., Syphilitic aneurysm, 341
Leuschner, E. L., Hemolytic influenza bacilli, 1532
Levaditi, C., Encephalitis, 552; Blood and spinal fluid in paresis, 825
Leven, G., Disease seen through treatment, 1049
Levin, A. L., Gastroduodenal catheter, *1007
Levin, I., Radium therapy in cancer, 201
Levin, O. L., Pityriasis rubra pilaris, 335
Levin, S., Goiter, 1320
Levine, S. A., Paroxysmal tachycardia, 476; Cardiac disorders, 1528
Levinsohn, S. A., Thyroid and menstruation, 673
Levinson, S. A., Sachs-Georgi reaction, 1039
Levison, L. A., Transfusion in infectious endocarditis, 680
Levy, M. D., Bronchopulmonary spirochetosis, 548
Lévy, P.-P., Serum sickness, 1200
Lévy, R., Appendectomy, 1281
Levy, R. L., Quinidin, *1289, 1605
Levy, S. K., Duct sign in mumps, 884
Lévy-Bing, Syphilis, 143
Lévy-Solal, E., Protein shock therapy, 1801
Lewis, D., Duodenal diverticulum, *783; Nerve injuries, *1726
Lewis, D. S., Diastatic ferments in blood, 67
Lewis, J. H., Serum injections, *1342
Lewis, N. D. C., Multiple myeloma, 1282; Tachycardia, 1801
Lewis, W. H., Biliary insufficiency and diarrhea, 206
Lewisohn, R., Pyloric and duodenal ulcers, 64
Lexer, E., Arthrodesis, 1715
Lhermitte, J., Paroxysmal dyspnea, 620; Neurology in U. S., 1371
Lian, C., Infarct in myocardium, 1282
Libert, E., Whooping cough, 273
Lie, O., Arteriosclerosis, 78
Liebe, W., Ovarian pregnancy, 1436
Liebesny, P., Thermopenetration, 828
Liebreich, E., Research on blood, 1373
Liegner, B., Placenta praevia, 1717; Intra-uterine rigor mortis, 1718
Limerick, O. V., Effect of tobacco on man, 1859
Lincoln, W. A., Hernia, 818
Lindberg, G., Meningitis, 974
Lindemann, A., Reconstruction of face, 972
Lindsteadt, F., Sciatica, 903
Linenthal, H., Industrial clinic, *701
Linnartz, Incision for access to stomach and gallbladder, 278; Injury of male urethra, 487
de Lint, J. G., Leprosariums, 902
Linzenmeier, G., Sedimentation rate of red corpuscles, 1204
Liston, W. C., Fumigation by hydrocyanic acid gas, 69
Litchfield, W. F., Anemia, 1432
Litman, M., Effect of quinin on liver and blood cells, 1320
Little, M. F., Diphtheria, *30
Livet, L., Obesity after encephalitis, 1862
Livierato, P. E., Abdominocardiac reflex, 970
Livingston, A. E., Toxicity of carvacrol, 1610
Livingston, G. S., Viability of streptococci in water, 1127
Lloyd, J. H., Syphilis of eighth nerve, 1610
Lobenhoffer, W., Bilateral goiter resection, 692
Lobo, D., Arensicals in adnexitis, 1436
Lockhart-Mummery, J. P., Prolapse of rectum, 753
Lockwood, B. C., Cholesteatoma, *1218
Loeb, L., Effect of nursing and castration on uterus, 1608
Loeper, Hiccup with otitis, 1134
Loeper, M., Diet with gastropathies, 554; Diseases causing precipitation, 898; Anomalies in regular pulse, 1200; Suppurative ependymitis, 1373; Blood in malignant disease, 1712; Diffusion of poison in stomach, 1864
Loeser, A., Bacteria in normal puerperal uterus, 626; Mucous membranes and latent microbism, 829
Loewe, L., Influenza, *986
Loewenhardt, F. E. R., Protein therapy, 1807
Loewy, G. A. R., Gastric and duodenal ulcer, 1802
Logan, W. R., Sachs-Georgi test, 410
Lo Grasso, H., Heliotherapy in tuberculosis, 1530
Löhr, W., Diphtheria of wounds, 346
Loiseau, C., Prophylaxis of diphtheria, 1324
Loiseleur, J., Pneumoperitoneum, 411
Lombardo, C., Pigmented skin lesions, 1138
Lomholt, S., Scabies, 340
Longy, Obliteration of inferior vena cava, 1616
Loop, R. G., Mesenteric vascular occlusion, 1797
López, J. A., Defective development, 1203; Abdominal sympathetic syndrome, 1375
López Cross, N., Splenectomy for rupture, 623
López Durán, A., Pott's disease, 1050
Lord, F. T., Lobar pneumonia, 1525
Lord, J. P., Clubfoot operations, 1611
Lorentz, E., Hydatid cyst, 900
Loriente, H., Inversion of uterus, 556
Lortat-Jacob L., Staphylococcus meningitis, 686; Cryology, 1373
Losio, L., Ptosis of pylorus as cause of gallstone colic, 1202; Postoperative ileus, 1618
Loughlin, R., Deficiency in heat treated milks, 66
Louis, D. J., Black spider poisoning, *99
Louria H. W., Blood urea nitrogen in intestinal obstruction, 1794
Lovett, R. W., Infantile paralysis, 477; Orthopedic surgery, 733
Low, G. C., Filaria loa infection, 1431
Löwenstein, O., Test for power of audition, 1052
Lower, W. E., Exstrophy of bladder and carcinoma, 1129
Lowrey, K. G., Analysis of suicidal attempts, 137
Löwy, R., Infectious irritation of bone marrow, 1327
Lozada Benavente, S., Blastomycosis, 622, 1138
Lozano, A. R., Postdiphtheritic paralysis, 73
Lübbert, Decapsulation in eclampsia, 973
Lublin, A., Rectal temperature after amputation of thigh, 760
Luc, H., Latent mastoiditis, 687
Luccarelli, V., Decompressive operation with fracture, 1202
Lucke, B., Histologic changes produced by arsphenamin, 1274; Histologic changes produced by mercury, 1274; Histologic changes produced by neo-arsphenamin, 1274
Luckhardt, A. B., Visceral sensory nervous system, 64
Lumentut, H. F., Hysterectomy for puerperal sepsis, 1807
Lumière, A., Avitaminosis and inanition, 342; Reserves of vitamins, 554
de Luna, C., Stenosis of intestine, 896
Lund, F. B., Hemorrhage from stomach, 679
Lund, H. O., Alkaline reserve of plasma, 66
Lundsgaard, C., Cyanosis, 903
Lundsgaard, K. K., General arc-light bath in ophthalmology, 830
Luque, M. J., Tumors of kidneys, 623
Lura, A., Auscultation at mouth, 1374
Luridiana, P., Echinococcus disease, 689
Lurie, L. A., Subnormal children, *1386
Lurz, R., Baths to enhance action of quinin, 1204
Lusk, G., French Science, *1
Lussana, F., Edema with pleurisy, 1050
Lutembacher, R., Rhythm in heart block, 208; Blood pressure in angina pectoris, 554; Parietal endocarditis, 754; Epinephrin in heart block, 967; Sudden death in heart disease, 1201.
Luten, D., Digitalis therapy, *26
Lutier, Gastric ulcer, 896
Luttinger, P., Pertussis vaccine, 466
Lutz, A., Study of midges, 212
Luz, F., Meningocele, 899
Luzadder, J. E., Fall of blood pressure after injection of neo-arsphenamin, 1594
Luzzatti, T., Galactorrhea, 413
Lyle, H. H. M., Position in herniotomy, 206
Lynah, H. L., X-ray study of bronchiectasis, 959
Lyon, B. B. V., Renal calculus, 891
Lyon, E. C., Jr., Dry labor, 794
Lyon, G., Mucomembranous colitis, 1281; Recent therapeutics, 1537
Lyon, M. W., Jr., Naming of animal parasites, 813
Lyon, R. H., Typhoid bacillus in bile, 406
Lyth, J. C., Hemorrhoids, 895

M

Maale, C. U., Gastroscopy, 1720
Macalpine, J. B., Hematuria, 1615
McCabe, E. H., Carbohydrates in vegetables, 1276
McCann, W. S., Metabolism in tuberculosis, 134
McCartney, J. E., Persistent vitelline artery, 1798
MacCarty, W. C., Life expectancy after amputation for breast cancer, 133
McCaskey, G. W., Basal metabolism, *978, 1263
McClanahan, B. V., Proctoclysis, *174
McClanahan, H. M., Report of committee on pediatrics, 731
McClure, C. W., Pyloric sphincter, 1425
McCollum, E. V., Cod liver oil in rickets, 617; Production of rickets by deficient diet, 617; Experimental rickets, 1610
McConnell, G., Russell's fuchsin bodies, 1322
McCord, C. P., Zinc chlorid poisoning, *442
McCormick, A. S., Operations for mastoiditis, 1594
McCullough, H., Digitalis contraindicated in diphtheria, 682
MacDonald, E. L., Influenza, 268
McDonald, J. T., Chaulmoogra oil, 1121, *1470
MacDonald, W. G., Pyloric stenosis, 964
McDougall, W., Therapeutic value of emotional memories, 549
McElroy, W. S., Nitrogen elimination, 1706
McEvoy, F. E., Gasserian ganglion operation, 1196
Macfie, J. W. S., Guinea-worm infections, 139; Differential leukocyte counts, 963; Bronchomoniliasis and tuberculosis, 1860
McGlannan, A., Cancer of kidney, 133; Surgery and blood pressure, 1195
McGulgan, H., Menthol and peppermint in catarrhal conditions, *303; Cascara sagrada, *513; Atropin, *1338
McGuire, E. R., Carcinoma of duodenum, 64
Macht, D. I., Absorption of anesthetics from genito-urinary, 547; Prostate and mental efficiency, 751
McIntyre, A. P., Syphilis, 1796
McIntyre, H. D., Syphilis, 1796
McJunkin, F. A., Botryomycosis of lung, 1320
Mackay, H. M. M., Rickets, 272
McKay, H. W. Gonorrheal epididymitis, 1797
McKendree, C. A., Cerebral syphilis, 1612
McKenna, W. B., Tetanus, *20
Mackenzie, G. M., Relation of antibody and antigen to serum disease, 1532; Serum desensitization, *1563
Mackenzie, J., Disturbed reflex in production of symptoms, 894; Idioventricular rhythm, 1280
McKinlay, C. A., Blood pressure, *431
Maclachlan, W. W. C., Tuberculosis of pericardium, 1528
Maclean, H., Sugar tolerance, 754
McLean, J., Fibrinogen, 336
McLean, McD., Postural rest for tuberculosis, 1516
McLean, S., Sarcoma of Kaposi, 1607
MacLennan, A., Diet after gastroenterostomy, 140
MacLeod, E., Veronal poisoning, 138
McNee, J. W., Gärtner bacilius infection, 685
MacNider, W. deB., Effect of anesthetics on kidney, 1611
Macomber, D., Sterility, 206
McQueen, J. M., Capillary blood pressure, 1044
MacRobert, R. G., Epilepsy, *500; Cerebellar fits, 1040
McWilliams, C. A., Removal of appendix, 962
Macy, I. G., Cotton seed meal, 337
Magaudda, P., Dementia praecox, 146; Organic contracture, 899
Maggesi, B., Spasmophilia and endocrine system, 345
Maggiore, S., Nutritional disturbance and sepsis, 72; Encephalitis, 276
Magid, M. O., Ectopic pregnancy and endocervicitis, 961
Magnus, Military surgery, 1715
Magnus, G., Circulation in varices, 1716
Magnus-Levy, A., Sodium edema, 1718
Mahle, A. E., Primary lymphosarcoma of stomach, 1796
Mahnert, A., Ductless glands in pregnancy, 1203
Mahoney, S. A., Pin in appendix, 615

Malstriau, Military hygiene, 273
Maitland, H. B., Influenza, 272; Spontaneous and artificial lesions, 1044
Malcolm, J. D., Malignant disease of intestine, 1431
Maldonado, A., Myroxylon, 622; Peruvian materia medica, 1540
Mallet, L., Radioscopy of aneurysm, 274
Mallet, R., Rabies, 1200
Malloch, A., Influenzal bronchiolitis, 754
Mallory, W. J., Neurasthenic syndrome, *788
Mamerto Acuña, Pericarditis, 414
Manheims, P. J., Wassermann test, *14
Mann, F. C., Physiology of liver, 474; Chemically induced cholecystitis, 475
Mann, L. T., Acriflavine in gonorrhea, 406
Manouélian, Y., Aneurysm of abdominal aorta, 1134; Spirochetes in placenta, 1135
Manoukhin, I. I., Leukocytolysis in infectious diseases, 1280
Manuwald, A., Ossifying myositis, 1205
Manwaring, W. H., Functional pathology, 1188; Nontechnical course in anatomy and physiology of disease, *1824
Marage, Locating submarines, 755
Maragliano, D., Paralysis of shoulder, 1285
Marañon, G., Fatal obesity, 555; Diabetes insipidius, 1321; Emotional factor in hyperthyroidism, 1710
Marchisotti, A. C., Tubercle bacilli in bile, 1203
Marchoux, E., Acid resisting bacillus infection, 1199
Marco del Pont, A., Recklinghausen's disease, 277
Marcus, H., Symmetrical gangrene, 1544
Marfan, A. B., Choleriform diarrhea, 343; Acetonemia, 480; Athrepsia, 553, 1372, 1802
María Armand Ugón, M., Abortive measles, 414
Marie, A., Blood and spinal fluid in paresis, 825
Marie, P., Encephalitis, 1200
Marie, P. L., Serodiagnosis of syphilis, 144; Gangrene of pharynx, 552; Botulism, 552; Botulism, 1712
Marín Amat, Nephritic retinitis, 1286
Marine, D., Endocrines and respiratory exchange, 269
Marinesco, G., Malarial encephalomyelitis, 481, 1371
Mariño, E., Asthma, 1139
Marker, J. I., Tuberculosis of thyroid, *306
Marques Lisboa, H., Foot-and-mouth disease, 212
Marsh, F. B., Encephalitis, *777
Marsh, P. L., Diet in diabetes, 134
Marshall, B. C., Avirulent diphtheria bacilli, 819
Marshall, C. J., Iodin swab for sterilizing hypodermic puncture, *1006
Marshall, M. Y., "The fly in court," 398
Marten, R. H., Hydatid of heart, 1615
Martín, A., Purulent pleurisy, 1286
Martin, B., Pseudarthrosis, 760
Martin, E. G., Effect of smoking on glass blowers, 1706
Martin, L., Prophylaxis of diphtheria, 1324
Martin Calderin, A., Laryngospasm, 212
Martinet, A., Obesity, 757
Martínez Zuviria, E., Pylorospasm in infants, 485
Martinotti, I., Anthrax, 211; Syringoma of eyelid, 1285
Martius, H., Cesearean section, 75; Adnexitis complicating pregnancy, 1327
Marx, H., Ear changes in gout, 762
Maselli, D., Chancre on tonsil, 1374
Mason, E. C., Blood coagulation, 680
Mason, E. H., Diastatic ferments in blood, 67; Intrapalpebral mallein test, 67; Diabetes, 203
Mason, V. R., Pleural spirochetosis, 336; Encephalitis, 1610
Massaglia, A. C., Secretion of testis, 270; Parathyroids, 1705
Massari, C., Rupture of spleen, 625
de Massary, E., Encephalitis, 620; Gangrene of pharynx, 1047
Massini, R., Calcium and tuberculosis, 1201
Masucci, P., Chemical nature of antibody, 1194
Matas, R., Foreign body in heart, 1277
Mathe, C. P., Tumors of bladder neck, 1796
Mathews, F. S., Diaphragmatic hernia, 202
Mathieu, R., Pneumococcus purpura, 341, 411
Matlack, J. A., Physicians and roentgenologists, 1854
Matousek, W. J., Poliomyelitis, *159; Contamination of hands, *1490
Matsui, S., Liver cancer, 1287
Matsumoto, M., Immunization with erythrocytes, 136; Nonspecific production of antibodies, 137
Matthews, A. A., Drainage in empyema, 1429
Mattill, P. M., Effect of acacia on blood volume, 337; Lymphatics in urinary infections, 545
Mau, C., Tuberculin test, 1436
Mauclaire, P., Deformity of lumbar vertebra, 756; Ileus in encephalitis, 824; Gaps in skull, 1049
Mauriac, P., Edema, 551
Maxcy, K. F., Intestinal parasites, 1610
Maxwell, L. A. I., Renal efficiency and hyperglycemia, 410
May, Malignant malaria, 481
Mayer, A., Pneumoperitoneum in gynecology, 1142
Mayer, E., Light therapy in tuberculosis, 1529
Mayer, K., Effect of acacia on blood volume, 337
Maynard, C. W., Leukemia, *238
Maynard, H. H., Exostoses, *579
Mayo, C. H., Gastric ulcer, 200; Cholecystectomy, 406; Dr. Mayo and the drugless healer, 814; Gastric ulcer, 1128; Thyroid disease, 1196; Peritonitis, 1277
Mayo, W. J., Abdominal surgery, 682; Physician and the public, *921; Icterus, 1131; Fibrosis and thrombophlebitis of spleen, 1192
Mazzei, A., Anaphylactic iritis, 73
Mazzoni, L., Ringworm, 1539
Meader, P. D., Hemotoxin in streptococci, 136; Gonococcus infections, 337
Meagher, J. F. W., Psychanalysis, 468
Meakins, J., Gases in arterial blood, 822
Means, J. H., Distribution of carbon dioxid between cells and plasma, 617; Acid base equilibrium in disease, 893; Pneumonia, 1525
Means, L. L., Organization of public for health work, 1016
Mebius, J., Clonorchiosis, 974
Megrail, E., Typhoid, *1001
Mehrtens, H. G., Neo-arsphenamin, *574
Meier, C., Syndrome from thirst in new-born, 1437
Meisser, J. G., Focal infection and pyelonephritis, 1040
Melchior, L., Tuberculous peritonitis, 903
Melen, D. R., Tumor of bladder, *782
Melman, R. J., Tabes mesenterica, 407
Meltzer, S. J., Constriction of blood vessels by epinephrin, 1427
Mendel, L. B., Spiritual advancement of physician, 55; Cotton seed meal, 337; Ophthalmia and diet, *905
Mendelsohn, J. J., Transfusion in tuberculosis, 891
Mendelson, R. W., Dysentery, *305
Menghetti, S., Gastric and duodenal ulcer, 1050
Mensi, E., Chloroma, 210; Neurosyphilis, 1539
Menvielle, Organotherapy in uremia, 965
Menze, H., Protecting function of skin in internal diseases, 213
Merke, F., Photographic test for bromids in blood serum, 1284
Merklen, P., Uremia, 553; Asthenia, 967; Diagnosis of syphilis, 1372
Merle, L., Meningitis with arthritis, 554
Mérola, L., Access to tonsil, 970
Merolillo, G., Thoracopagus, 1202
Merrill, A. S., Tumors of stomach, 679
Mertz, A., Blood sugar in children, 1804
Messerschmidt, T., Postgonorrheal prostatitis, 1204
Mestre, R., Goiter in pregnancy, 1865
Meulengracht, E., Bile pigments in serum, 904
Meyer, A. H., Whooping cough, 1720
Meyer, A. W., Contracture after fixation of muscle, 1716
Meyer, B. I., Diphtheria carriers, 1321
Meyer, J., Encephalitis, 137
Meyer, K. F., Bacteriostatic properties of bile, 1858; Gallbladder infections, 1858; H-ion concentration and growth of typhoid bacillus, 1858; Typhoid, 1858; Typhoid carrier strains, 1858
Meyer, M., Pyknolepsy, 1437
Meyer, R., Ovulation, 415; Warning anent interstitial gland, 1866
Meyerding, H. W., Torticollis, 1277
von Meysenbug, L.: See Von Meysenbug, L.
Michaelsen, E., Invaginations, 1436
Michel, Peritonsiliar phlegmon, 1200
Michel, B., Iniencephalus, 417
Michel, L. L., Prophylaxis of syphilis, 397
Micheli, F., Encephalitis, 758
Michon, L., Appendicular syndrome in dysentery, 1372
Mickelberg, H. B., Gonorrhea, *164
Mignot, R., Aneurysm of aorta, 1800
Milian, G., Jaundice and arsenicals, 143, 687; Mercury colic, 209; Progress in dermatology, 1136
Miller, D. A., Eclampsia, 1279
Miller, D. J. M., Pyelitis, 53
Miller, E. M., Rickets, *850; Epithelioma, *918
Miller, E. R., Typhoid, *1001
Miller, J. L., Acute infections, *308; Excessive fluid intake and blood pressure, 1128; Cirrhosis, *1646
Miller, J. W., Scabies, 408
Miller, M. K., Polyneuritic syndrome, 1795
Miller, R., Celiac infantilism, 1371
Miller, S., Action of electrical treatments on blood and blood pressure, 1536
Miller, T. G., Carcinoma, *229
Mincrbi, C., Induced dulness in left chest, 555
Minet, J., Daily injections of arsphenamin, 552; Syphilis plus febrile rheumatism, 1863
Minor, C. L., Specialization in medicine, 821
Minot, G. R., Blood in tetrachlorethane poisoning, 1606
Minton, H. M., Syphilis of lung, 1859
Mira López, E., Psychologic P Test, 74
Miranda, A., Pulmonary syphilis, 146
Mironesco, T., Scarlet fever and angina, 1049
Missler, L., Febrile abortion, 417
Mitchell, C., Tests for alkaline carbonates in urine, 1043
Mitchell, E. C., Syphilis, 1423
Mitchell, J. M., Typhus, 1371
Mix, V., Hemotoxin production, 819
Miyagawa, Y., Mode of infection of schistosomum japonicum, 1799
Moccia, G., Necrosis of pancreas, 145
Moffat, E. W., Typhoid spine, *639
Mojumdar, A. R., Permangate pills in cholera, 753
Moleen, G. A., Chorea, 1129
Møller, C. F., Fluctuations in weight of tuberculous, 1054
Moller, W., Resection of stomach, 148
Möllers, B., Tuberculosis, 1287
Monahan, J. J., Human prehallux, 268
de Monakow, C., Brain tumors, 1862
v. Monakow, P., High blood pressure and kidneys, 557
Moncalvi, L., Cyanosis, 72
Monge, C., Endemic goiter, 1285
Monprofit, A., Ulcer of lesser curvature, 688
Monrad-Krohn, G. H., Inversion of abdominal reflexes, 1807
Montanaro, J. C., Intracranial hypertension, 623
Montanus, E., Hemophilia, 1435
Montejo, N. V., Urethral instillating syringe, 1186
Montfallet, D., Protozoon in relation to typhus, 900
Moog, Heart in nephritis, 827
Moor, F., Intermittent albuminuria, 1708
Moore, H. L., Intraperitoneal injection of dextrose, 1612
Moore, I., Angeioma of larynx, 479
Moore, J. E., Syphilis, *769
Moore, J. Terrell, Emaciation in physical diagnosis, 1704
Moore, J. Thomas, Gastric ulcer, 1423
Moore, J. W., Mouth and nose piece, *1163
Moore, N., Urethral instillating syringe, *176
Moorhead, J. J., Traumatic surgery, *1642
Moppert, G. G., Thread test, 1284
Mora Químper, A., Vagotonia, 750
Morales Macedo, C., Calculus in ureter, 827
Morawetz, C., Smallpox, 1543
Mørdre, S. K., Urobilinuria in pregnant, 1376
Moreau, Diffuse phlebitis, 1803
Moren, J. J., Pain from handling compressed air motor, 820
Morgan, C. L., Psychology and medical curriculum, 207
Mörner, C. T., Cystin calculi, 560
Moro, E., Triple dilution of milk, 1326; Toxicosis, 1716
Morquio, L., Measles and croup, 413; Meningitis, 751; Encephalitis, 759; Chorea, 1435
Morris, M. F., Hyperthyroidism, *1566; Nephritis, 1703
Morris, R. S., Pneumonia, *1336
Morris, R. T., Appendicitis and rubber glove, 201
Morrison, L. F., Streptococcus empyema, 405
Morrison, W. R., Empyema after whooping cough, 1129
Morrison, W. W., Malformations of esophagus, 1273
Morse, J. L., Alkalosis, 138
Morsman, L. W., Group medicine, 1123
Morton, E., Syphilis and laryngeal tuberculosis, 480
Mosenthal, H. O., Influence of protein food on blood pressure, 334
Moser, R. A., Pyloric ulcer, *106
Mosher, C. D., Size of women, 750
Moss, W. L., Avirulent diphtheria bacilli, 819; Diphtheria carriers, 1532
Moszkowicz, L., Periproctitis and fistula ani, 900
Mottram, J. C., Blood of radium workers, 408; Bone changes due to gamma rays, 408; Vitamins and lymphoid tissue, 1709
Motzfeldt, K., Pituitary body, 348; Diet in renal insufficiency, 902; Diabetes, 1439
Mouchet, Surgery for children, 411
Mouchotte, J., Tuberculous adnexitis, 687
Mougeot, A., Velocity of pulse wave, 897; Anomalies in regular pulse, 1200; Physostigmin test, 1616; Speed of arterial blood wave, 1862
Moulonguet, Tuberculosis of adnexa, 1283
Mouqin, Progress in dermatology, 1136
Moure, E. J., Laryngectomy for cancer, 1199
Moure, P., Wounds of heart, 897
Mouriquand, G., Obesity, 209; Scientific nutrition, 553
Moutier, F., Esophagitis, 1536
Mouzon, Myasthenia, 756
Moynihan, B., Splenic anemia, 618; Surgery of spleen, 619; Gastric ulcer, 1797
Mozingo, A. E., Empyema, 266
Muck, O., Laryngeal pellet in aphonia, 1437
Mudd, S., Nose, pharynx and tonsil inflammation, 1130
Mudge, C. S., Bacteria in milk, 136; Washed agar culture medium, 136
Mugler, F. R., Diverticula of jejunum, 1192
Muirhead, A. L., Addison's disease, *652
Mülleder, A., Postoperative intestinal disease, 762
Müller, H., Patent interventricular septum, 827
Müller, P., Peptic ulcer, 1620
Mulsow, F. W., Poliomyelitis, *159
Mundie, G. S., Mental deficiency and disease, 270
Munson, H. G., Reactions following arsphenamin in nonsyphilitics, 65
Munyo, J. C., Otitis in measles, 1865
Murayama, K., Gastric cancer, 74; Sarcoma, 1286
Murphy, J. B., Effect of X-ray on tonsils, *228; Effect of cellular reaction induced by roentgen rays on cancer grafts, 1194; Lymphoid stimulation increases resistance to cancer, 1368; Effect of X-ray on resistance to cancer, 1368
Murray, C. D., Blood after pylorus closure, 1276
Murray, D. H., A public health journal, 1679
Murray, H. A., Jr., Blood after pylorus closure, 1276; Effect of parathyroidectomy on blood chemistry, 1276

Muschallik, E., Quinin as oxytocic, 1542
Mutch, J., Bacterlology of alimentary tract, 1707
Mutch, N., Bacterlology of alimentary tract, 1707
Myers, C. S., Therapeutic value of revival of emotional memories, 549
Myers, M. M., Interpolated contractions of heart, 1320
Myers, V. C., Glycosuria, 334; Determination of carbohydrates, 1706

N

Naccarati, S., Oculocardiac reflex, 476
Naegeli, T., Tuberculosis, 76
Naessens, W. M., Subcutaneous injection of oxygen, 1053
Naffziger, H. C., Suture of nerves, 1196
Nagao, K., Fate of India ink injected into blood, 204, 1042
Nägelsbach, E., Factors in gangrene from chilling, 972
Nakahara, W., Effect of cellular reaction induced by roentgen rays on cancer grafts, 1194; Lymphoid activity, 1368; Roentgen ray effects, 1368
Näslund, C., Typhus, 762, 830
Näslund, J., Function of corpus luteum, 1054
Nassau, E., Manifest tetany, 1718
Nathan, N. S., Cerebral hemorrhage with falling respiration, 272
Navarro, A., Calculi in pancreas, 1375
Navarro, J. C., Thrombophlebitis and septicemia, 485
Naville, F., Tetany, 551
Nebbia, M. M., Infarcation in liver, 212
Nedergaard, N., Hookworm and tuberculosis, 814
Neff, I. H., Drug addict, 961
Negri, L., Heliotherapy in surgical tuberculosis, 73, 555
Neilson, J. L., Sodium salicylate in influenza, 1279
Neilson, N. M., Bacteriostatic properties of bile, 1858; Gallbladder infections, 1858; Typhoid, 1858; Typhoid carrier strains, 1858
Neirotti, G. M., Protein shock in hemorrhage, 689
Neisser, M., Antibodies, 1373
Nelson, G., Circulation in infectious diseases, 206
Netter, A. Hiccup and encephalitis, 897; Intra-articular serotherapy, 1801
Neu, H., Hemorrhagic abortion, 901
Neugebauer, F., Artificial vagina, 1142
Neuhaus, G. E., Encephalitis, 270
Neuhoff, F., Poisoning from shoe dye, 820; Draining gallbladder, 1797
Neuland, W., Infiltration of child lung, 973
Neumann, W., Calcium chlorid in hemorrhage, 762
Nevermann, H., Venesection and eclampsia, 1866
Nevin, M., Botulism from cheese, 1042
New, G. B., Pharyngeal stricture, *996
Newburgh, L. H., High fat diet in diabetes, 134
Nichols, H. J., Antityphoid vaccination, *177; Disodium ethyl arsinate, *1335
Nicholson, S. T., Fat metabolism in diabetes, 134
Nicole, J. E., Education to prevent neurosis, 207
Nicolesco, J. F., Encephalitis, 825
Nicolieff, F., Vesico-uterovaginal fistula, 1285
Nicoll, M., Jr., Tetanus, *112; State department of health and medical profession, 1527
Nielsen, C., Benzyl esters, 1426
Nielsen, R., Scarlet fever, 1544
Nieves Gonzáles Barrio, Bismuth to expel oxyurids, 1050
Nigst, P. F., Fracture of tibia, 899
Nijhoff, G. C., Simultaneous intrauterine and extra-uterine pregnancy, 214
Nikula, A., Encephalitis, 830
Ninni, C., Isolation of tetanus bacillus, 1374; Tetanus bacilli in intestines, 1617
Nishi, S., Comparative anatomy of muscles of shoulder girdle, 1541
Nobécourt, P., Pneumococcus purpura, 341, 411; Sugar in infant feeding, 1047; Cerebral reaction in pneumonia, 1281
Nobel, E., Nem system, 902; Scurvy, 1718
Nobili, U., Varicose veins in leg, 1803
Noble, W. C., Agglutinins not lipoidal, 1795
Noda, U., Nissl's staebchenzellen, 1130
Noel, O., Parole of insane, 270
Noël, R., Lymphocyte in defense against cancer, 825
Nogier, T., Radium in uterine fibromyomas, 825
Noguchi, H., Yellow fever, *96, 748; Spinal fluid test, *632; Acid-base equilibrium in disease, 893
Nogueras, I., Distention of gallbladder, 623
Noguès, P., Anesthesia of bladder, 966
Nonnenbruch, Venous and capillary blood, 828
von Noorden, C., Gastro-enterostomy, 1620
Nordentoft, S., Radiotherapy of cancer, 692; Radium in uterine cancer, 904
Norgaard, A., Determination of catalase, 904; Glycosuria threshold, 1142; Glycosuria threshold in diabetes, 1142
Normington, R., Inhibition of B. botulinus by salt, 135
Noronha, A. J., Development defect, 753
Norris, C. C., Gonorrhea, *164
Norris, D., Caseinogen, 69
North, E. A., Complement fixation methods in syphilis, 1796
Norton, J. F., Streptococci, *1003; Stable suspensions of streptococci for agglutination, *1753
Nothmann, M., Renal glycosuria in diagnosis of pregnancy, 1141
Novak, J., Amenorrhea, 1716
Nutt, J. J., Rupture of tendon, *1825
Nuzzi, O., Deformity of hand, 1435

O

Obarrio, J. M., Crossed hemiplegia, 277
O'Brien, F. W., Tuberculosis, *1474
Ocaranza, F., Leukocyte reactions, 1865
Ochoterena, I., Secretion of ovary, 270; Biology of ovary, 1325
Ochsenius, K., Situs inversus, 76
Ochsner, A. J., Cancer infection, 132
O'Connor, J., Drainage in ascites, 139
O'Day, J. C., Supernumerary thumbs, 683
Oddo, C., Stenosis of intestine, 896; Thrombosis under arsenic therapy, 1616
Odelberg, A., Lipomata of jejunoileum, 974
Odén, C. L. A., Bandage for thorax, *1/4
Odermatt, W., Intratracheal strumas, 416
Odrlozola, E., Pathologic conditions in right abdomen, 1286
O'Driscoll, E. J., Filaria loa infection, 1431
Oehlecker, F., Pseudo-hernia after fracture of rib, 347
Oehnell, Ulcer of stomach, 903
Offenbacher, R., Urine test for tuberculosis, 147
Ogilvie, W. H., Intestinal obstruction, 550
Ogilvy, W. A., Nerve supply of female genito-urinary organs, 140
Ohly, A., Sequelae of dysentery, 1287
Ohtani, S., Adenoma, 1287
Okinczyc, J., Hysterectomy, 1135
Olitsky, P. K., Influenza, *640; Nasopharyngeal secretions in influenza, 893, 1194
Oliver, E. A., Night clinic devoted to skin diseases and syphilis, 58
Oliver, J., Urea excretion, 893
Oliver, J. R., Court medical service, 1265
Oliver, W. W., Bacterial parasites of mucous membranes, 1322
Ozaza, G., Pellagra, 1050
Ombrédanne, L., Devices to correct incontinence, 144
Onfray, R., Strabismus, 824
Ophüls, W., Arteriosclerosis, *700
Opitz, H., Paradoxic Schick reaction, 1716
Opitz, K., Effect of lime in water, 1139
Oppenheimer, E., Sheppard-Towner bill, 1418
Oppenheimer, R., Prostatectomy, 1052
O'Reilly, A., Backache and anatomic variations of lumbosacral region, 1796
O'Reilly, L., Carbohydrates in boiled vegetables, 1276
Orr, P. F., Bacillus botulinus, 1322
Orth, J., Trauma and tuberculosis, 1052
Orth, O., Surgery of prostate, 487
Osborne, E. D., Neurosyphilis, *708; Priority in spinal drainage, 954; Iodin in spinal fluid, *1384
Osborne, O. T., Thyroid and menstruation, 673
Osborne, T. B., Effect of alkali on vitamin B, 892; Ophthalmia and diet, *905
Osnato, M., Fractures of cervical vertebrae, *1737
Oswald, A., Climate and pathologic metabolism, 1284
Otrich, G. C., Pituitary extract with local anesthesia, *591
Otsuto, T., Action of salts on phagocytosis, 405
Ott, A., Partial antigens, 416
Ottow, B., Conception control, 1805
Owen, L. J., Syphilis and nodular cirrhosis, 749; Neoplasms, *1329
Owen, R. G., Lactose determination, 680
Owensby, N. M., Influences exercised by physician on mental health of community, 1704
Ozorio de Almeida, M., Bilateral vagotomy, 212; Experimental edema, 690

P

Paddock, R., Asthma, 750
Padilla, T., Diabetes, 277
Pagniez, P., Digestive antianaphylaxis, 551; Migraine, 687; Urticaria, 1801
Painter, A. M., Pillar retractor and tonsil hook, *240
Painter, C. F., Hereditary edema, 1531; Infraction of second metatarsal head, 1795
Palacios, G. D., Calcium metabolism and pulmonary infections, 1043
Palermo, P., Ascaridiasis, 1540, 1804
Palitzsch, F., Encephalitis, 1052
di Palma, S., Gonorrhea, *1572
Palmén, A. J., Rat-bite disease, 830
Palmer, D. W., Ectopic pregnancies, *793; Duodenal ulcer in infancy, 1857
Palugyay, J., Traction diverticulum of esophagus, 1621
Palumbo, V., Ringworm, 1539
Pamperl, R., Tetany, 1436
Pannett, C. A., Linear division of pyloric sphincter, 894; Influence of bile salts on gastric function, 1614
Paraf, Obliteration of varicose veins, 274; Oculocardiac reflex, 620; Neoarsphenamin, 896; Anaphylactic shock, 965; Serum sickness, 1135
Paranhos, U., "Nervousness," 414; Passiflora, 827
Pardee, H. E. B., Myocardial disease, 1528
Pardo-Castelló, V., Prophylaxis of syphilis, 397
Pareja, W., Yellow fever, *96
Park, E. A., Rachitic involvement of thorax, 1532; Experimental rickets, 1610
Park, W. H., Diphtheria, *109; Accidental influenza inoculations, 679; Microbal studies of respiratory infections, 679; Vaccination against respiratory diseases, 680; Toxin-antitoxin immunization, 1859
Parker, H. L., Juvenile tabes, 818
Parmenter, D. C., Functional albuminuria, 65
Parodi, F., Effusion with artificial pneumothorax, 823
Parodi, S. E., Filaria in eye, 346
Parodi, U., Hypertrophy of heart and anemia, 1539
Parsons, H. T., Cod liver oil in rickets, 617; Production of rickets by deficient diet, 617
Parsons, T. R., Spinal fluid in cerebrospinal fever, 754
Parturier, G., Ulcer of duodenum, 824
Pasini, U., Cervical rib, 758
Pasman, F. R., Goiter in pregnancy, 1865
Pasman, R. E., Obliterating endarteritis, 1540
Pastore, S., Abdominal reflexes with pneumonia, 276
Patel, M., Eventration after Pfannenstiel incision, 1711
Patel, P. T., Osteomalacia, 1535
Paterson, D. H., Syphilis, 549
Patiño Mayer, C., Hemoptysis in pneumonia, 623
Paton, D. N., Rickets, 1534, 1614
Patrick, R. B., Appendicitis due to oxyuris, 1531
Pauchet, V., Resection for cancer of colon, 1199; Gastrectomy for ulcer, 1800
Paullan, D. E., Salvarsanized serum, 343
Paullin, J. E., Thrombosis of coronary arteries, 821
Paunz, M., Complications of sinusitis, 147
Paus, N., Appendicitis, 1439; Perforated ulcer, 1439; Retroperitoneal cyst, 1439
Pavlovsky, A. J., Splenectomy for rupture, 623; Acute edema, 1619
Payr, E., Access to maxillary nerve, 417
Paz, E. S., Diabetes, 277
Paz Soldán, C. E., Hygiene in medical curriculum, 1203
Peak, J. H., Prostatectomy, 1533
Pearce, L., Syphilitic infection, 65; Latent syphilis, 748; Sleeping sickness, 893; Clinical types of syphilis, 1039; Experimental syphilis, 1368; Superinfection in syphilis, 1532
Pearce, R. G., Cardiorespiratory mechanism, 749
Pearl, R., Infant mortality in U. S., 205
Pearse, H. E., Removal of ventral tumors, 266
Pearson, J. W., Syphilis in fetus, 1193
Pech, J. L., Manometer mask, 897
Peffer, J., Interposition urteri in prolapse, 1805
Péhu, Stenosis of pylorus, 1200
Peicié, R., Postoperative pancreatitis, 828
Peiper, A., Influence of thyroid on elimination of water and chlorids, 1716
Peiper, H., Occult blood, 213; Suprarenalectomy in epilepsy, 1438
Pelfort, C., Measles and whooping cough, 484
Pellini, E. J., Cardiac disease, *774
Pellissier, P., Silica in arteriosclerosis, 1864
Pemberton, J. de J., Substernal and intrathoracic goiters, 545
Peña Trejo, F., Strongyloides intestinalis, 469
Pendred, B. F., Fracture of femur, 1045
Pennato, P., Congenital malaria, 1435; Splenectomy in hemolytic jaundice, 1865
Pennisi, A., Implanting of ureter in bladder, 555; Fat implants, 1202, 1435
Pepper, W., Higher medical education, 869; The Martin Luther of medical education, 1515
Peralta Ramos, A., Conservative obstetrics, 1375
Perdrau, J. R., Neural origin of brain sarcoma, 1799
Perez, G., Sarcoma of intestine, 1202
Pérez Ortiz, A., Gastric cancer, 414
Perkins, C. W., Volvulus, *996
Perkins, P. A., Supernumerary breast, *792
Perkins, R. G., Typhoid, *1001
Perret, J. M., Leprosy, 1429
Perrin, E., Epithelioma in kidney, 275
Perroncito, A., Extirpation of liver, 73
Perrot, B., Contracted pelvis, 1617
Perry, E. E., Effect of smoking on glass blowers, 1706
Perthes, Ligation of carotid, 971
Pesch, K., Serodiagnosis in scarlet fever, 1621
Pesci, E., Serodiagnosis of echinococcus disease, 1138; Anaphylaxis, 1539
Peterman, M. G., Hepatitis and cholecystitis, 545
Peters, J. P., Jr., Respiratory mechanism in cardiac dyspnea, 269; Carbon dioxid absorption curve in anemia, 872; Carbon dioxid tension of blood, 892; Carbon dioxid tension in blood in dyspnea, 892
Petersen, W. F., Nonspecific reaction, *312; Irradiation, *718; Sachs-Georgi reaction, 1039
Peterson, A., Genito-urinary tract in tuberculosis, 615
Peterson, R., Pneumoperitoneum of pelvis, 615
Petillo, D., Bilharziasis of bladder, 1369
Petit, G., Protracted encephalitis, 1711
Pétrault, T., Serotherapy for delayed healing of fractures, 966
Pettit, A., Mycosis of oysters, 1043

Peyre, E., Paroxysmal dyspnea, 620; Dilution unit in Wassermann test, 687
Peyron, A., Hypernephroma in uterus, 71
Pezzali, G., Nitrogen metabolism and liver functioning, 1618; Plethysmography, 1435
Pezzi, G., Quinin in heart disease, 1282
Pfannenstiel, W., Differentiation of acid-fast bacteria, 691
de Pfeffel, Bubonic plague, 1134
Phaumer, Enrichment chamber for urinalysis, 973
Pfleiderer, Rectal vs. vaginal examination, 213
Phélip, L., Catheterization of ureters through open bladder, 1712
Phemister, D. B., Rickets, *850; Perthes' disease, 1192
Phillips, C. E. S., Measuring roentgen dosage, 408
Phillips, J., Whooping cough, 817
Phillips, S., Carbuncles, 479
Piccagnoni, G., Primary tumors of vagina, 969
Piccininni, F., Plague in rats, 276
Pickens, D. R., Diverticula and diverticulitis of sigmoid, 1423
Pico, O. M., Bladder-kidney reflex, 277
Picot, G., Perineal hysterectomy, 1283
Pietroforte, V., Fatigue as test of tuberculous, 689
Pijper, C., Psoriasis, 1371
Pike, H. V., Wassermann reaction, *360; Diabetes in mental disorders, *1571
Pi lado Matheu, C., Chemotherapy of syphilis, 277; Thrombophlebitis and septicemia, 485
Pillat, A., Cysticercus subretinalis, 625
Pillay, T. M., Roundworm, 1431
Pilotti, G., Myoclonus, 1713
Piltz, I., Manic-depressive psychoses, 483
Pimenta Bueno, A. L., Oculopalpebral sign, 1203
Pinard, J., Jaundice after arsenical treatment, 687
Pinard, M., Syphilis, 143; Negative Wassermann reactions, 824
Pincherle, M., Spasmophilia and endocrine system, 345
Piness, S., Bronchial asthma, 616
Pinkham, C. B., Chiropractic problem, 938
Pino Pou, R., Oriental sore, 899
Piotrowski, G., Encephalitis, 1712
Pipping, Encephalitis, 830
Pirondini, F., Cystalgic pyelitis, 142
Pischel, D., Botulism, 1039
Pitres, Flaccid paralysis, 412
Pittarelli, E., Test for formaldehyd in urine, 211; Tests for acetone, 1803
Pizzetti, D., Malformation of ureter, 1804
Platt, H,. Nerve injuries, 1431
Player, L. P., Tumors of bladder neck, 1796
Pleschner, H. G., Micturition, 147
Pliehet, Hirsutism, 1282
Plisson, Pneumococcus arthritis, 825
Plum, A., Papillomas in larynx, 78
Podestà, E., War deafmutism, 72
Poenaru-Caplesco, C., Liver symptoms from appendicitis, 755
Polak, J. O., Postabortal peritonitis, 63; Cancer in cervix stump, 962; Common puerperal lesions, 1793; Obstetric teaching, *1809
Policard, A., Jaundice after arsenic, 687; Capillary circulation, 825
Pollet, Cystic dilatation of ureter, 1324
Pollitzer, R., Gastric secretion, 1538
Pollock, H. O., Nitrogen elimination, 1706
Pomaret, M., Elimination of arsenicals, 143
Ponce de León, M., Measles and diphtheria, 484
Ponder, E., Hemolytic substances in human urine, 1044
del Pont, A. M: See Marcó del Pont, A.
Pontano, F., Echinococcus disease, 145
Pontano, T., Pulmonary syphilis, 210
del Ponte, E., Chagas' disease, 970
Pool, E. H., Pericardiotomy, 1367
Poppens, P. H., Bacteriology of fasting stomach and duodenum, 817
Popper, J., Congenital megacolon, 205
Porer, G. D., Tuberculosis, 618
Porter, W. B., Pulmonary abscess after tonsillectomy, 1133
Portman, G., Deafness in syphilis, 144; Hypertrophy of tonsils, 273
Portmann, U. V., Foot injuries, *1214
Post, W. M., Caries of cartilages, 683
Poten, W., Spontaneous infection in childbirth, 415
Potherat, E., Survival after amputation of breast, 411
Pottenger, F. M., Sympathetic and parasympathetic systems, 1321
Potter, C., Borax poisoning, *378
Potter, I. W., Version, 1793
Poulton, E. P., Relief of ulcer pain, 753
Power, H. D'A., Stereoscopic roentgenography, *645
Poynton, F. J., Heart disease, 207
Pozerski, E., Reaction of biologic mediums, 823
Prader, J., Acid reaction in perforating ulcer, 1327
del Prado, E., Relapsing fever, 622
Prat, D., Traumatism of cord, 690; Atypical tetanus, 826; Jacksonian epilepsy, 1375
Preisich, K., Incubation with infectious diseases, 1326
Preiss, G. A., Blocking of splanchnic nerves, 828
Prélat, Supernumerary teeth in orbit, 1199
Prentice, A. C., Narcotic drug addict, *1551
Prentice, W., Alkaline reserve of plasma, 66
Price-Jones, C., Variation in size of erythrocytes, 339
Priest, W. A., Jr., Hepatitis and cholecystitis, 545
Primrose, A., Carcinoma of appendix, 202
Pritchett, I. W., Gas bacillus infection, 269
Propping, K., Iodin in laparotomies, 1542
Provinciali, U., Congenital megacolon, 1435
Provis, F. L., Roentgen-ray in uterine fibroids, 822
Pruche, A., Blood formula with retention of chlorids, 620
Pruett, H. J., Poison oak dermatitis, 1610
Prunell, A., Complement in Wassermann, 826
Pugh, W. T. G., Fixation of spine, 1861
Pulvirenti, S., Lumbar spondylitis, 969
Puntoni, V., Tobacco smoke as disinfectant, 276; Bacteriophagum, 621
Pusey, W. A., Training for specialty of dermatology and syphilology, 798
Putnam, W. L., Sheppard-Towner bill, 1264
Putti, V., Arthrotomy of knee, 1285; Bent knee, 1285; Fractures, 1801
Putzu, F., Traumatic aneurysms, 758; Pseudarthrosis of ulna, 1202

Q

Quain, E. P., Ptosis of duodenum, 64
Quante, J., Symphysiotomy, 1806
Quensel, U., Diagnosis of cancer, 903
Querido, A., Reaction time, 488
Queyrat, E., Tuberculosis, 72
Queyrat, L., Technic for treating syphilis, 143; Marriage of syphilitics, 552; Treatment of syphilis, 1433, 1537
Quinan, C., Sinistrality and high blood pressure, 750
Quisumbing, F. A., Determination of glucose and starch, 68

R

Rabeau, Neurosyphilis, 71; Recurring dermatitis of cheek, 755
Rabinowitch, I. M., Blood chemistry in acute abdomen, 1041; Blood creatinin in nephritis, 1705
Radcliffe, A. A., Infestation by hydatids, 406
Radin, M. J., Gallbladder disease, *1567
Radovici, A., Atropin in encephalitis, 825; Peptone in hemophilia, 967
Radulesco, A. D., Bone implants in spine, 1538
Raeder, O. J., Feeblemindedness in hereditary neurosyphilis, 959; Multiple corticospinal hemorrhages, 1040
Rahn, L., Fatalities after injection of strophanthin, 486
Raiziss, G. W., Toxicity of neo-arsphenamin, 1276; Sodium-arsphenamin, *1823
Ramirez, E., Secretions of ovary, 270; Biology of ovary, 1325
Ramón Torres Casanovas, Arthritis of focal origin, 970
Ramond, F., Pain with stomach disease, 1373; Dyspepsia, 1800; Gastro-radiculitis, 1803
Ramos, Dangers of puncture of bladder, 142
Ramsay, R. A., Pyloric stenosis, 1798
Randall, A., Largest calculus, 1427
Rankin, W. S., Organization of public for health work, 1015
Ransohoff, J. L., Solid tumors of mesentery, 890
Ranucci, Spinal anesthesia, 1202
Ranzel, F., Eclampsia, 417
Raphael, T., Psychiatric features of encephalitis, 818; Creatinin coefficient in tuberculosis, 1794
Rapoport, F. H., Epinephrin, *492
Rasch, C., Action of sunlight on syphilitic eruption, 248
Rathery, F., Residual nitrogen, 824, 1282; Encephalitis, 1048; Fasting in diabetes, 1199; Diabetes and gout, 1802
Ravà, G., Calcaneum reflex, 1203
Ravaut, P., Neurosyphilis, 71; Recurring dermatitis of cheek, 755; Granulomatosis of inguinal glands, 1281
Ravenel, M. P., B. Alkaligenes-fecalis, *720
Raw, N., Tuberculosis immunizing vaccine, 1534
Rawls, R. M., Intra-uterine stem pessary, 889
Ray, C., Hemolytic test for kala-azar, 753
Ray, L. A., Brain tissue and growth, 66
Razzaboni, C., Epithelioma of finger, 758
Rebula, A., Sterilization of instruments, 560
Recasens, S., Phototherapy in gynecology, 485
Reder, F., Kraurosis vulvae, 200; Boiling injections in lymphangiomas, 478
Reding, Blocking brachial plexus, 1617
Redwood, F. H., Pituitary headache, 1430
Reeb, M., Fibromas and gestation, 1434
Reenstierna, J., Antigonococcus serum, 751
Regaud, C., Cancer of tongue, 1434
Regnault, F., Goiter in rural district, 1134
Reh, Fulminating purpura, 145
Rehfuss, M. E., Gastric analysis, *371, *564; Gastric residuum, *1340
Rehn, E., Regeneration of tendons, 900
Reich, F., Volume of blood corpuscles, 1719
Reichardt, M., Neurasthenia, 1288
Reiche, F., Pertussis and influenza, 901
Reid, W. D., First heart sound, *432; Heart sounds, *928
Reijs, J. H. O., Influence of position of head on muscles in limbs, 830
Reilly, F. St. C., Doctor's defense, 607
Reilly, J., Classification of jaundice, 72; Primary infectious jaundice, 554
Reilly, T. F., Influenza, *1493
Reimann, H. A., Anesthesia, *437
Reimann, S. P., Anesthesia, *437; surgical treatment of ulcers, 683
Reis, R. A., Breast infections due to influenza, 1370
Reiss, J., Gallbladder disease, *1567
Reist, S. H., Micromethod for sugar in blood, 1803
Reitter, G. S., Rhabdomyoma, *22
Rémond, Migraine, 481; Uremia, 965
Rémy, A., Meningitis, 966
Renaud, M., Pleurisy, 141, 274; Cancer of lung, 620; Fatal puerperal endocarditis, 1200
Renault, A., Hysteria, 1711
Renaux, E., Jules Bordet, 823
Rendleman, W. H., Tuberculosis of thyroid, *306
Rennie, G. E., Complete transverse lesion of spinal cord, 1432
Rénon, L., Cerium salts in tuberculosis, 481; Radium in leukemia, 620, 965; Herpes zoster in anus region, 965; Amebic abscess, 1049; Aortic aneurysm, 1800
Rensch, O. B., Pneumothorax and tuberculosis, 202; Tuberculous pleural effusions, 202; Effect of mustard gas on tubercle bacillus, 1042; Absorption from pleural cavity, 1128; Tuberculosis, *1216
Renton, J. M., Sciatica, 1430
Renvall, G., Familial brachydactylia, 148
Retterer, E. Experimental placentation, 1711
Rewalt, R. K., Vaccine in pertussis, 1131
Reymond, R., Splenopneumonia, 145
Reynès, H., Subsidence of mammary cancer after castration, 1432
Reynolds, E., Sterility, 206
Reynolds, L., Pyloric sphincter, 1425
Reynolds, R. P., Malformations of esophagus, 1273
Reys, L., Postencephaltic Parkinsonian syndrome, 1615
Rhea, L. J., Influenzal bronchiolitis and bronchopneumonia, 754
Rhonheimer, E., Intolerance for cow's milk, 973
Ribadeau-Dumas, Radioscopy of aneurysm of abdominal aorta, 274
Ribas Ribas, E., Cholecystitis, 1286
Ribeiro da Silva, Malignant endocarditis, 622
Ribierre, P., Cardiovascular pathology, 1282
Ribón, V., Color audition, 346
Rice, L., Progressive muscular dystrophy, 1613
Rich, K. B., Nutritional work, *998
Richard, Purpura, 480
Richard, G., Amyl nitrite and vascular reactions, 341
Richards, E. T. F., Polycythemia vera, 1131
Richardson, F. H., Milk modifications, 953
Richardson, G. P. N., Prophylaxis of typhus, 1371
Richet, C., Jr., Liver and kidney disease with gastric ulcer, 411, 1711; Uremia and digestive hemolysis, 1048
Richter, C. M., Influenza and anticyclonic weather, 1040
Richter, P. F., Diabetes therapy, 624; Kidney functioning, 1715
Richter-Quittner, Calcium in blood, 1327; Metabolism with vascular hypertonia, 1327
Riesenfeld, M., Atropin and infant eye, 1544
Riesman, D., Cirrhosis of liver, *288; Psychoses in heart disease, 817; Rheumatic fever, *1377
Rieux, J., Anemia, 1282
de Rio-Branco, Ureosecretory constant, 341
Riquier, G. C., Fibers in peripheral nerve trunks, 1137
Rísquez, F. A., Pathology of Venezuela, 827
Rissotto, A. A., Anthrax, 1203
Rist, E., Artificial pneumothorax, 551
Ritchie, H. P., Harelip and cleft palate, 265
Ritter, C., Joint fracture, 762
Rivers, T. M., Hemolytic influenza bacilli, 1532; Growth of influenza bacilli, *1744
Rivers, W. C., Drooping shoulder sign of phthisis, 619; Squint, mancinism and tubercle, 822
Robert, A. E., "Cerclage" or belting of fractures, 412
Roberti, J., Transient hemoclasis after puncture of hydatid cyst, 1134
Roberts, C. W., Pyloric stenosis of infancy, 1704
Robertson, H. E., Healed tuberculosis, 890
Robertson, T. B., Brain tissue and growth, 66
Robineau, Vaccine therapy of typhoid bone disease, 1537
Robinson, G. H., Hemotoxin of streptococci, 136; Precipitin reaction in diagnosis of gonococcus infections, 337
Robinson, J. W., Allergy in diseases of skin, 1265; Contagious diseases and medical curriculum, 1594
Robinson, W. J., Endocrinology and psychanalysis, 1782
Robscheit, F. S., Iron and arsenic in anemia, 1794
Roccavilla, A., Cardiovascular symptoms of Horner's syndrome, 689
Roch, M., Acropathology, 898; Temperature in incubation of typhoid, 1049
Rocher, H. L., Fracture of joints and separation of epiphyses, 1324; Edema after inguinal operation, 1862
Rochet, Surgical affections of lower bladder, 1801
Rodhe, E., Phrenocardia, 1544
Rodriguez, B., Urea in epilepsy, 823

Rodríguez Lafora, G., Paralysis agitans, 691
Roeder, C. A., Hydrosalpinx with twisted pedicle, *515; Gastric ulcer, *1150
Roederer, Surgery for children, 411
Roelofs, C. O., Ophthalmic herpes zoster, 830
Roger, H., Encephalitis, 483, 897
Rogers, F. T., Brain stem and arterial blood pressure, 269
Rogers, K., Streptococci, *1003
Robers, L. B., War risk insurance, *1079; War risk act, *1165
Rogoff, J. M., Effect of physostigmin on output of epinephrin, 1427
Rohdenburg, G. L., Wassermann test, *14
Rohmer, P., Spasmophilia, 1372
Rolando, S., Catheter in peritoneum, 211
Rolleston, H., Sequels of congenital syphilis, 1045
Rollet, Phlegmons of orbit and eye, 342
Rollier, A., Heliotherapy, 1198; Heliotherapy and phototherapy, 1201
Roman, A. M., Urea in urine, 337
Romanes, A., Typhoid inoculation, 272
Romano, N., Cerebral angiomas, 484
Rombach, K. A., Alkaptonuria, 1622
Romeis, B., Experimental modification of constitution, 1542
Romero, L. O., Obesity, 556
Rominger, E., Diphtheria, 1543; Respiration, 1543; Blood sugar, 1804
Rongy, A. J., Missed abortion, 683
Roorda Smit, J. H., Syphilitic origin of goiter, 1438
Root, F. M., Intestinal protozoa carried by flies, 1127
Root, J. H., Meningococcus meningitis, 1607
Roqueta, G., Tuberculosis of nervous system, 556
Rorive, Encephalitis, 823
Rosenau, M. J., Vitamins in milk, 1531
Rosenberger, C., Filling body cavities with oxygen, 1142
Rosenberger, R. C., Bacteriology of Ganges River water, 548
Rosenblatt, J., Tuberculosis, *1647
Rosenbloom, J., Menstruation and food tolerance in diabetes, *1742
Rosenfeld, A. S., Idiopathic purpura, 1320
Rosenheck, C., Juvenile tabes, *572
Rosenow, E. C., Epidemic hiccup, *1745
Rosenstein, Extra-uterine pregnancy, 1542
Rosenthal, F., Jaundice, 1325
Rosenthal, K. O., Arteriosclerosis of kidneys, 557
Rosett, J., Sclerosis, 1612
Rosher, A. B., Enteric fever, 410
Rösler, O. A., Blood picture under calcium, 1327
Ross, E. L., Hyperglycemia production by ether and chloroform, 615
Ross, J. M., Endothelioma, 1710
Ross, S. M., Congenital syphilis, 822
Rosselet, A., Heliotherapy and phototherapy, 1201
Rosselet, D., Volvulus of stomach, 208
Rossen, J. A., Varicella, 961
Rossi, A., Traumatic spondylitis, 1285
Rosson, F. B., Primary mesothelioma of pleura, 134
Rost, P., Osteomyelitis with periosteal abscess, 1288
Roth, G. B., Intravenous injection, 1130
Roth, L. J., Pyelitis, 405
Roth, M., Osteitis fibrosa, 558
Roubier, Purpura, 480
Roubinovitch, J., Oculocardiac reflex in paresis and tabes, 1135
Rouillard, J., Basal metabolism, 1201
Rouquier, A., Spinal fluid in hysteria, 274; Spinal fluid and blood in hysteria, 1200
Roussiel M. Anesthesia in surgery of stomach 1711
Roussy, G., Researches on pituitary, 270; Goiter, 620; Cancer in animals, 1047; Pneumonia in aged, 1800
Routier, D., Angina pectoris, 1863
Roux, J. C., Cecum and colon stasis, 685; Fat acids and ammonia in stools, 1047
Rouzaud, Migraine, 481
Rouzaud, J. J., Enteroptosis, 1862
Rovsing, T., Chronic ulcer, 900
Rowland, W., Jr., Hematemesis, 1368
Rowntree, L. G., Pituitary extract and water balance, 1606
Royer, B. F., Source of tuberculosis in childhood, 1030
Royster, H. A., Saving suppurating incisions, 478
Royster, L. J., Congenital syphilis, 749
Rozar, A. R., Abdominal pregnancy, *239
Rubino, C., Occupational poisoning in munition workers, 555
Rubow, V., Diet in heart insufficiency, 902
Rucker, M. P., Apoplexy of placenta, 1369; Pituitary extract, *1390; Potter version, 1794
Rud, E. J., Grave anemias, 214
Ruge, E., Exceptionally small newly born, 141
Ruggeri, E., Idiopathic osteopsathyrosis, 145; Convergence oculocardiac reflex, 211
Rugh, J. T., Weak and flat feet, 1367
Ruhräh, J., Benzyl benzoate, 474
Rule, F. D., Carbon dioxid tension of blood, 892
Rümke, H., Caries of upper vertebrae, 626
Rumpel, A., Operation for hydrocele, 1053
Rupp, P., Washed agar culture medium, 136
Ruppe, C., Unilateral harelip, 1712
Rusca, C. L., Wassermann reaction in human milk, 968; Gravity abscess, 1539
Russ, S., Effect of X-ray on resistance to cancer, 339; Effects of X-rays on lymphocytes, 340
Russell, E. L., Pupil neurosyphilis, 1797
Russell, F. F., Antityphoid vaccination, *177
Rustia, G., Autoinfection during puerperium, 69
Ruth, C. E., Detacher for adherent placenta, 1529
Rütimeyer, W., Postencephalitic insomnia, 621
Ryle, J. A., Gastric analysis in acne rosacea, 273; Spirochaetosis icterhemorrhagica, 754

S

Sabouraud, R., Teeth in inherited syphilis, 143; Alopecia areata, 343; Alkali and falling hair, 755
Saceo, A., Tumors in neck, 1540
Sachs, E., Fetal heart sounds, 417
Sachs, O., Psoriasis, 1806
Sacken, W., Continuous bath in treatment of wounds, 558
Saelhof, C. C., Irradiation, *718; Bacterial content of telephones, 1127
Sæthre, H., Pollomyelitis, 1206
Sahli, H., Antibodies, 344, 483, 1373
Sakdabolraksh, P., Radium in eczema, 1046
Sala, A., Reflex anuria, 145; Smallpox vaccination, 899
Salaghi, M., Talipes equinus, 758
Salazar de Souza, J., Ether-oil by rectum, 341
Salc, B. E., Pregnancy, *912
von Salis, H. W., Sarcoma of duodenum, 972
Salmon, A., Babinski's phenomenon, 1865
Salomon, Pneumothorax with bilateral tuberculosis, 274
Salomon, A., Gaps in tendons, 759
Salomon, R., Failure of Sigwart sign, 1142
Saloz, C., Tricuspid stenosis, 754; Cancer of lung, 1047; Temperature in incubation of typhoid, 1049
Salter, R. C., Hemolytic streptococci in milk, 1127
de Salterain, J., Ocular complications in measles, 690
Saltzmann, F., Osteomalacia, 830
Saltzstein, H. C., Granuloma, *1333; Pancreatic cyst, *1484
Salvat y Navarro, A., Protein therapy, 556
Salzer, M., Diagnostic sign in abdomen, *1498
Samengo, L., Fulguration for tumors of nasopharynx, 1139
Sampietro, G., Typhus, 621
Sampson, F. E., Rural health centers, 1013
Sampson, H. L., Intestinal tuberculosis, 1527
Samways, D. W., Cardiac peristalsis and mitral stenosis, 1279
Sanarelli, C., Cholera, 210
Sanchis Banús, J., Climacteric epilepsy, 74; Meningitis following spinal anesthesia, 415
Sanders, L. C., Cholecystitis, 1424
Sandes, T. L., Dislocation of shoulder, 823
Sandison, H. M., Angina pectoris and auricular fibrillation, 1045
Sands, I. J., Encephalitis, *373; Luminal in epilepsy, 1041
Sansum, W. D., Sugar-free cream for diabetic, *792
Santy, P., Fractures of femur, 208; Sequelae of intraspinal anesthesia, 1372
Sanvenero, F., Roentgen-ray in sarcoma, 1374
Sarkies, M., Persistent hiccup, 619
Sartori, S., Unerupted teeth, 690
Sartory, A., Silica in arteriosclerosis, 1864
Satanowsky, P., Necrosis of eyelids, 212
Sauer, H., Jaundice, 1140
Sauer, L. W., Effect of acacia on blood volume, 337
Saugman, C., Pneumothorax, 903
Saunders, E. W., Lucilia Caesar and poliomyclitis, 407, 1030
Sautter, C. M., Brain abscess, *378
Savignac, R., Gastric ulcer and tabetic crises, 153
Scalas, L., Amebic dysentery, 969
Scalinci, N., Incipient cataract, 73
Scalone, I., Bilateral Albee implants, 758
Schaanning, G., Missed delivery, 78; Transplantation cancers, 1206
Schaefer, C., Atresia or spasm? 691
Schaeffer, J. P., Sphenoidal sinus, *1488
Schäfer, F., Dyspnea from stenosis, 1204
Schäfer, P., Collifixation of uterus, 1204
Schäffer, H., Tetany, 74
Schalek, A., Persistent eryithema multiforme, *1005
Schalij, A., Hard ulcer, 902
Schaller, W. F., Vascular lesions of both cerebellar hemispheres, 475
Schamberg, J. F., Neo-arsphenamin, *173; Yaws, 1273; Arsenic and mercury in syphilis, 1274; Sodium—arsphenamin, *1823
Schaps, T., By-effects with local anesthesia, 691
Schauffler, R. E. McE., Curative play system, 1277
Scheel, V., Test for renal functions, 903
Scheele, K., Strangulated hernia, 692
Scheer, K., Chlorid in blood serum, 1716
Scheffler, L., Silica in arteriosclerosis, 1864
Scheibe, A., Deafness in gout, 762
Scheikevitch, Granulomatosis of inguinal glands, 1281
Schenk, P., Blood picture and vegetative nervous system, 624
Schettler, O. H., Effect of alcohol on growth, 271
Schiaffino, R., Slight fever, 1375
Schick, B., Feeding of newly born, 347; Jaundice, 1437
Schickelé, G., Obstetric operations, 71; Ovarian functioning, 1434
Schiff, E., Magnesium and metabolism, 75; Wildbolz urine test, 75; Influence of atropin on action of epinephrin, 972; Influence of thyroid on elimination of water and chlorids, 1716; Swelling of muscle after death, 1716
Schiff, P., Famine osteomalacia, 209
Schill, E., Artificial pneumothorax, 1141
Schisler, E., Myelocytic variations in leukemic blood, 1043
Schlaepfer, K., Blindness after puncture of lung, 828
Schlayer, Noninflammatory contracted kidney, 1541
Schlemmer, F., Foreign bodies in esophagus, 900
Schlenner, F., Oxydase reaction, 1287
Schlesinger, E., Curvature of spine, 1204; Goiter, 1376
Schlittler, E., Sinusitis, 344
Schlomovitz, B. H., Ventricular fibrillation, 1608
Schloss, O. M., Reducing substance in urine, 959
Schlossberger, H., Differentiation of acid fast bacteria, 691
Schmid, W., War and tuberculosis, 1437
Schmidt, C. L. A., Bile acids in bile, 892
Schmidt, E. O., Traumatic aneurysms, 1140
Schmidt, P., "Colds" and influenza, 624
Schmidt, R., Focal reactions, 75
Schmitt, W., Delivery with narrow pelvis, 1717; Puerperal fever, 1717
Schoenholz, P., Influence of H-ion concentration on growth of typhoid bacillus, 1858
Scholl, A. J., Jr., Anuria, *368
Schönfeld, H. E. H., Gastric ulcer, 1866
Schott, Feeblemindedness, 415
Schrapf, R., Pressure of spinal fluid, 896
Schreiber, G., Pediatrics in 1920, 411
Schricker, H., Idiosyncrasy to cow's milk, 1204
Schroeder, K., Putrid bronchits, 904
Schubert, A., Growth anomalies and atrophy in skeleton, 1205
Schülein, M., Perforation of gastric ulcer, 1436
Schulman, M., Medical reading, 398
Schulmann, E., Vaquez' erythremia with inherited syphilis, 208; Pituitary polyuria, 688; Edema in syphilitic, 1048
Schulte, J. E., Goiter, 1622
Schultz, E. W., Typhus, 474
Schultz, O. T., Testis tumors, 1530; Pfeiffer's bacillus, 1532
Schultz, W., Scarlet fever, 1544
Schultze, E. O. P., Spiral suturing for varicose veins, 1206
Schulze, A. G., Blood pressure in obstetrics, 138
Schupfer, F., Pleurisy and peritonitis in syphilitic, 826
Schurmeier, H. L., Traction device, *1005
Schuster, G., Spirochetes and paralyses, 410
Schütze, H., Hemagglutination and its medicolegal bearing, 1044
Schwartz, B., Secretions of nematodes and blood coagulation, 1323
Schwartze, E. W., Intraperitoneal injection of peanut oil, 960
Schwarz, B., Symphysiotomy or cesarean section? 1806
Schwarz, O., Pyelitis, 1543
Schwarz, O. H., Submucous adenomyoma, 1857
Schwarzburger, W., Rectal prolapse, 1326
Schwarze, H. R., Botulism in cattle, 617; Botulism, *1743
de Schweinitz, G. E., Eye in pituitary disease, 1795
Schweisheimer, W., Beethoven's disease, 1205
Schweizer, R., Kidney stones, 968
Schwyzer, A., Surgery of mediastinum, 266
Scott, C. R., Exostoses, *579
Scott, G., Effect of X-ray on resistance to cancer, 339; Effects of X-rays on lymphocytes, 340
Scott, R. W., Cinchophen in rheumatic fever, *1728
Scott, V. T., Efficiency test, *705
Scott, W., Encephalitis, 895
Sebileau, P., Thyroidectomy, 686, 687
Secher, K., Influence of physical exertion on size of heart, 1328
Seelig, M. G., Congenital cervical fistula, 1192
Seelman, J. J., Wassermann test, 271
Segagni, S., Plastic peritonitis, 1864
Segura, G., Chlorids in pneumonia, 623; Does saline increase leukocytosis? 970
Seibert, E. G., Ear tests for aviators, 194
Seilin, J., Syphilitic dactylitis, 1428
Seitler, Wounds of chest and tuberculosis, 214
Seitz, A., Blood pressure in newborn, 1053
Séjournet, P., Traumatism of genitals in women, 686
Sella, M., Malaria, 1374
Semelaigne, pulmonary gangrene, 1862
Sen, D. N., Autohemic therapy, 1431
de Senarclens, Vaccines in rheumatism, 898
Sen Gupta, J. M., Cachar sore, 753
Sergent, E., Typhoid, 1134; Pupil sign of tuberculosis, 1537
Serra, G., Intradermal test for echinococcus, 969
Sever, J. W., Dislocation of shoulder, *925
Sewall, H., Pulmonary atelectasis, 474
Seyfarth, C., Tropical malaria, 971
Shaklee, A. O., Eating and drinking arcs in brain, 748
Shambaugh, G. E., Otolaryngology, 732
Shanks, A. L., Thoracopagus delivered by cesarean section, 1534
Sharp, W. B., Vaccination against influenza, 1322

Sharpe, H. R., Physicians in industry and general practice, 129
Sharpe, N., Tumors of spinal cord, 406
Shaw, L. A., Distribution of particulate material, 477
Shearer, C., Spinal fluid in cerebrospinal fever, 754
Sheasby, H., Swelling of pinna sign of deficient antiscorbutic vitamin, 1134
Sheen, A. W., Colectomies for intestinal stasis, 618
Sherk, H. H., Epidermoid cysts, 265
Sherrer, E., Sheppard-Towner bill, 1418
Shie, M. D., Lead poisoning, *835
Shikinami, J., Embryology of spleen, 624
Shipley, P. G., Cod liver oil in rickets, 617; Syphilis in fetus, 1193; Rickets, 1610
Shiskin, C., Encephalitis, 550
Shohl, A. T., Gonococcus, 336
Shuman, J. W., Colitis, *240; Nephritis, 744
Sicard, J. A., Neurosyphilis, 143; Obliteration of varicose veins, 274; Oculocardiac reflex, 620; Neoarsphenamin, 896; Anaphylactic shock, 965; Prophylaxis of serum sickness, 1135; Vaccine therapy of typhoid bone disease, 1537; Arsenicals in syphilis, 1616; Prosthesis for facial paralysis, 1862
Sidler-Huguenin, Offspring in inherited syphilis, 757
Sidlick, Intravenous administration of arsphenamin in nonsyphilitics, 65
Sieben, H., Foot-and-mouth disease, 624
Siegwart, K., Pain on change to bright light, 484
Sierra, A. M., Clinical thermo-esthesiometer, 1325
Sievers, R., Reduction of testicle with short cord, 972
Silberschmidt, W., Poisoning from bread, 621
Silva, F., Juxta-articular nodes, 345
Silva Velasquez, J., Puerperal fever, 827
Silverberg, M., Venereal disease control, 1594
Silverman, D. N., Nephritis in syphilis, 1278
Silvestri, T., Malaria, 146; Parental injections of milk, 1203; Diabetes insipidus and puberty, 1864
Simmonds, N., Cod liver oil in rickets, 617; Production of rickets by deficient diet, 617; Experimental rickets, 1610
Simmons, J. S., Diphtheria carriers, 1322
Simon, C., Marriage of syphilitics, 552
Simon, K. M. B., Ainhum, *590; Wassermann reaction, 1425
Simon, S., Diagnostic sign in early phthisis, 407; Effect of pneumothorax on tubercles, 1426
Simpson, J. W., Nephritis treated by decapsulation, 963
Sindoni, Encephalitis, 276
Siperstein, D. M., Effect of quinin on liver and blood cells, 1320
Sison, A. G., Cardiac reflex symptoms, 1132
Sisson, W. R., Pituitary and growth, 616; Diet and chlorin concentration, 1706
Sisto, P., Cholesterinemia, 759
Sistrunk, W. E., Life expectancy following radical amputation for cancer of breast, 133; Tumors of parotid, 1131; Epithelioma of lip, 1857
Sittenfield, M. J., Roentgenotherapy, *99
Sivori, L., Tubercle bacillus transformed to a saprophyte, 556
Skillern, P. C., Jr., Operative technic, *445
Skinner, H. H., Transverse position, *1348
Slawik, E., Protein therapy, 1326
Slesinger, E. G., Abdominal tuberculosis, 1709
Sloan, H. G., Iodized sodium chlorid to prevent goiter, 962
Sloboziano, H., Kidney lesions in choleriform diarrhea, 1711
Smead, L. F., Thrombophlebitis following delivery, 889
Smillie, W. G., Chenopodium, *419
Smit, J., Sterilization of water with lime, 279
Smith, C. A., Vitamin content of honey, 1608
Smith, C. F., Argyria, 135
Smith, E. B., Pityriasis rubra pilaris, 335
Smith, F. H., Sugar-free cream for diabetic, *792
Smith, F. S., Ipecac in dysentery, 127
Smith, H. W., Arsphenamin and neoarsphenamin, 547
Smith, J. C., Heredity of dementia praecox, 1720
Smith, J. D., Gonorrhea, 136
Smith, L. W., Distribution of carbon dioxid between cells and plasma, 617; Leukemia, 678; Blood in tetrachlorethane poisoning, 1606
Smith, M., Blood chloride, 892
Smith, S. C., Heart block, *17
Smith, W. H., Community service, *1055
Smithies, F., Gastric ulcer, 952
Snapper, I., Blood pigment vs. porphyrin, 1807
Snodgrass, T. J., Cardiospasm with enormous dilatation of esophagus, 1275
Snowden, E., Abruptio placentae, *1066
Sobernheim, G., Spirochete in Weil's disease, 487
Söderbergh, G., Abdominal syndrome with intercostal herpes, 1439; Planes sign of cerebellum disease, 1439
Söderlund, G., Actinomycosis of salivary glands, 1054
Sofrè, G., Cancer of rectum, 826
Sogen, J., Action of bacterial toxins on intestine, 146; Action of pneumococcus toxin on circulation, 146; Physiologic actions of typhoid toxin, 146
Soli, U., Bactericidal power of intestinal mucosa, 968
Solis-Cohen, M., Tuberculosis, 407; Bactericidal activity against bacillus diphtheriae of whole coagulable blood of immunized animals, 1605
Solis-Cohen, S., Bactericidal activity against bacillus diphtheriae of whole coagulable blood of immunized animals, 1605
Sollmann, T., Effect of alcohol on growth, 271; Acetic and formic acids, 547; Astringency of masked tannin compounds, 820; Quinotoxin myth, *999
Solomon, A., Pain after amputations, 1139
Solomon, H. C., Spinal fluid in neurosyphilis, 65
Sonne, C., Iron in anemia, 692; Universal light baths, 903, 1142; Action of visible rays on temperature, 1054
Soper, H. W., Colon function and constipation, 682
Sophianopoulos, G., Encephalitis and pregnancy, 1046
Sordelli, A., Antiserums, 970; Beef antitoxin, 1714
Sorel, A., Radiography in gastroenterology, 965
Sorel, R., Asepsis in surgery, 966
Soresi, A. L., Artificial pneumothorax, *379
Sorrel, E., Tuberculous bone and joint diseases, 897
Soules, T. E., Control of hemorrhage, *1826
Souligoux, C., Continent gastrostomy, 144
Soupault, R., Ulcer of colon, 825; Wounds of heart, 897
Souques, A., Corpus striatum, 483
Southam, A. H., Splenectomy, 1198
Spalding, E. D., Rupture of papillary muscle of heart, 616
Specht, O., Water-wheel sound over heart, 213
Speed, K., Fracture of femur, 545; Necropsies and medical progress, 673
Spence, H., Syphilitic duodenal ulcer, 1536
Spence, R. C., Tuberculosis, 404
Spencer, R. D., Oriental sore, *1494
Spencer, W. H., Safety-pins in stomach, *577
Speyer, S., Caries of symphysis, 415
Spiegel, L., Wassermann test, *14
Spillmann, L., Pharmacist and syphilis, 143; Marriage of syphilitics, 552
Splendore, A., Parasites of field rodents, 621
Squarti, G., Congenital stenosis of pylorus, 212
Stadie, W. C., Blood in pneumococcus infections, 1532
Stajano, C., Phrenic reaction, 690, 1375; Vulvar dystrophia, 1051
Stanton, R. E., Urine in pellagra, 1320
Starr, M. A., Tea intoxication, 1042
Starry, A. C., Staining method, *234
Stassen, M., Traumatic aneurysms, 273
Steel, W. A., Thrombo-angiitis obliterans, *429
Steenbock, H., Milk powders, 1367; Stability of antiscorbutic vitamin, 1368
Steenhuis, D. J., Diaphragmatic eventration, 1053
de Stefano, S., Spastic paraplegia, 72; Congenital heart defects, 276; Congenital anomalies and inherited syphilis, 689
Steffen, G. I., Influenza, 1041
Steiger, A., Abdominal wounds, 1140
Stein, C., Cerebral arteriosclerosis, 829
Stein, H. E., Pelvic peritonitis, 127
Steinbach, M., Intrathoracic neoplasms, 1043
Steindler, A., Surgical tuberculosis, 891; Pes cavus, 1192
Steinert, E., Hospitalism, 1718
Steinthal, C., Blocking of sympathetic and vagus nerves, 559
Stengel, A., Hypertension, 1528
Stenvers, H. W., Cerebellopontine tumors, 280
Stephens, J. W. W., Differential leukocyte counts, 963
Stepp, W., Carbohydrate metabolism, 901
Stern, W. G., Dislocation of hip, *1496
Stettner, E., Ossification of hand, 900, 1204
Stevenson, G. S., Epilepsy, 336
Steward, F. J., Arthritis, 1799
Stewart, G. D., Reflex stomach, 1604
Stewart, G. N., Effect of physostigmin on output of epinephrin, 1427
Stewart, S. H., Tuberculosis, 823
Stewart, W. H., Bronchiectasis and lung abscess, 959
Stheeman, H. A., Constitutional deficiency in calcium, 972
Stiassnie, Vomiting in meningitis, 343
Stiénon, L., Auricular-ventricular innervation, 1862
Stiles, C. W., Ascaris lumbricoides, *239
Stillman, E., Urea Excretion, 1276
Stillman, R. G., Laboratory examinations, *1816
Stillmunkés, Rat-bite disease, 1049
Stimson, A. M., Rabies vaccine, *241
Stine, D. G., Camphor in influenza, 1534
Stivelman, B., Conditions mistaken for tuberculosis, 474
Stix, R., Febrile abortion, 1542
Stocker, A., Psychanalysis of a Greuze painting, 1135
Stokee, J. H., Wassermann-fast syphilis, 268; Erythema nodosum and tuberculosis, 335; Neurosyphilis, *708; Priority in use of spinal drainage, 954; Spurious chancer, 1039; Venereal disease control, 1266; Epifascial injections, 1428
Stookey, B., Nerve defects, 1603
Stopford, J. S. B., Nerve defects, 410
Storey, C. L., Scoliosis, *786
Strahlmann, L., Derangement of knee, *561
Strakosch, W., Quinin in obstetric cases, 1866
Stransky, E., Magnesium and metabolism, 75; Residual nitrogen in newly born, 75; Clinical significance of residual nitrogen, 76; Functioning of kidneys in infants, 691; Elimination of water and salt, 691; Swelling of muscle after death, 1716
Strassberg, Treatment of pellagra with own blood serum, 1621
Strathmann-Herweg, Cholesterin in blood serum, 76
Strathy, G. S., Liver atrophy, 203
Stratz, C. H., Prophylaxis of eclampsia, 1327
Straubel, M., Partial sinus-auricle block, 557; Sinus arrhythmia, 557
Strauss, A., Intravenous administration of arsphenamin in nonsyphilitics, 65
Strauss, H., Urobilin in duodenal secretion, 762
Strebel, J., Retrobulbar neuritis, 968
Strecker, E. A., Encephalitis, *777
Stretton, J. L., Carcinoma of intestine, 1430
Strickler, A., Intravenous administration of arsphenamin in nonsyphilitics, 65
Strickler, D. A., Medical examinations and licensure, 936
Strobell, C. W., Chemical removal of inoperable cancer of breast, 1605
Strohl, A., Artificial pneumothorax, 551
Ström, S., Roentgen diagnosis of nephrosis with calculus, 830; Roentgen diagnosis of osteitis fibrosa, 974
Strong, R. P., Plaguelike Infections, 1525
Stross, L., Eye in syphilis, 1052
Strother, W. H., Elephantiasis, 1533
Strouss, S., Alimentary hyperglycemia, 134; Renal glycosuria, 134; Variations in normal blood sugar, 134
Strübing, Subcutaneous infusion, 1805
Strunsky, M., Endarteritis obliterans, *519
Struthers, J. E., Multiple polyposis of intestinal tract, 202
Sturm, E., Effect of X-ray on tonsils, *228; Effect of cellular reaction induced by roentgen rays on cancer grafts, 1194; Lymphoid stimulation increases resistance to cancer, 1368
Sturmdorf, A., Chronic pelvic peritonitis in women, 127
Suitsu, N., Alkaline in blood of insane, 64
Sullivan, C. J., Organization of public health work from standpoint of State Public Health Association, 1016
Sullivan, M. X., Sulphocyanate in saliva and urine of pellagrins, 892; Alkali in pellagra, *1002; Urine in pellagra, 1320
Sullivan, T. L., Intra-abdominal pregnancy, *521
Sulzbacher, B. L., Tetanus, 1533
Summers, J. E., Postoperative hemorrhage, 271
Sundelöf, E. M., Foreign body in jaw, *790
Sussini, M., Prolonged vomiting, 1540
Suter, E., Radium in cancer of esophagus, 1716
Sutherland, C. G., Glass splinters revealed by roentgen ray, *1749
Sutherland, G. F., Gastric secretion in starvation, 1608; Response of stomach glands to gastrin, 1608
Sutton, G. D., Vesicosigmoidal fistula, 1369
Sutton, R. L., Etiology of common warts, 744
Suzuki, S., Sarcoma, 1286
Suzuki, T., Enlargement of liver in beriberi, 1802
Svartz, N., Peritonitis in typhoid, 1438
Swain, J., Torsion of omentum, 752
Swartz, E. O., Germicidal tests with gonococcus, 204; Cultural characteristics of gonococcus, 336; Mercurochrome-220, *844; Effect of germicides on gonococcus, 1797
Sweet, F. B., Pancreatitis, 679
Sweet, R. B., Calculus in maxillary sinus, *1498
Sweet, W. C., Fasciolopsis infestation, *1819
Sweetser, T. H., Infected wounds, 475
Swellengrebel, N. H., Malaria and anophelines, 148; Parasitic haplosporidium in anophelinae, 148
Swellengrebel-de-Graaf, J. M. H., Malaria and anophelines, 148; Parasitic haplosporidium found in anophelinae, 148
Symmers, D., Leukanemia, *156
Symonds, C. P., Optic neuritis in encephalitis, 340
Synge, V. M., Plague, 1046
Szenes, A., Coagulation of blood, 1140
Szlapka, T. L., Pernicious anemia, *290

T

Takata, I. M., Gastric juice, 146
Takemoto, S., Mode of infection of schistosomum japonicum, 1799
Talbot, F. B., Calcium in blood, 404; Protozoan-like cells in infants' tissues, 1607
Talentoni, C., Hyperchlorhydria and vagotonia, 622
Tamura, O., Structure of nucleus, 139
Taucre, E., Bigeminal pulse, 1719
Taniguchi, T., Sachs-Georgi and Wassermann reaction, 1044
Tanner, W. F., Pellagra, *1337
Tanon, L., Hygiene and Infectious diseases, 482; Plague, 1048

Tardieu, A., Pneumococcus infection, 1281
de Tarnowsky, G., Koch Cancer Remedy, 537
Tate, M. A., Gangrenous dermatitis, 1529
Taussig, F. J., Radium in cancer of cervix, 63
Tavernari, F., Congenital malformations and latent epilepsy, 212
Taylor, A. S., Abdominal neurasthenia, 135; Cervical ribs, 1603
Taylor, C. A., Modified salicylic acid and samarin, 1030
Taylor, J., Epilepsy a symptom, 409
Taylor, J. S., Anesthesia in mastoidectomy, 1783
Taylor, K. P. A., Renorenal reflex, 548
Taylor, M. L., Tonsilitis patients carriers of hemolytic streptococci, 1127
Taylor, R. T., Reconstruction of hand, 1196
Teague, O., Antiplague vaccination, *243; Cholera vaccine, *243
Teissier, P., Plague at Paris, 1048; Plague bacilli in blood, 1048
Telling, W. M., Sarcoma of intestine, 549
Tenani, O., Operations on peripheral nerves, 1435; Tumor of corpus callosum, 1619
ten Horn, C., Sensations in muscles, 1436
Tennent, R., Hernia into umbilical cord, 895
Terracol, J., Injury of semilunar cartilage, 898
Terrien, F., Paralysis of cervical sympathetic, 757
Terry, W. I., Diverticula of jejunum, 1192; Goiter, *1821
Thalhimer, W., Furunculosis, *295; Syphilitic epiphysitis, 546; Encephalitis, 818; Transfusion, *1345
Thannhauser, S. J., Nephrosis with Bence-Jones' albuminuria, 557; Purin metabolism, 1287
Thedering, Skin cancers, 213
Thélin, C., Placenta praevia, 1284
Thévenot, L., Mobilization of lower bladder, 142; Tuberculous perinephritis after nephrectomy, 1801
Thom, B. P., Strain in spirochetes, 749; Syphilis and regeneration, 751
Thomas, C. P., Arrhythmia in pregnancy, *1227
Thomas, E., Scarlet fever, 1621
Thomas, J. E., Motility of antrum, 271
Thomas, T. T., Dislocation of shoulder, 1369
Thomasson, W. J., Hemorrhage after peritonsillar abscess, *931
Thompson, J. C., Pneumothorax, *653
Thompson, L. J., Paretic curve in gold test, 818
Thompson, W. G., Occupation therapy, 1597
Thomsen, O., Gonococci, 214; Meningococcus infection, 904; Mode of action of serotherapy, 1328; Generalized vaccinia, 1720; Pneumococcus types, 1807
Thomson, D., Detoxicated vaccine, 1198
Thomson, J., Congenital hypertrophy of pylorus, 478
Thomson, J. D., Aspirating dissector for tonsil surgery, *1575
Thomson, M. S., X-ray in hemorrhagic sarcoma, 1613
Thorburn, W., Posterior rhizotomy for pain, 1614
Thorek, M., Amniotic hernia, *1748
Thornton, G. O., Labor in encephalitis, 1045
Thoss, Rectal fistula, 1141
Thouvenin, R., Ulcer of lesser curvature, 688
Thoyer-Rozat, Sacralization of fifth lumbar vertebra, 686
Throckmorton, T. B., Brain tumor, 1370
Thursfield, H., Mongolism, 1370
Tibaldi, E., Entameba in tonsils, 621
Tichy, H., Acceleration of coagulation by raying liver, 1049; Tuberculous glands, 1806
Tieken, T., Physical diagnosis, *1735
Tierny, Erysipelas, 1049
Tihen, H. N., Basal metabolism, *86
Tillgren, J., Prostatic hypertrophy, 902
Tilli, P., Catheterization, 413
Timbal, L., Dyspeptic coma with gastric ulcer, 140; Ulcer of stomach, 343
Timme, W., Mongolian idiot, 1609
Timpano, P., Dermatitis from arundo donax, 639
Tinel, J., Neuralgia of sympathetic system, 1136; Causalgia, 1434
Tinker, W. R., Physicians in Industry and general practice, 129
Tirado Macías, C., Kidney tumors, 623
Tisdall, F. F., Potassium in blood serum, 1368
Titus, E. W., Radium in gynecology, 1529
Titus, P., Repeated cesarean section, 1857
Tixier, L., Anemia, 1283
Todd, L. C., Arsphenamin and kidney functions, 65
Todde, C., Kleptomania, 826
de Toledo Pisa, J., Typhus, 556
Toll, W. C., A tonsillectome, *1164
Tollendal, T., Pigmented nevi in idiot, 556
Tonnet, J., Blood in malignant disease, 1712
Torregrosa, A., Pyrexias, 1132, 1859
Torrents Castelltort, J., Scarlatinal mastoiditis, 969
Torres, F. R., Tuberculosis, 212
Toupet, R., Posterior gastro-enterostomy, 1712
Tracy, J. L., "Nicotin and tobacco," 468
Trask, J. D., Jr., Measles, 1194; Immunity after experimental measles, 1532
Travassos, L., Helminthologic fauna, 212
Treber, H., Radiotherapy, 1326
Trémolières, F., Edema in syphilitic, 1048
Trogu, G., Anesthesia of trigeminal nerve, 1435
Troisier, J., Gout and cholesterin, 1800
Tron, G., Scarlet fever, 899
Tronconi, S., Hemorrhage in suprarenals of new-born, 1539
Tucker, J. P., Hookworm infection, 748; Agar agar solution in gastro-intestinal roentgen-ray work, *1078
Tumpeer, I. H., Influenzal meningitis, 1607
Turco, A., Causalgia, 1435
Turenne, A., Suprarenal toxemia of pregnancy, 484; Encephalitis in pregnant, 1713
Turpin, T. J., "Black spider poisoning," 954
Turrettini, G., Second pulmonary sound in carditis, 480; Encephalitis, 1712
Tzanck, A., Syphilis, 143

U

Uhlenhuth, E., Gigantism, 546
Ulhôa Cintra, A. P., Typhus, 556
Umbert, P., Tuberculosis of nervous system, 556
Umemura, R., Cholera Immunity, 67; Absorption of antibodies and proteins, 1796
Umeno, S., Antirabic Inoculation of dogs, 1799
Unger, L. J., Blood transfusion, *9
Upson, W. O., Roentgen-ray in leukemia, 404
Urechia, C. I., Cerebral glycosuria with neurosyphilis, 1710
Usener, W., Action of calcium on vegetative nervous system, 1437
Ustvedt, Reinjection of antiserums, 904
Utheim, K., Changes in blood with diet, 1206; Loss of weight in newly born, 1206
Uyematsu, S., Hemangioma cavernosum, 137; Axons and dendrites, 1040

V

Vaccari, L., Mediogastric stenosis, 1050
Vaglio, R., Intracranial hemorrhage, 688
Valente, F., Mesenteric cysts, 968
del Valle y Aldabalde, R., Dangers of intraspinal treatment, 1619
Vallery-Radot, P., Digestive antianaphylaxis, 551
Vallino, M. T., Typhoid, 759
Van Andel, M. A., Poisonous plants as household medicines, 902
Van der Elst, Fractured long bone, 685
Van der Reis, Fate of bacteria in stomach, 1714
Van Dolsen, W. W., New model of metranoikter, *1825
Vándorfy, J., Activity of fasting stomach, 1714
Van Dyke, R. B., Iodin in thyroid gland, 617
van Eerten, B. J. W., Pituitary treatment, 1142
van Gehuchten, P., Familial spastic paraplegia, 555
van Gils, J. B. F., Medical emblems, 1544
Van Herwerden, M. A., Counting blood platelets, *723
Van Horn, A. F., Sarcoma of epipharynx, *32
van Leeuwen, W. S., Asthma, 1544
van Lier, E., Stenosis of intestines, 488
Van Metre, P. W., Pertussis vaccine, 466
Van Randenborgh, Proteotherapy, 418
van Ree, A., Roentgen-ray in tuberculosis, 418
van Rijnberk, G., Medical subjects in Dutch art, 78, 1807; Medical prints, 902
Van Schaick, G. G., Vomiting of pregnancy, 1428
Van Slyke, D. D., Urea excretion, 1276
van Spanje, N. P., Resisting power of erythrocytes, 974
van Straaten, J. J., Porphyrinuria, 560
Vanverts, J., Complicated abortion, 621
Van Zwaluwenburg, J. G., Pneumoperitoneum of pelvis, 615; Tonsil route of infection in tuberculosis, 1128
Vaquez, H., Acute paroxysmal rise of blood pressure, 209; Action of digitalis, 1282; Venous septicemia, 1434
Varrier-Jones, P. C., Quasicontinuous temperature record, 1198
Vassallo, S. M., Iodin in plague, 1432
Vaughan, E. M., Determining approximate time of death, 608
Vaughan, J. C. S., Vitex peduncularis in malaria, 752
Vaughan, V. C., Training in public health and hygiene, 800; Rural health centers, *983
Veau, V., Unilateral harelip, 1712
Vecchia, E., Intratracheal administration of arsphenamin, 345
del Vecchio, P., Colostrorrhea in pregnancy, 1202
de Vecchis, B., Cancer of mouth, 211
Velasquez, M. A., Ambard's formula, 1286
Velter, Supernumerary teeth in orbit, 1199
Veraguth, O., Kinematized stumps, 1620
Verdes Montenegro, J., Specific defenses in children, 1435
Verger, H., Ataxia of fingers, 1862
Verschoor, A., Helminthiasis, 1807
zur Verth, M., Wiring fractures, 1206
Vet, Antirabic inoculation of dogs, 1799
Vetlesen, H. J., Cardiac arrhythmia, 78
Vetri, A., Operation on mouth, 758
Vianna, C., Arteriosclerosis of brain, 826
Viets, H., Relation of knee jerk and patellar clonus to muscle tonus, 409; Glioma, 679
Vignat, Cryotherapy, 898
Vignes, H., Signs of death of fetus, 757; Eclampsia, 1617
Villar, R., "Oyster shell" fracture of patella, 1537
Villard, E., Epigastric hernia, 825
de Villaverde, J. M., Hallucinosis in syphilitics, 74
Villegas, A., Enrichment of sputum, 346
Vinals, F., Rheumatism, chorea and endocarditis, 73
Vincent, G. E., American conference on hospital service, 939
Vincent, H., Vaccination against typhoid, 824; Vaccination against bacillary dysentery, 964
Vineberg, H. N., Myomectomy, radium and roentgen ray, 406
Vinson, P. P., Pharyngeal stricture, *996
Viola, F., Protein shock in hemorrhage, 689
Vis, W. R., Tuberculosis, *1156
Viscontini, C., Congenital megacolon, 1804
Vitón, A., Arrhythmias, 1804
Vitón, J. J., Purulent interlobar pleurisy, 1286
Voegelin, A. W., Foreign body in bronchi, *1230
Voegtlin, C., Arsphenamin and neoarsphenamin, 547
Vogelgsang, K., Gout, 1714
Vogelius, F., Fluids with bronchiectasis, 1807
Vogt, A., Crystalline lens, 1373
Volkmann, J., Osteitis fibrosa, 558
Vollmond, E., Gonococci, 214
Voncken, J., Traumatic aneurysms, 273
Von Deesten, H. T., Raynaud's disease, 54
Vonderweldt, P., Spasmophilia, 1372
Von Glahn, W. C., Rupture of papillary muscle of heart, 616
Von Meysenbug, L., Blood calcium and calcium therapy, 678
Von Sholly, A. I., Vaccination against respiratory diseases, 679
Voronoff, S., Experimental placentation, 1711
Vulliet, H., Growth epiphysitis, 484

W

Wagener, H. P., Retinitis, *515
Wagner, C. E., Dysentery bacillus in urine, 819
Wagner, R., Jaundice, 1437; Development and nutrition, 1543
Wagner-Jauregg, Paresis and tabes, 1717
Wakeley, C. P. G., Roentgen-ray in hemorrhagic sarcoma, 1613
Waldorp, C. P., Genital dystrophy, 277
Walker, C., Epinephrin in resuscitation, 684
Walker, C. B., Dissection and suction, *793
Walker, G., Symphyslotomy in operations on prostate, 1858
Walker, J. T., Prevention of urinary obstruction after prostatectomy, 1710
Walker, T. D., Free diphtheria antitoxin, 1704
Wall, C., Chorea, 70
Wallace, G. B., Volstead act, 1592
Waller, J. B., Otto-Chrobak pelvis, 1807
Wallgren, A., Myeloma, 488; Osteosclerosis, 560; Bence-Jones proteinuria, 974; Leukemia in pregnancy, 1439; Poliomyelitis, 1439
Wallis, R. L. M., Diabetes Insipidus with glycosuria, 479
Walshe, F. M. R., Encephalitis, 408
Walters, W., Bence-Jones proteinuria, *641
Walther, Postgonorrheal prostatitis, 1204
Walther, H. W. E., Bladder retractor, *1574
Wander, W. G., Epithelioma developing on lupus lesion, 335; Cutaneous senstization test, 1039
Wanless, W. J., Gastric ulcer, 478
Ward, E., Tuberculosis, 618
Ward, H. K., Quantitative serum reaction in syphilis, 1709
Wardell, E. L., Slight glycosuria, 334
Warden, C. C., Nature of toxin, 617
Ware, M., Jejunocolic fistula, 64
Warfield, L. M., Subcutaneous sporotrichosis, 1524
Warnecke, Catarrhal colds and tuberculosis, 1438
Warnekros, Roentgenography of placenta, 417
Warnshuis, F. C., Medical organizations and public health education, 1015; Foot injuries, *1214; Michigan turns down chiropractors, 1363
Warr, O. S., Cholecystitis, 1424
Warthin, A. S., Staining method, *234
Warwick, M., Effect of antisyphilitic treatment on gold reaction, 750; Necropsy findings in new-born, 1607
Waser, B., Growth in length of infants, 347
Wason, I. M., Ophthalmia, *908
Wassink, W. F., Peristalsis of kidney pelvis, 902
Waters, B. H., Gentian violet in pleural infection, 890
Watkins, T. J., Suppurating wounds following abdominal section, 478
Watkins-Pitchford, W., Silicosis and suicide, 964
Watson, A., Rickets, 1534, 1614
Watson, F. C., Sponge in abdomen, *24
Watson-Williams, P., Nasal sinus infection as cause of appendicitis, 1280
Watt, J. C., Intestinal stasis, 140
Wayson, J. T., Iodin in leprosy, 1039
Wearn, J. T., Diphtheria carriers, 1322

Weaver, G. H., Antistreptococcus serum, *34; Diphtheria carriers, *831; Diphtheria, *1651
Webb, G. B., Bronchiectasis, *714; Postural rest, *846, 1516
Webb, L. W., Milk modification, *633
Webb, R. C., Clinical clerkships in surgery, 56
Weber, A., Venous pulse, 557
Weber, F. P., Lupus pernio, 1710
Weber, G., Glycuronic diabetes, 554
Weber, O., Elimination of water and salt, 692
Webster, L. T., Leukosarcoma, lymphosarcoma and lymphatic leukenia, 336; Portal thrombosis, 616
Wechsler, I. S., Substantia nigra, 1611
Wedd, A. M., Paroxysmal tachycardia, 1794
Weech, A. A., Syphilis in fetus, 1193
Weidenthal, C. M., Cinchophen in rheumatic fever, *1728
Weigeldt, W., Yellow atrophy of liver, 1325
Weil, M. P., Vitiligo, 483
Weil, P. E., Pneumoperitoneum, 411; Venous thrombosis, 551
Weill-Hallé, B., Serum sickness, 1200
Weinberg, F., Paroxysmal hemoglobnuria, 1542
Weinberg, M., Intraperitoneal infusion, 1326
Weinert, A., Blood after splenectomy, 1719
Weis, J. F., Pituitary extract and water balance, 1606
Weismann, Vaquez' erythremia with inherited syphilis, 208
Weiss, E., Kidney function test, *298; Gout, 1714
Weiss, H., Heat resistance of B. botulinus, 406; Anesthesia in botulism, *1741
Weiss, M., Capillaroscopy, 898
Weiss, R. S., Picric acid in epidermophyton infection, 1274
Weiss, S., Digitalis, *508
Weissenbach, R. J., Blood culture mediums, 72; Meningitis with arthritis, 554
von Weizsäcker, V., Adaptation of shape to work, 486
Weller, C. V., Medical bibliography and perpetuation of error, 539
Wells, E. A., Cancer of rectum, 615
Wells, H. G., Relation of multiple vascular tumors of bone to myeloma, 1530
Welti, H., Tachycardia, 1801
Weltmann, O., Gastric secretion, 1327
Wende, G. W., Epidermophyton, 335
Wernøe, G. B., Esthesioscopy, 214
Wertheimer, E., Nutrition vs. infection, 1718
de Wesselow, O. L. V., Sugar tolerance, 754
West, L. N., Removal of blood from throat in tonsillectomy, *307
Westergren, A., Stability reaction of blood in tuberculosis, 1614
Westermark, F., Sterility in women, 1720
Weston, P. C., Phenolsulphonephthalein absorption, 476
Westphal, K., Narrow portions of stomach, 1140
Wetterstrand, G. A., Roentgen-ray in tuberculosis, 148
Wetzel, E., Febrile reaction to injection of milk, 1206
Wetzel, N. C., Effect of alcohol on growth, 271
Wharton, L. R., Pelvic abscess, 1192
Wheelon, H., Motility of antrum, 271
Wherry, W. B., Bacterial parasites of mucous membranes, 1322
Whipple, G. H., Iron and arsenic in anemia, 1794
Whisler, H. A., Phosphorus in rickets, 1187
White, B., Schick test, 960
White, C., Sodium bicarbonate in pregnancy toxemia, 340
White, E. W., Injection catheter, *931
White, H. L., Effect on blood of injection of glucose and gum acacia, 63
White, J. W., Derangement of knee, *561
White, P. D., Valvular disease, *1207; Interpolated contractions of heart, 1320
White, T. W., Lucilia Caesar and poliomyelitis, 407
Whitehorn, J. C., Blood chlorids, 892
Whiteside, G. W., Medical licensure, 937
Whitham, J. D., Plastic surgery, *448
Whittemore, W., Hair-ball in stomach, 335
Widakowich, V., Spermatozoa of syphilitics, 414
Widal, F., Digestion hemolysis test for insufficiency of liver, 275; Alimentary hemolysis in diabetes, 967; Protein therapy, 1137
Widerøe, S., Local anesthesia for abdominal operations, 78; Intraspinal injections of air in diagnosis, 1438
Widmark, E. M. P., Acetone in blood, 903
Wien, M. S., Rupture of aortic aneurysm, *1750
Wienecke, P., Tuberculous peritonitis, 1805
Wieting, J., Ligation of artery before roentgen irradiation, 1622
Wiki, B., Phosgen poisoning, 899
Wilbrand E., Effect of raw onions on digestion, 487
Wilder, R. M., Retinitis, *515
Wildman, A., Anesthesia in mastoidectomy, 1783
Wile, U. J., Syphilis, *8
Wilensky, A. O., Disease of gallbladder and biliary passages, 1602
Wilkie, D. P. D., Diverticulum of appendix, 1798
Wille, Gout, 1205
Williams, A. W., Microbal studies of respiratory infectons, 679
Williams, C., Classification of goiter, 817
Williams, C. M., Secondary syphilitic infection, 749
Williams, J. G., Unusual chest cases, 615
Williams, J. L., Excessive fluid intake and blood pressure, 1128; Uric acid, *1297
Williams, J. R., Wassermann reaction in nonsyphilitics, 1608
Williams, J. T., Primary disease of pelvic lymph glands, 750
Williams, J. W., Training in gynecology and obstetrics, 800; Teaching of obstetrics and gynecology, 872; Deliberate sterilization of women, 1857
Williams, O. B., Diphtheria carriers, 1322
Williamson, O. K., Arm and leg blood pressure in aortic incompetence, 1799
Williamson, R. T., Retinal blood vessels in diabetes, 619
Willis, A. M., Alkali reserve, *303; Removal of gallbladder without drainage, *712
Willis, H. H., Oil of chenopodium in strongyloides infection, 70
Willius, F. A., Congenital heart disease, 477; Electrocardiography in angina, 750
Willmoth, A. D., Fecal obstruction, 1533
Wilmer, W. H., Effects of carbon monoxid on eye, 817
Wilson, C. M., Bile salts and gastric function, 1614
Wilson, G., Jacksonian epilepsy, *842
Wilson, G. S., Enteric fever, 410
Wilson, H. P., Dr. Wilson protests premature announcement of death, 1121
Wilson, M. A., Gonorrhea, 136
Wilson, M. G., Exertion, *1213; Exercise tolerance, *1629
Wilson, S. A. K., Decerebrate rigidity and tonic fits, 409
Wimmer, L. K., Miliary tuberculosis, 1865
Winiwarter, J., Tuberculosis of kidney, 1205
Winslow, C. E.-A., Preserving orignial types of new species of bacteria, 617
Winslow, K., Pituitary polyuria, 477
Winther, K., Muscular rigidity and paralysis agitans, 830
Wisdom, S., Lucilia Caesar and poliomyelitis, 407
Wishart, M. B., Carbohydrate metabolism and diabetes, 67; Gas bacillus infecton in diabetic dogs, 269; Diet and exercise in diabetes, 817
Wislocki, G. B., Absorption of true solutions and colloids from peritoneal cavity, 1193; Phagocytes in bone marrow, 1532
Witherbee, W. D., Effect of X-ray on tonsils, *228, 477; Reaction of normal skin to destructive doses of roentgen ray, *301; Syphilis, 1368
Witherspoon, J. A., Syphilis, 1423
Witherspoon, T. C., Surgery of gallbladder, 200
Wittenrood, A. C., Sciatica, 1719
Wolbach, S. B., Typhus, 1526
Wolf, M., Cancer in animals, 1047
Wolff, E., Albumoses in blood, 903; Nutrition vs. infection, 1718
Wollstein, M., Tuberculosis, 404
Woltman, H. W., Spina bifida, 1277
Wood, A. J., Erythredema, 1133
Wood, D., Closure of septic bone cavities with muscle flaps, 1798
Wood, D. R., Diphtheria carrier, 69
Wood, F. C., Glover Cancer Serum, 885
Wood, H. D., Orthomelic, 1426
Woodhead, G., Quasicontinuous temperature record, 1198
Woodruff, M. C., Varicella, 961
Woodwell, M. N., Distribution of carbon dioxid between cells and plasma, 617; Acid base equilibrium in disease, 893
Woodyatt, R. T., Diet in diabetes, 1605
Woolley, P. G., Clinical pathologist and laboratory technician, 744
Woringer, P., Fat diarrhea, 553
Work, H., Medical problems, *1623; Address, 1681
Worms, G., Injury of semilunar cartilage, 898
Wright, A. F. Congenital syphilis 822
Wu, H., Chemical changes in blood in experimental traumatic shock 269
Wulff, F., Meningococcus infection, 904; Mode of action of serotherapy, 1328
Wyant, Z. N., Inhibition of B. botulinus by salt, 135
Wyeth, J. A., Bloodless amputation at hip, 328
Wynn, F. B., Physiotherapy, 1795
Wynn, J., Empyema thoracis, 1128
von Wyss, W. H., Altitude and heart disease, 688

Y

Yabe, S., Leukocytes in influenza, 409, 1799
Yamagiwa, K., Sarcoma, 1286
Yamakami, K., Hemolytic fever, 339
Yamamoto, M., Brain stem, 1541
Yawger, N. S., Facial nerve paralysis, 135
Yerger, C. F., Cholera, *166
Ylppö, A., Passage of salts through placenta, 347
Yorke, W., Differential leukocyte counts, 963
Young, J., Eclampsia, 1279
Young, M. L., Amebic dysentery, 550

Z

Zachariae, P., Chorea gravidarum, 214
Zagari, G., Policlinic and medical training, 1050
Zaletel, R., Inversion of uterus, 142
Zamorani, V., Measles, 345
Zandren, S., Secretion of ammonia and amino-acids, 903; Pineal gland, 1142
Zangger, T., Nervous insomnia, 619
Zanoni, C., Goiter, 1618
Zayas, S. M., Stomach disease, 900
Zebbe, Hemorrhagic nephritis, 829
Zehner, K., Camphor in hemoptysis, 77
Zeisler, E. P., Tuberculosis of lip, 335
Zeman, F. D., Influenza, *986
Zerbino, V., Pneumococcus meningitis, 414; Pyelitis, 485; Meningitis, 1540
Zilva, S. S., Aeration and stability of antiscorbutic factor, 1046
Zimmermann, E. L., Syphilitic iritis, *1818
Zimmermann, R., Ectopic chlorioepithelioma, 415; Testing donors' blood, 488
Zingher, A., Schick test, 271
Zondek, B., Peristalsis, 346; Vasomotor disturbances at menopause, 626
Zondek, H., Heart and ductless glands, 760, 1206
Zubizarreta, A., Digestive antianaphylaxis, 277
Zuccòla, P. F., Potassium chlorate poisoning, 758; Gas cysts of intestines, 1374
Zuckerkandl, O., Hypertrophy of prostate, 147
Zumbusch, H., Carbohydrate metabolism, 901
Zweifel, E., Roentgen irradiation of myomas, 1052; Edema of portio at delivery, 1326
Zweig, W., Abdominal triad, 901

INDEX TO PAGES

OF THE JOURNAL, ACCORDING TO WEEKLY ISSUES—VOLUME 76, JANUARY-JUNE, 1921

Pages	No.	Date
1- 78	1	Jan. 1
79- 148	2	Jan. 8
149- 214	3	Jan. 15
215- 280	4	Jan. 22
281- 348	5	Jan. 29
349- 418	6	Feb. 5
419- 488	7	Feb. 12
489- 560	8	Feb. 19
561- 626	9	Feb. 26
627- 692	10	Mar. 5
693- 762	11	Mar. 12
763- 830	12	Mar. 19
831- 904	13	Mar. 26
905- 974	14	Apr. 2
975-1054	14	Apr. 9
1055-1142	16	Apr. 16
1143-1206	17	Apr. 23
1207-1288	18	Apr. 30
1289-1328	19	May 7
1329-1376	20	May 14
1377-1466	21	May 21
1467-1544	22	May 28
1545-1622	23	June 4
1623-1720	24	June 11
1721-1808	25	June 18
1809-1918	26	June 25

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CONTENTS AND DIGEST

Disorders of the Pituitary Gland: Retrospective and Prophetic. Harvey Cushing, M.D., Boston 1721

Lack of definite knowledge on subject of endocrinology. Early observations, followed by therapeutic exploitation. The slow progress of knowledge. Significance of the tumor in pituitary disorders. Various operative procedures. Observations on diabetus insipidus. Unsolved problems. Glandular therapy.

Nerve Injuries Due to Errors in Technic in Making Intravenous Arsphenamin Injections. Dean Lewis, M.D., Chicago 1726

Report of two cases emphasizing the necessity of extreme care.

Cinchophen, Neocinchophen and Novaspirin in Rheumatic Fever: Comparative Therapeutic Efficiency, Toxicity and Renal Functional Effects. P. J. Hanzlik, M.D., and R. W. Scott, M.D., with the collaboration of C. M. Weidenthal, A.B., and Joseph Fettermann, A.B., Cleveland 1728

Methods employed and agents used in making observations on the therapeutic efficiency of these drugs in rheumatic fever. Results obtained in treatment of patients. Comparison with salicylate.

A Plea for Better Understanding of Physical Diagnosis. Theodore Tieken, M.D., Chicago 1735

Development of methods of examination. Laënnec and auscultation. The era of bacteriologists, chemists and pathologists. Necessity for experience in the development of the art of physical diagnosis. Ideals of teaching.

Nonoperative Treatment of Fractures of Cervical Vertebrae with Cord Injury: The Result in Four Cases. Michael Osnato, M.D., New York.....1737

Propriety of conservatism in cervical cord injuries. Report of four cases: one of complete crush resulting fatally, and three of partial involvement resulting in recovery without operation.

Anesthesia in the Treatment of Botulism. Jacques Bronfenbrenner, D.P.H., and Harry Weiss, Ph.D., Boston..1741

Survival of animals treated with antitoxin and anesthetized.

Influence of Menstruation on the Food Tolerance in Diabetes Mellitus. Jacob Rosenbloom, M.D., New York....1742

Studies on two cases in which tolerance was lost, apparently because of temporary alteration in function of gonads.

Differentiation of Type A and Type B Botulinus Toxins in Food: A Rapid and Simple Method. Robert Graham and Herman Schwarze, Urbana, Ill. 1743

Practicability of employing chickens in a differential susceptibility test, saving time in diagnosis.

(Continued on next page)

PROCEEDINGS OF THE BOSTON SESSION

Minutes of the House of Delegates.1754
The Opening General Meeting.....1766
Summary of Registration.....1767
Awards in the Scientific Exhibit...1767

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

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CONTENTS AND DIGEST— Concluded

Growth of Influenza Bacilli Without Blood. T. M. Rivers, M.D., Baltimore 1744

Factors necessary for the growth of these organisms.

Diaphragmatic Spasms in Animals Produced with a Streptococcus from Epidemic Hiccup: Preliminary Report. Edward C. Rosenow, M.D., Rochester, Minn. 1745

Results of inoculation with material from three patients.

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Report of a Case of Amniotic Hernia. Max Thorek, M.D., Chicago.....1748

Case of Derodidymus (Dicephalus). W. M. Beach, M.D., Shelton, Wash..1748

Splinters of Glass in the Face and Skull Revealed by the Roentgen Ray: Report of Two Cases. Charles G. Sutherland, M.B. (Tor.), Rochester, Minn. 1749

Report of a Case of Rupture of an Aortic Aneurysm Into the Superior Vena Cava. M. S. Wien, M.D., and W. C. Earle, M.D., Chicago.....1750

Rhinoplasty to Replace a Nose Bitten Off by a Rat. Moses Behrend, M.D., Philadelphia 1752

A Method for Obtaining Stable Suspensions of Streptococci for Agglutination. John F. Norton, Ph.D., Chicago 1753

NEW AND NONOFFICIAL REMEDIES

Description of Articles Accepted by the Council on Pharmacy and Chemistry 1753

Pollen Antigens-Lederle—Pituglandol-Roche.

EDITORIALS

The Influence of Heredity in Tuberculosis.....1768

Resistance observed in man and in animals.

Bacteria and the Telephone.....1769

The danger from transmitters.

The Fate of the Lymphocytes.....1769

Eventual migration through the mucous membranes.

CURRENT COMMENT

The Boston Session.....1770

Factors contributing to conspicuous success.

The Japan Medical World.....1770

A new journal published in English.

The Phagocytic Action of Bone Marrow 1771

Variations of activity in different species.

President-Elect George E. de Schweinitz 1771

Biographic sketch.

MEDICAL NEWS 1772

GOVERNMENT SERVICES 1776

FOREIGN LETTERS 1776

London—Madrid—Paris—Berlin.

MARRIAGES 1780

DEATHS 1780

PROPAGANDA FOR REFORM 1781

Mon-Arsone Not Admitted to N. N. R.

CORRESPONDENCE 1782

Endocrinology and Psychanalysis — "The Medical Profession and the Volstead Act" — "Local Anesthesia in Operations for Mastoiditis."

QUERIES AND MINOR NOTES 1784

Increase of Large Mononuclears; Irritation Forms of Türck.

MEDICAL EDUCATION, REGISTRATION AND HOSPITAL SERVICE 1784

Coming Examinations—Hawaii April Examination—New Mexico April Examination.

SOCIAL MEDICINE AND MEDICAL ECONOMICS 1785

Daylight in the Schoolroom. Edward Jackson, M.D., Denver; Miss Katherine D. Blake, New York, and John F. Keating, Pueblo, Colo.

BOOK NOTICES 1787

MISCELLANY

Transylvania Library, A. H. Barkley, M.D. (Hon.), Lexington, Ky.....1789

Report of Ohio Committee on Anesthesia..1790

MEDICOLEGAL 1791

Duty as Between Patients; Liability of Mining Company—Distinction in Lay Testimony as to Insanity and Sanity; Qualifications of Expert—Requisites to Commitment to Colony for Epileptics—Demand Under Statute to Be Taken to Hospital—Time of "Convalescence."

CURRENT MEDICAL LITERATURE

American Medical Journals

Pathology of Common Puerperal Lesions—Version 1793

Potter Version—Dry Labor—Fibroma of Ovary—Paroxysmal Tachycardia — Value of Iron and Arsenic in Anemia—Creatinin Coefficient in Tuberculosis—Blood Urea Nitrogen in Acute Intestinal Obstruction.....1794

Eye in Pituitary Disease with Acquired Syphilis—Molluscum Conjunctivitis—Infraction of Second Metatarsal Head—Polyneuritic Syndrome in Children—Physiotherapy — Agglutinins Not Lipoidal.....1795

Relation Between Absorption of Antibodies and Proteins—Specificity of Antiorgan Serums—Comparative Value of Complement Fixation Methods in Syphilis—Primary Lymphosarcoma of Stomach—Backache and Anatomic Variations of Lumbosacral Region—Heel on Boot—Tumors of Bladder Neck.....1796

Urinary Antisepsis—Effects of Germicides on Gonococcus—Surgical Treatment of Gonorrheal Epididymitis — Treatment of Gastric Ulcer — Pupil as Diagnostic Aid in Neurosyphilis—Draining Gallbladder by Magnesium Sulphate—Diagnosis of Intermittent Hydronephrosis—Mesenteric Vascular Occlusion... 1797

Syphilis in Children with Heart Disease..1798

Foreign Medical Journals

Diverticulum of Appendix Causing Intestinal Obstruction — Pyloric Stenosis; Rammstedt Operation—Goiter—Closure of Septic Bone Cavities with Muscle Flaps—Persistent Vitelline Artery 1798

Acute Infective Arthritis—Acute Intestinal Obstruction—Arm and Leg Blood Pressure in Aortic Incompetence—Neural Origin of Brain Sarcoma—Cultivation of Gonococcus—Decalcifying Fixative — Mode of Infection of Schistosomum Japonicum—Antirabic Inoculation of Dogs—Leukocytes in Influenza..1799

Cultivation of Lepra Bacillus—Papilloma of Bladder—Gout and Cholesterin—Pneumonia in the Aged—D'Herelle's Bacteriophagum—Treatment of Aneurysm of the Aorta—Posttraumatic Syphilitic Aortitis — Gastrectomy for Hard Ulcer—Hot Air in Treatment of Bacilli Carriers—Dyspepsia 1800

Physostigmin in Treatment of Tachycardia—Intra-Articular Serotherapy—Urticaria from Rapid Eating—Wassermann Reaction in Epidemic Encephalitis — Protein Therapy in Puerperal Septicemia—Circular Constriction in Treatment of Fractures of Long Bones—Surgical Affections of the Lower Bladder—Traumatic Lesions of the Wrist—Tuberculous Perinephritis After Nephrectomy — Fracture of the Sternum 1801

Morbid Conditions Associated with Athrepsia—The Liver in Beriberi—Diabetes and Gout in 1921—Carbohydrates in Diabetes—Absence of Neck — Continent Artificial Anus — Nonspecific Entero-Antigens—Medical Treatment of Gastric and Duodenal Ulcer—Dyspnea in Cardiorenal Disease — Typhoid Pseudotuberculous Pulmonary Symptoms.....1802

Gastroradiculitis from Pott's Disease—Diffuse Phlebitis—Test for Sugar Content of the Blood—Enterostomy — Source of Error in Tests for Acetone — Radical Treatment of Eventration and Ventral Hernia—Reconstruction of Thumb—Plastic Closure of Femoral Canal — Treatment of Varicose Veins in Leg 1803

Malformations of the Ureter—Congenital Megacolon—Ascaradiasis—Arrhythmias — Typhus in South America—Heterobacteriotherapy and Protein Therapy—Ovarian Tumors Complicating Pregnancy — Bile Peritonitis — The Sugar Content of the Blood in Children.1804

Pharmacologic Tests of the Vegetative Nervous System in Children—Bandageless Treatment of Wounds—Subcutaneous Infusion by Drop Method—Gout in Relation to the Nervous System—Enuresis and Disturbances of Circulation—The Pathogenesis of Appendicitis—Influence of the Ovaries on Glycemia—Conception Control—The Clinical Phenomena of the Puerperium—Interposito Uteri for Prolapse—Tuberculous Peritonitis 1805

Treatment of Psoriasis with Intravenous Injections of Sodium Salicylate — Effect of Papaverin on Increased Blood Pressure in Man as Induced by Epinephrin—Diagnosis and Treatment of Spasm of the Ileocecal Valve Sphincter—Operative Versus Roentgen-Ray Treatment of Tuberculous Glands—Experiences with Symphysiotomy — Symphysiotomy or Cesarean Section — Treatment of Puerperal Fever with Human Serum..1806

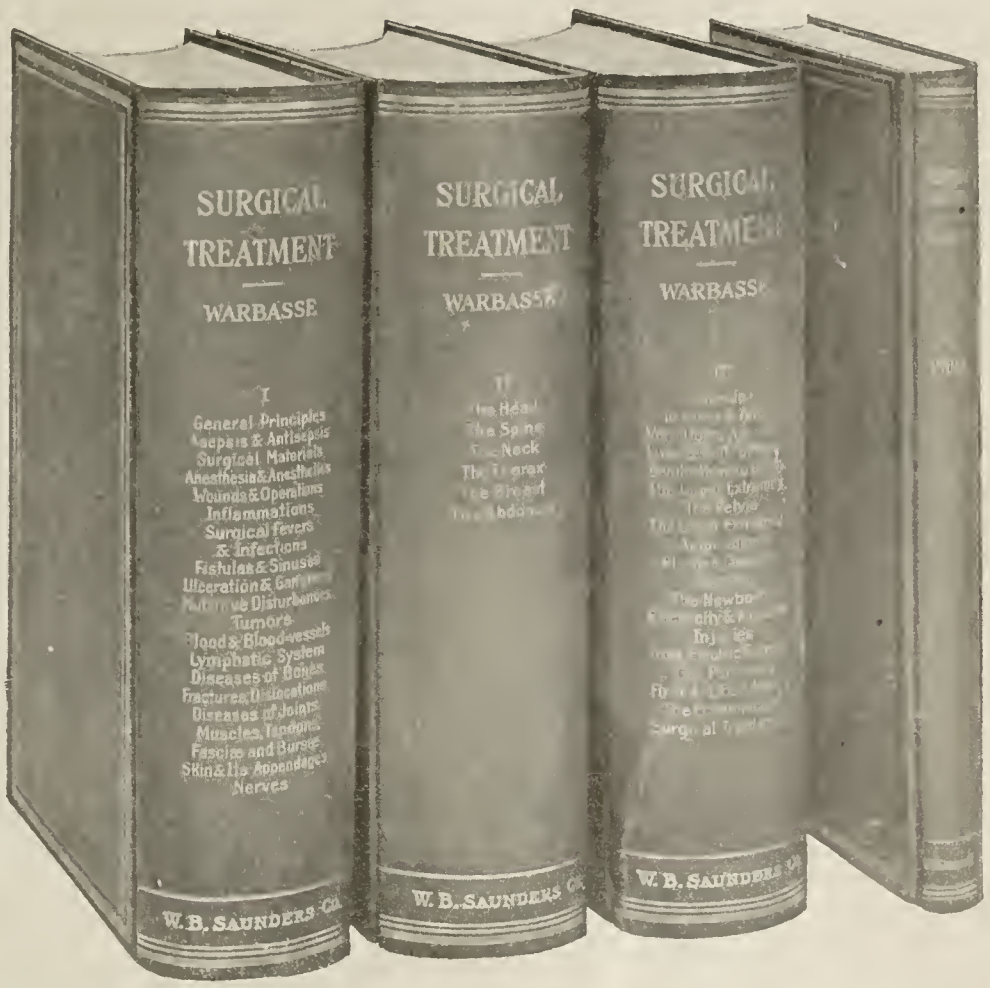
Parenteral Protein Therapy—Transmission of Malaria by Ludlowi Mosquito—Survival of Stegomyia Fasciata at Low Temperature—Transformation of Blood Pigment into Porphyrin—Helminthiasis—Anaphylaxis—The Otto-Chrobak Pelvis — Hysterectomy for Puerperal Sepsis—Medical Subjects in Art—Types of Pneumococci—Meningococcal Infection—Pathology of the Parathyroids—Case of Inversion of Abdominal Reflexes—Restriction of Fluids in Treatment of Bronchiectasia.1807

Loss of Neutrality Balance — The Intestinal Bacteriophagum — Epidemic Encephalitis—Congenital Syphilis in the Second Generation—Curability of Tuberculous Meningitis—Familial Peritonsillar Abscess—Quinidin in Treatment of Auricular Fibrillation....1808

TONICS AND SEDATIVES—BOOKS RECEIVED.....Adv. Page 20

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Idaho State Medical Association	H. W. Wilson, Twin Falls	E. E. Laubaugh, Overland Bldg., Boise	
Illinois State Medical Society	William F. Grinstead, Cairo	W. H. Gilmore, Mt. Vernon	
Indiana State Medical Association	David Ross, Indianapolis	Chas. N. Combs, Terre Haute	Indianapolis, Sept. 27-29, '21
Iowa State Medical Society	Alanson M. Pond, Dubuque	T. B. Throckmorton, Bk. Tr. Bl., Des Moines	
Isthmian Canal Zone, Med. Assn. of	W. E. Hubbard, Ancon	N. B. Kupfer, Ancon	
Kansas Medical Society	Clemens Klippel, Hutchinson	J. F. Hassig, 800 Minnesota Ave., Kansas City	
Kentucky State Medical Association	W. W. Anderson, Newport	A. T. McCormack, 532 W. Main St., Louisville	Louisville, Sept. 27-29, 1921
Louisiana State Medical Society	Homer J. Dupuy, Jr., New Orleans.	P. T. Talbot, 1551 Canal St., New Orleans	
Maine Medical Association	Theodore E. Hardy, Waterville	B. L. Bryant, 265 Hammond St., Bangor.	Bangor, June 28-29, 1921
Maryland, Med. and Chir. Faculty of	W. S. Gardner, Baltimore	J. A. Chatard, 1211 Cathedral St., Baltimore	
Massachusetts Medical Society	John W. Bartol, Boston	W. L. Burrage, 42 Eliot St., Jamaica Plain, Boston	Boston, June 13-14, 1922
Michigan State Medical Society	Angus McLean, Detroit	F. C. Warnshuis, 410 Powers Bldg., Gr. Rapids	
Minnesota State Medical Assn	C. E. Riggs, St. Paul	Carl B. Drake, Central Bank Bldg., St. Paul	Duluth, Aug. 24-26, 1921
Mississippi State Medical Assn.	John W. Barksdale, Winona	T. M. Dye, Clarksdale	
Missouri State Medical Association	Wilson J. Ferguson, Sedalia	E. J. Goodwin, 3529 Pine St., St. Louis	
Montana, Medical Association of	Creswell T. Pigot, Roundup	E. G. Balsam, 222 Hart-Albin Bldg., Billings	Billings, July 13-14, 1921
Nebraska State Medical Association	Byron B. Davis, Omaha	R. B. Adams, 1010 Terminal Bldg., Lincoln	
Nevada State Medical Association	R. A. Bowdle, East Ely	H. J. Brown, Goldfield	
New Hampshire Medical Society	Alpha H. Harriman, Laconia	D. E. Sullivan, 7 N. State St., Concord	
New Jersey, Medical Society of	Philander A. Harris, Paterson	William J. Chandler, South Orange	Atlantic City, June, 1921
New Mexico Medical Society	Chester Russell, Artesia	F. E. Tull, Albuquerque	
New York, Med. Soc. of the State of	James F. Rooney, Albany	Edward L. Hunt, 17 W. 43d St., New York	
N. Carolina, Med. Soc. of the State of	Thomas E. Anderson, Statesville	L. B. McBrayer, Sanatorium, Act'g Sec'y	
North Dakota State Med. Assn.	Frederick Ewing, Kenmare	H. J. Rowe, Lisbon	
Ohio State Medical Association	Wells Teachnor, Columbus	Mr. D. K. Martin, Ex. Sec., 131 E. State St., Columbus	
Oklahoma State Medical Assn.	G. A. Boyle, Enid	C. A. Thompson, 508 Barnes Bldg., Muskogee	
Oregon State Medical Association	Joseph A. Pettit, Portland	Raymond E. Watkins, Corbett Bldg., Portland.	Portland, June, 1921
Pennsylvania, Med. Soc. of State of	Henry D. Jump, Philadelphia	W. F. Donaldson, Jenkins Arcade, Pittsburgh	Philadelphia, Oct. 3-6, 1921
Philippine Islands Medical Assn.	Baldomero Roxas, Manila	I. Concepcion, Coll. of Med. & Surg., Manila	
Porto Rico, Med. Assn. of	I. Gonzales Martinez, San Juan	Augustin R. Laugier, San Juan	San Juan, Dec. 10-11, 1921
Rhode Island Medical Society	Jesse E. Mowry, Providence	J. W. Leech, 111 Broad St., Providence	
South Carolina Medical Association	W. P. Timmerman, Batesburg	Edgar A. Hines, Seneca	
South Dakota State Med. Assn.	H. T. Kenney, Pierre	Frederick A. Spafford, Flandreau	
Tennessee State Medical Assn.	William Britt Burns, Memphis	Olin West, 327 Seventh Ave., N., Nashville	
Texas, State Medical Association of	I. C. Chase, Ft. Worth	H. Taylor, Texas State Bk. Bldg., Fort Worth	
Utah State Medical Association	Robert Hampton, Salt Lake City.	Wm. L. Rich, Boston Bldg., Salt Lake City	S'lt L'ke C'y, Sept. 13-14, '21
Vermont State Medical Society	S. W. Hammond, Rutland	W. G. Ricker, St. Johnsbury	St. Albans, Oct. 13-14, 1921
Virginia, Medical Society of	A. L. Gray, Richmond	Mr. G. H. Winfrey, 104½ W. Grace St., Richmond	Lynchburg, October, 1921
Washington State Medical Assn.	A. E. Burns, Seattle	C. H. Thomson, 508 Cobb Bldg., Seattle	Seattle, 1921
West Virginia State Med. Assn.	J. Howard Anderson, Marytown	Robert A. Ashworth, Moundsville	
Wisconsin, State Med. Society of	M. A. McGarty, LaCrosse	Rock Sleyster, Wauwatosa	Milwaukee, Sept., 1921
Wyoming State Medical Society	H. R. Lathrop, Casper	Earl Whedon, Sheridan	Casper, 1921

List of National Societies appeared in this space two weeks ago: officers of the A. M. A. three weeks ago.

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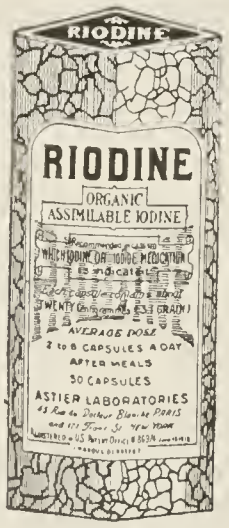
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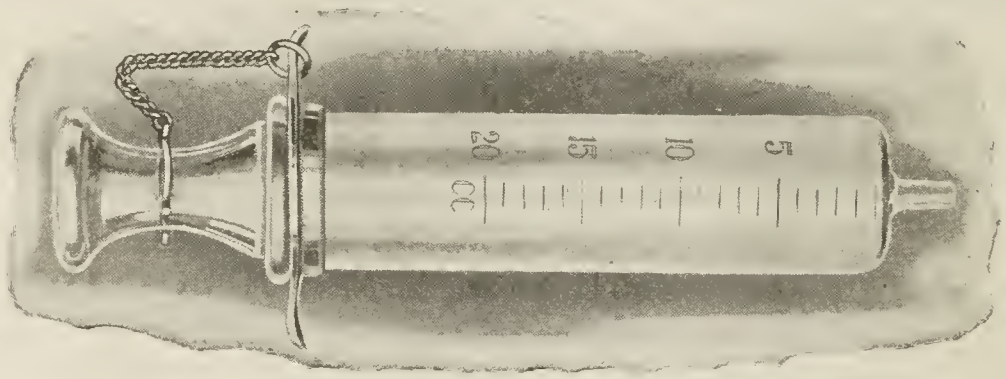
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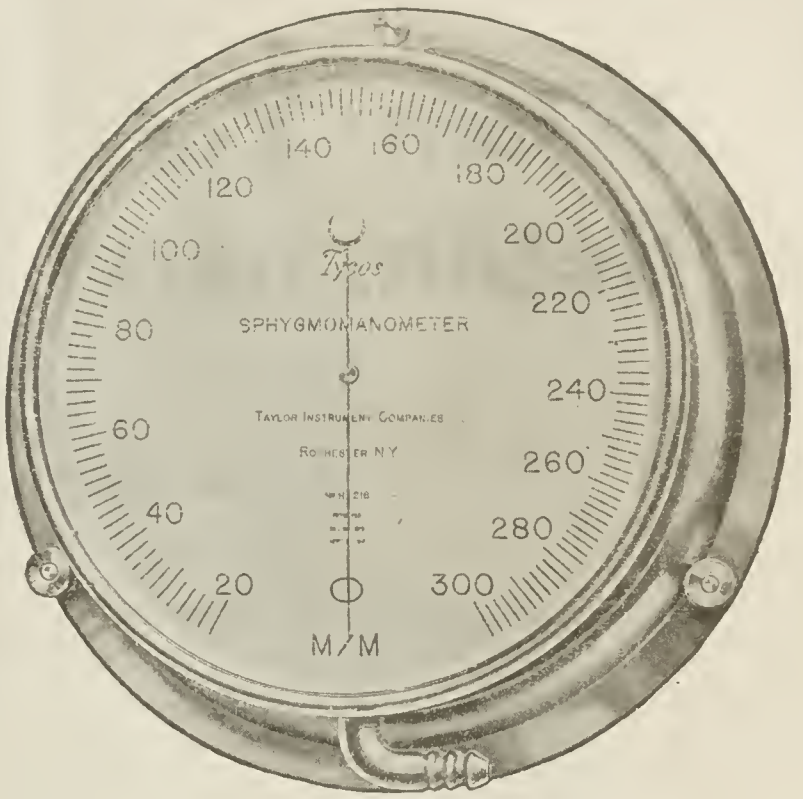
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ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the waste-basket.

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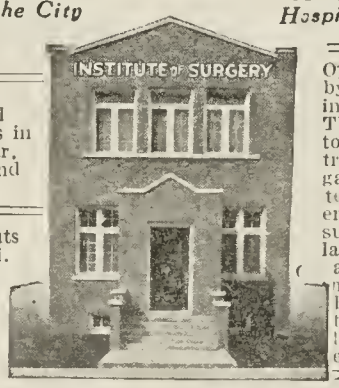
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Advertisements under the following headings cost $3 for 35 words or less; additional words 8c each. This rate applies for each insertion.

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SPECIAL NOTE.—A fee of 25c is charged advertisers who have answers sent % A.M.A. No information can be furnished on keyed advertisements. Do not wire or write us for an address; mail your letter placing key number on envelope and it will be promptly forwarded.

RESULTS are better when an advertisement receives several insertions, and to those who remit ($12.25 if answers are to be sent through this office) for four consecutive insertions of a classified advertisement we will give, *free, two more insertions* provided the first four do not consummate a deal.

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COUNTING WORDS.—Two initials, each abbreviation, figures consisting of five numerals or less are counted as separate words. Headings, and name and address are part of advertisement. When answers are sent % AMA—the key, "Add—% AMA" is considered four words. Count words carefully. Write your copy plainly.

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Classified Ads. are payable in advance. To avoid delay in publishing, remit with order

OVER 50% of the classified ads are keyed, answers being sent in care of The Journal; each week we transmit to advertisers over 500 replies.

Occasionally we receive notification from one who has answered an advertisement stating that he has had no reply and asking if his letter was transmitted. Letters sent in our care are forwarded promptly, but naturally we cannot compel an advertiser to answer all replies he receives.

It is advisable to send copies instead of original references.

For current issue, ad must reach us by 4:00 p. m. Monday.

Journal A.M.A., 535 N. Dearborn St., CHICAGO

N. B. — We exclude from our columns all known questionable ads. and appreciate notification from our readers relative to any misrepresentation. The right is reserved to reject or modify all advertising copy in conformity with the rules of the advertising committee.

APPOINTMENTS

WANTED—PROFESSOR OF ANATOMY IN A grade school of medicine. Charles Brookover, M.D., University of Louisville, Louisville, Ky. A

WANTED — PROFESSOR OF BACTERIology, Class A medical school. Add. 1455, % AMA.

ASSISTANTS WANTED

WANTED—ASSISTANT—WEST VIRGINIA general practice; no country work; $150 per month and obstetric fees; single man preferred; send full data and photo (will return) or kodak picture first letter. Add. 1591 B, % AMA.

WANTED—ASSISTANT PHYSICIAN, single, for tuberculosis sanatorium of 170 beds in the middle west; state age and experience; salary $1,500 a year and full maintenance. Add. 1462 B, % AMA.

WANTED—ASSISTANT PHYSICIAN, male (single) in 100-bed private sanatorium, mental cases; central state; permanent position; good salary and first-class maintenance; mention experience and salary expected. Add. 1588 B, % AMA.

WANTED — AN ASSISTANT PHYSICIAN at Lakeville State Sanatorium. Add. Dr. Sumner Coolidge, Supt., Middleboro, Mass. Telephone Middleboro 280. B

(Continued on page 22)



MENHI,
Form of Sekhet.

Six Good Reasons Why

OVALTINE

Rebuilds Tissue & Restores Function

1. It provides adequate utilizable energy value.

2. It contains as building elements the complete proteins, leucosin, bynedestin, caseinogen, ovalbumin, ovovitellin and lactalbumin.

3. It contains the soluble easily digested and assimilated carbohydrates, maltose and lactose.

4. Its enzymes are a powerful aid to digestion.

5. Its mineral constituents efficiently remineralize the patient.

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Samples and literature mailed upon signed request.

Indications

Convalescence, Phthisis and other wasting diseases, Malnutrition, Malassimilation, the Dyspepsias or where diet reinforcement of easy digestion and assimilation is required as in Fever, Pregnancy or Lactation.

M14

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WORKS: VILLA PARK, ILL.

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Special individual instruction for Physicians and Technicians.

We turn out accomplished workers who can do real Laboratory Work

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Special course in general surgery, operative technique and gynecologic surgery given to physicians. Enrolment limited to THREE.

First assistantship. No cadaver or dog-work

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Cystoscopy Urethroscopy

Genito-Urinary & Venereal Diseases

Dr. Leo Michel and staff will continue their classes and courses of individual instruction in these subjects at the N. Y. School of Clinical Medicine. Apply to

Dr. Leo Michel

15 Central Park West, New York City, N. Y.

A Private Post-Graduate Course

in Urology includes all modern methods of diagnosis and treatment Classes limited.

For particulars address the

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OPHTHALMOLOGY

Individual instruction in refraction, in diseases of the eye, and ophthalmoscopy clinical and theoretical, leading to proficient working knowledge in short time. University instructor of ability. *Address*

M. RANDOLPH KAHN, M.D.

1518 Eutaw Place BALTIMORE, MD.

Tonics and Sedatives

The Doctor's Lament

Last night when others were at rest
I rode about and did my best
To save some patients called by fate;
From trav'ling through the Golden Gate.
This morning when the news I spied,
I thought they might as well have died:
"Two Hundred Injured in a Wreck,"
"Man Falls, Sustains a Broken Neck,"
"Two Drown While Rocking a Canoe."
"Grade Crossing Murders Twenty-Two,"
"Five Killed by Falling Aeroplane,"
"Three Shot by Moron, Now Insane,"
"Gas Blast Takes Lives of Twenty-Three,"
"Two Die 'Neath Falling Apple Tree,"
"Six Lynched in Riot in the South,"
"A Thousand Die in Desert Drouth."
All night I toiled to save one life,
And millions die in useless strife;
What can it help to make one well,
While thousands hearken to death's knell?
What boots my little recompense?
Why can't the world have common sense?

—◈—

THE RECIPE

LADY—"You say your father was injured in an explosion? How did it happen?"

CHILD—"Well, mother says it was too much yeast, but father says it was too little sugar."—*Kasper (Stockholm).*

—◈—

A Matter of Definition

El Paso (Texas) Times

Dr. White announces that the "measure aimed at" is making a bath the prerequisite of attendance. Suitable lavatories, presided over by attendants, will be provided in the near future toward this end, he declares it is "hoped." When such is the case he expects to be able to control "pediculosis" (foot disease) more readily.

—◈—

A TERRIBLE INFANT

I recollect a nurse call'd Ann,
Who carried me about the grass,
And one fine day a fine young man
Came up, and kiss'd the pretty lass.
She did not make the least objection!
Thinks I, "Aha!
When I can talk I'll tell Mama"—
—And that's my earliest recollection.
—*Anon.*

—◈—

FOOD FOR COGITATION

An unfortunate man, possessed of a comfortable competency, evidenced various eccentricities, and so his loving relatives tenderly escorted him to a famous neurologist. The latter viewed the patient from different points of the compass, and in due course passed him on to a psychopathologist. This polysyllabic expert subjected him to an exhaustive analysis and presently shucked him off onto a psychiatrist. The latter had hardly more than begun his investigation when the patient lost the most of his money. Thereat his kin turned him loose, declaring that they had no more time to waste on a darned old crank. And he fell into the hands of a shabby plug of an unknown general practitioner, who gave him a few doses of bitter stuff and cured him for a dollar and sixty cents.—*Country Gentleman.*

—◈—

The Supply of Ham Sandwiches

Billboard Magazine

Auburn, N. Y., May 28.—Howard Giles, of Union Springs, is the possessor of a pig with six legs, four having been bestowed in back by generous Mother Nature. The pig is four months old and thriving.

(Continued on page 24)

(Continued from page 20)

WANTED—ASSISTANT PHYSICIAN, single, Michigan license, recent graduate; salary $125 a month, board and room; give full personal particulars, age, height and weight, religion, year of graduation and references. Add. 1590 B, % AMA.

WANTED—MALE AND FEMALE ASSISTANT physicians; recent graduates; experience not necessary; salary $1,200 per annum and full maintenance; excellent opportunity for advancement. Write, giving personal data, Superintendent, State Hospital, Ogdensburg, N. Y. B

WANTED—ASSISTANT MEDICAL DIRECTOR; experienced x-ray and laboratory technician for 175-bed tuberculosis sanatorium; $100 per month and maintenance; must be single and able to register in California. Add. Wm. L. Whittington, M.D., Medical Director, Weimar, Calif. B

WANTED — AT THE INDIANA STATE Soldiers' Home, first and second assistant surgeons; salary $2,000 per year and full maintenance; married men preferred; one third assistant surgeon; salary $1,500 per year and full maintenance; single man preferred; applicants must be ex-service men. Send full credentials with first letter ot Col. Gil. R. Stormont, Commandant Indiana State Soldiers' Home Lafayette, Ind. B

WANTED — ASSISTANT PHYSICIAN BY surgeon with large group practice Illinois city, 70,000; Class A graduate, willing and capable of assisting in all phases of practice; advancement with group and hospital staff appointment for right man; large amount of general and industrial surgery; full particulars and photo first letter; knowledge of Swedish desirable. Add. 1526 B, % AMA.

WANTED—ASSISTANT PHYSICIAN IN private hospital and general practice; young man of pleasing personality and appearance; good salary with bright future to one who qualifies; answer in detail with photo. Moulton Hospital, Bellevue, Iowa. B

WANTED—A YOUNG MAN, SINGLE, AS an assistant physician in a large hospital for the insane in Pennsylvania; must be a graduate of A1 medical school, have good appearance, refined, good health, of good habits and come well recommended. Add. 1434 B, % AMA.

PHYSICIANS WANTED

WANTED — WOMAN PHYSICIAN AT State Institution for Feeble-Minded of Eastern Pennsylvania; state age, college and submit references. Add. Dr. William J. Steward, Pennhurst, Pa. C

WANTED—NEW JERSEY SANATORIUM for Tuberculosis Diseases; male or female physician; for children's department and other assigned work; salary $1,200 and maintenance; give age, school, photo, first letter. Samuel B. English, Supt., Glen Gardner, N. J. C

WANTED—DOCTOR—TOWN OF 3,000 IN a splendid farming and dairying community; good location; fine opening for hospital; beautiful lake; good schools and churches. Write Commercial Club, Powers Lake, N. D. C

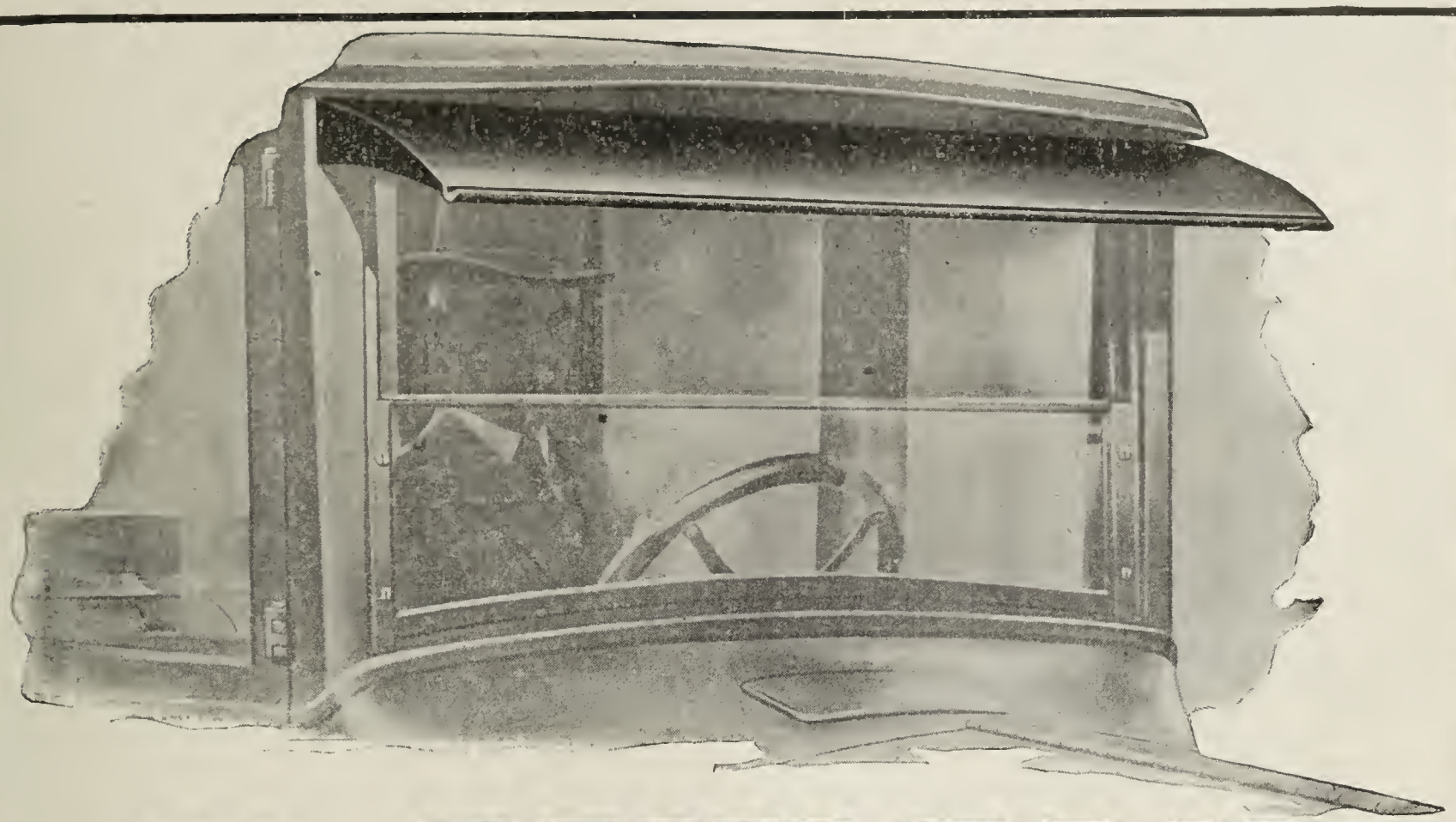
WANTED—PHYSICIAN — NOTHING TO buy; Kansas town; sponsorship of druggist; give full particulars of training, experience, references, etc.; good opportunity; county seat town; large territory. Add. 2774, % F. V. Kniest, Peters Trust Bldg., Omaha, Neb. C

WANTED—RESIDENT PHYSICIAN— HAmot Hospital, Erie, Pa., offers attractive rotative service in medicine, surgery, obstetrics, pathology and gynecology, for one year begining July 1; compensation $35 monthly and maintenance. C

WANTED—AT STATE INSTITUTION FOR Feeble-Minded of Eastern Pennsylvania, 1 male physician; splendid opportunity to become familiar with the care and training of the feeble-minded and epileptic; applicants must be single and not over 35 years of age. Apply Dr. William J. Steward, Pennhurst, Pa. C

WANTED — COMPETENT PATHOLOGIST, capable of doing section work and general routine laboratory; laboratory has been reorganized and run by competent man for past two years who is leaving to take up special work; salary and maintenance provided. Write Springfield City Hospital, Springfield, Ohio. C

(Continued on page 24)



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(By the makers of VULCAN SPRINGS)

(Type A. Fixed; for all closed cars)

The **VULCAN VIZOR** is a great comfort to the physician. It protects the eyes from glare and direct rays of the sun. It protects the shield from rain, snow and sleet. It protects direct headlight glare in night driving, so that the headlight glare nuisance is turned to an actual benefit, lighting the road for you without annoyance.

The VULCAN VIZOR is made of the very finest grade of Armco rustless, 20 gauge, cold rolled steel, and finished in a special dull satin black baked enamel. It is easily applied with five wood screws that we furnish with full instructions. It can be instantly applied to all closed models of the Allen, Briscoe, Buick, Chalmers, Chevrolet, Chandler, Cleveland, Columbia, Dodge, Dort, Essex, Ford, Grant, Hupmobile, Liberty, Maxwell, Nash, Overland, Oakland, Oldsmobile, Reo, Saxon, Studebaker, and all popular closed cars.

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If your car has sloping front or is open type, order our adjustable type, which may be instantly applied, and at same price. We recommend the fixed type for all closed models, because the vizor is beautiful and artistic in appearance, and becomes practically a part of the car. Made with rain gutter at front edge.

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MAIL COUPON TO-DAY TO OUR NEAREST OFFICE



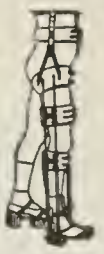
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Please send me, postage prepaid, one VULCAN Vizor for ..... car of ..... type (Open or Closed). Enclosed is remittance of $4.50. It is understood that if the visor is not entirely satisfactory in every respect within ten days' trial it may be returned at your expense, and price will be promptly refunded.

Signed.....

Address.....

DOCTOR: Write Us—

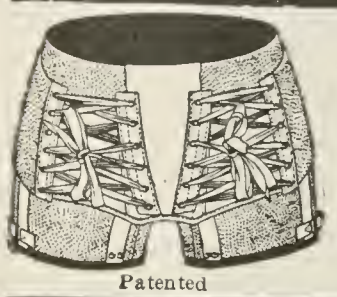


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To Order: State sex of patient; fracture; which limb; length of perineum to heel; circumference of chest; hips; and thigh at perineum. Wire and mail orders expressed on receipt, adjusted to fit, with complete directions for application.
Specify this modern splint and our patented

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They often clear up the etiology of elusive and puzzling cases of systemic disease.
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Doctor: Use the NU, clean, convenient, simple, accurate, up-to-date, time-saving Urinometer.

No separate jar required; no pouring of urine back and forth.

Simply draw specimen from bottle or any other container; read findings, and continue urinalysis by dropping onto litmus paper and conveying to test tubes for further examination, controlling flow with exactness and retaining your sense of cleanliness. It requires smallest specimen consistent with accuracy and saves disappointment when large quantity is not available. It saves time in any event, especially in ureteral catheterization. One of the greatest improvements in the urinometer for centuries.
Send your name and address today with check or money order for $3.00 and use this modern instrument.

THE NU URINOMETER CO.
Donaldson Bldg., Minneapolis, Minn.

There may be news of intimate interest to you in the Ad. Pages.

(Tonics and Sedatives continued)

THE BIG FIGHT

By Our Special Reporter

The gladiators entered the arena ten minutes before the time set for the combat. First was the celebrated Nuxated Iron Absorber and Shipbuilder, who received the plaudits of the short memoried multitude with a graceful scowl. Followed the dancing Frenchman, noted for the quietus administered to Becket and for disdaining the yellow shekels of the amusement seeking war profiteer to exhibit his prowess and spirit in the front lines. The audience greeted him with frantic shouts, inverting the famous Roman gladiators greeting: "You, who are about to die, we salute thee!" A few coarse cries of "Kick him in the slats, Frenchy," referred to the gentle Parisian sport—savait. The Frenchman kissed his hand repeatedly to the multitude, whereupon several alleged ladies in ringside seats were seen to blush through their war paint. After the usual introduction of celebrities, near celebrities, challengers, retired sea cooks, etc., the opponents retired to their respective corners. The bell rang:

Round 1.—Nuxated rushed the Frenchman who executed a neat pirouette involving a strain of the sartorius and triceps muscles. At the same moment the foreigner administered a hearty rebuke to the mediastinum of the shipbuilder. The latter delivered a short half dozen of metacarpals to the cornea of the "frog," who remarked that the aurora borealis seemed unusually brilliant this year. By a swift contraction of the biceps he extracted an upper and lower incisor from among the navigation engineer's dental furniture. The latter then called on all the nuxated reserve in his system and performed rapid petrissage, effleurage but principally tapottement in the region above the Parisian's umbilicus. The latter seemed fatigued at this amusement and endeavored to waltz, but his feet being desirous of higher things, he reclined his fatherly cranium upon the mat while the referee taught him the numbers from one to nine. At this point he arose and was successful in showing his love for the enemy by falling into a deep embrace which persisted until the gong rang for a brief interval of repose.

Round 2.—During the interval the ally took several fried snails and a dash of absinthe, whereas the steamboat decorator relied on a 79c—reduced from a dollar at any druggist—bottle of his favorite Nux. They came up smiling. The ocean going expert placed each hand forty-two times somewhere on the courageous ally's anatomy. Without even an au revoir or adieu the latter proceeded to imitate a gentleman subject to lethargic encephalitis. Whereupon the observers, frequently alluded to by the late P. T. Barnum, who had deposited from ten to fifty smackers for a place on which temporarily to repose the gluteus maximus, arose and regretfully left the arena.

—◈—

He Gets the Iron Loving Cup

Des Moines (Iowa) Register

Twenty-five operations were performed at Des Moines general hospital by Dr. S. L. Taylor, surgeon-in-chief of the Taylor clinic in surgery, X-radiance and radium, Wednesday morning, on the program of the Iowa Osteopathic convention.

Dr. Taylor holds the world's record for speed in tonsil work, having performed the operation in thirty seconds. The clinic also holds an unofficial world's record for volume of tonsil work, having taken out eighty-two pair of tonsils in one day.

—◈—

Remarkable Anomaly

Ad in Florida Times Union

SIX young Jersey cows, all have calves and Scotch collie pups. Mrs. Terry, Box 169, Route 6. Phone R-3610. 5-23

—◈—

An Unusual Dissection

Manila (P. I.) Citizen

A 13-year old boy watching a carabao between Paniqui, Tarlac, and Nampicuan, Nueva Ecija, was run over by passenger train No. 80 of the Manila Railroad Company last week. The boy was caught between the wheels of the locomotive and the rails, breaking his skull and throwing off his brain three meters away and one of his legs four yards behind.

(Continued on page 26)

(Continued from page 22)

WANTED—SENIOR RESIDENT SURGEON in 125-bed hospital, Chicago, July 1, 1921; salary $1,000 per year with maintenance; previous hospital experience required; this position offers exceptional opportunity for capable man with industry and tact; state full particulars, surgical and hospital training first letter, with reference, advising when can begin work. Add. 1586 C, % AMA.

WANTED—SUCCESSOR — ONE OF BEST towns in southern Michigan; splendid business established; one other man here; good roads; steam-heated office; wonderful location; leaving for special work; write at once if interested. Walter J. Bien, Union City, Mich. C

WANTED — PHYSICIAN EXPERIENCED pathology, Wassermann and routine laboratory; also experienced x-ray diagnostician; preference to one man doing both; unusually good opportunity; must furnish highest references. Add. Dr. Newton, % St. Francis Sanitarium, Monroe, La. C

WANTED — RESIDENT PHYSICIAN FOR 60-bed private tuberculosis sanatorium; single man preferred; must have experience in tuberculosis work; state age, health, year graduation, experience, reference and salary expected in first letter. Add. 1531 C, % AMA.

WANTED—MODERN STATE HOSPITAL, middle west, has an opening for physician capable of managing laboratory; single man; preference given ex-service man; must be graduate Class A school. Add. 1518 C, % AMA.

WANTED — A PHYSICIAN OVER MIDdle age, licensed in Iowa, Wisconsin or South Dakota; German speaking preferred; good salary, expenses and percentage guaranteed. Add. 1496 C, % AMA.

WANTED—JULY 1, 1921, MALE, SINGLE, with hospital experience, as chief resident, class A hospital, 250 beds, including contagious; Eastern city, 300,000; Board and $75 per month; full information, references first letter. Add. 1471 C, % AMA.

WANTED—WOMAN PHYSICIAN IN state hospital located in middle west; must be graduate of an accredited medical college, robust and of pleasing personality; prefer one with general hospital experience and at least one year in psychiatry; submit photograph, references and full information in first letter, stating salary expected. Add. 1535 C, % AMA.

INTERNS WANTED

WANTED—TWO INTERNS, ONE JULY 1, one September 1, to complete resident staff of 9; 200-bed charity hospital; well organized, visiting staff; record and laboratory services; unusual clinical opportunities; give school of graduation and references first letter. W. P. Morrill, M.D., Supt. Shreveport Charity Hospital, Shreveport, La. D

WANTED—INTERN IN GENERAL HOSPItal of 185 beds in Pennsylvania; service commencing August 1; recent graduate from Pennsylvania college preferred; term 12 months. Add. 1587 D, % AMA.

WANTED—INTERNS IN GENERAL HOSpital of 150 beds in large city of southwest; recent graduates desired; compensation $900 per annum with full maintenance. Apply to Superintendent with full particulars and credentials. Add. 1545 D, % AMA.

WANTED—THREE RECENT GRADUATES for internship, to begin July 1, in A1 general hospital; one year rotary service; full maintenance; bonus of $200 at completion of service. Delaware Hospital, Wilmington, Del. D

WANTED — PATHOLOGICAL INTERN— Graduate of A1 medical school, having just completed internship in Class A hospital; opportunity for recent graduate in a large hospital laboratory for period of one to two years; full maintenance and salary of $800 per year, with advancement for second year; must have practical knowledge in clinical laboratory examinations; serology, bacteriology and some chemical training. Send references, care of the Laboratory of the Hospital of the Protestant Episcopal Church in Philadelphia, Pa. D

WANTED—TWO INTERNS IN A 175-BED general medical, surgical and obstetrical hospital, near New York; active service; opportunity for advancement to resident position; salary offered; service to begin July 1; Christians preferred. Add. 1444 D, % AMA.

(Continued on page 26)

Film Efficiency

A fact—
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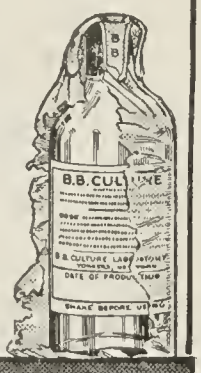
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—◈—

A Form of Diction

Note Received by a North Carolina contributor

Dear Dr. Please send me some disinfect to funeral gate the House.

—◈—

A WELCOME EDUCATIONAL INSTITUTION

CALLER—"Is Miss Jones in?"
SERVANT—"No, madam."
CALLER (surprised)—"Where is she?"
SERVANT—"Don't you know, mum? Miss Jones is going to be married, and she goes to the college every afternoon to take lessons in domestic silence."—*Financial News.*

—◈—

JUVENILE LOGIC

Tommy—What does LL.D. after a man's name mean?

Jimmy—I guess it means that he's a lung and liver doctor.—Boston *Transcript.*

—◈—

SAYS PASSING SHOW

Two ancient coins were found clasped in the hand of a skeleton unearthed during excavations in London. It is thought to be the remains of the first Scotsman to visit the metropolis.—*The Passing Show* (London).

—◈—

THE LIMIT

There are still conscientious folk about who carry conviction into the slightest detail.

A London bookseller had a letter from one of them recently, ordering a copy of Tennyson's poems, with the postscript, "Please do not send me one bound in calf, as I am a vegetarian."—*Tit-Bits.*

—◈—

The Newer Anatomy

Syndicated article by Dempsey in New York American

The head rests on the spinal column, which consists of twenty-six joints. Down through the spine runs the spinal column, a bunch of nerves and blood vessels leading to the brain. The spinal column might be called a prolongation of the brain.

—◈—

EIGHT PHYSICIANS VERSUS EIGHT BULLETS

In describing the scene at the bedside of Johann Peter Frank, as the famous founder of social hygiene was drawing his last breath, his biographer, Doll, relates that Frank looked up into the faces of the eight physicians who were standing about and said with some sarcasm: "Now I can understand the feelings of the grenadier, at the battle of Waterloo, who, when pierced by eight bullets, cried, 'Sapristi! Now I know how many bullets it takes to kill a grenadier.' "

—◈—

Definitions

165. ICTHYOL.—*Showing the value of a dark smear therapeutically.*

167. IDIOPATHIC.—*A doctor in the dark on a matter of etiology.*

168. ILEUS.—*Cramps.*

(Continued from page 24)

NURSES WANTED

WANTED—NURSE — SMALL HOSPITAL, located in high, healthy Wyoming town; wants to communicate with middle-aged graduate nurse, surgically trained, who could act as superintendent and be contented in west. Add. 1594 T. % AMA.

WANTED—RESIDENT NURSE—MUST BE a graduate and capable of supervising a 50-bed hospital in connection with a home for feebleminded; salary $1,200 per year with maintenance; answer in detail and submit photo. Add. Superintendent, Box 340, Chippewa Falls, Wis. T

WANTED—ONE OR TWO GRADUATE nurses for tuberculosis work with city health department; nurses with experience preferred; salary $1,500 per year. Add. with full particulars, Dr. R. L. Carlton, City Health Officer, Winston-Salem, N. C. T

SUPERINTENDENTS OF NURSES, ASSISTant superintendents, surgical, general duty nurses, supervisors, dietitians, etc., send for free book if interested in a hospital position anywhere. Aznoe's Central Registry for Nurses, 30 N. Michigan Ave., Chicago. T

X-RAY TECHNICIAN WANTED

WANTED — MALE X-RAY TECHNICIAN who understands routine x-ray work; state education, experience and salary wanted in first letter; midwest city. Add. 1530, % AMA.

LAB. TECHNICIAN WANTED

WANTED—A TECHNICIAN TO DO GENeral laboratory work in clinical pathology and bacteriology. Add. 1576 V, % AMA.

WANTED — LABORATORY TECHNICIAN who is capable of taking charge of a public health laboratory in a city of 50,000; must be available immediately; references required. Add. J. A. Thrash, M.D., Health Officer, Columbus, Ga. V

WANTED — LABORATORY TECHNICIAN familiar with chemical and bacteriological work of blood, stomach contents, urine and stools, especially experienced in serology; Chicago physician's down-town office; good salary; write full details. Add. 1583 V, % AMA.

WANTED — X-RAY AND LABORATORY technician; efficient, reliable; in a 45-bed hospital; state age, experience and salary desired. Lincoln Hospital, Rochelle, Ill. Dr. A. W. Chandler, Prop. V

WANTED — LABORATORY AND X-RAY assistant; woman preferred, to assist in clinical laboratory and x-ray work; experience not necessary; applicant must be energetic and ambitious to learn. Add. 1538 V, % AMA.

PARTNERS WANTED

WANTED—PARTNER ASSISTANT—WILL take a young man with Pennsylvania license as partner assistant on a 50-50 per cent. basis; no investment required; partner to look after work for 18 months while I do P. G. work; at the end of that time will turn everything over to him, including equipment, household goods and some real estate; state age, religion, and whether married or single. Add. 1592 G, % AMA.

WANTED — EYE, EAR, NOSE AND throat specialist; hospiatl connections and private office; guarantee of approximately $500 monthly; can make more; small investment necessary. Add. 1593 G, % AMA.

WANTED—PARTNER — HALF INTEREST in sanatorium for nervous and mental diseases; established 1910; ideal location; growing business; income last year $28,000; price, $20,000; will bear closest investigation; don't write unless you mean business and have the money. Add. 1523 G, % AMA.

WANTED — PARTNER, MINNESOTA— Young energetic doctor to take one-third interest in private hospital and practice, established 18 years, doing $16,000 to $18,000 cash yearly; must have $4,000 cash and be well recommended. Add. 1493 G, % AMA.

PARTNERSHIP WANTED

WANTED—OPPORTUNITY TO SPECIALize in urology by successful general medical and surgical practitioner; aged 33; Mason; good personality and energetic; 1913 graduate A plus school; 3 years' hospital service; references. Add. 1599 H, % AMA.

WANTED—PARTNERSHIP OR ASSOCIATION with internist or group by experienced surgeon; graduate of Class A school; 4 years' service as intern and resident surgeon in large Chicago hospital; 3 years' assistantship to surgeon of international fame; 2 years' army service; 1 year in France; aged 38 and single. Add. 1497 H, % AMA.

SITUATIONS WANTED

WANTED — SUPERINTENDENCY OR ASSOCIATE medical director for tuberculosis sanatorium by physician with 6 years' experience; graduate Class A school; aged 30; best of references and good health. Add. 1373 I, % AMA.

WANTED — POSITION AS AN X-RAY technician by a young man with experience and references. Add. 1515 I, % AMA.

WANTED—WOMAN PHYSICIAN DESIRES position in or near New York City, full or part time, in locum tenens, industrial, institutional or editorial work, or salaried clinic in internal medicine; university graduate; hospital and industrial experience; registered in New York; will consider temporary appointment for summer. Add. 1575 I, % AMA.

WANTED — LOCUM TENENS POSITION for 1 or 2 months while you take a vacation; reference furnished; West Virginia and Virginia license; will go anywhere; if in Indiana would buy practice. Add. 1574 I, % AMA.

WANTED—LABORATORY POSITION BY a woman physician; graduate of Class A medical school; well trained in clinical pathology, serology, bacteriology and tissue examinations; prefers location in Michigan or Illinois. Add. 1573 I, % AMA.

WANTED—BY WOMAN TECHNICIAN OF business ability, personality and refinement, position in hospital laboratory or with group of doctors; 4 years' experience in private laboratories, clinic, hospital and army; prepared to do routine examinations of blood, urine, gastric contents, sputum, feces, spinal fluids, exudates, general bacteriology, Wassermanns and blood chemistry; services available August or September. Add. 1570 I, % AMA.

WANTED—PATHOLOGIST — A1 REFERences; 12 years' specific experience in postmortem, tissue and bacteriologic work in New York and foreign institutions; desires position with large, well-endowed hospital or college. Add. 1564 I, % AMA.

WANTED — ASSISTANTSHIP TO SURgeon by experienced physician, hospital trained, Class A; capable, congenial and worker; remuneration secondary; good surgical training main object; guarantee satisfaction; highest credentials; explain proposition fully, immediately. Add. 1598 I, % AMA.

WANTED—POSITION AS PATHOLOGIST —Nine years' experience; expert in bacteriology, serology, clinical diagnosis, physiological chemistry; competent to perform all laboratory examinations, including x-ray; available immediately. Add. 1589 I, % AMA.

WANTED—POSITION DESIRED AS LOcum tenens; recent graduate University Nebraska; unmarried; excellent references; aged 27. Add. 2781, % F. V. Kniest, Peters Trust Bldg., Omaha, Neb. I

WANTED — WOMAN PHYSICIAN DEsires position in St. Louis or would travel with invalid or children; 6 years' general practice; 1 year's special pediatrics; commercial, industrial or institutional work considered; references exchanged. Add. 1581 I, % AMA.

WANTED — POSITION AS RESIDENT physician in private tuberculosis sanatorium; an A.B.; graduate Class A medical college; 1 year internship; 4 years' sanatorium experience, including x-ray and routine laboratory work; at present assistant physician in sanatorium; single; aged 30; good health; Protestant; references furnished. Add. 1580 I, % AMA.

WANTED—POSITION FOR SUMMER IN hospital, laboratory or private practice; 25 years, single, Mason; A.B., A.M., Brown University; M.D., Harvard University, 1921; can go to any locality. Add. 1579 I, % AMA.

WANTED—POSITION AS ASSISTANT OR partner in west; aged 30, married; graduate 1914; 2½ years' hospital internship; same number army; two years' general practice. Add. 1577 I, % AMA.

(Continued on next page)

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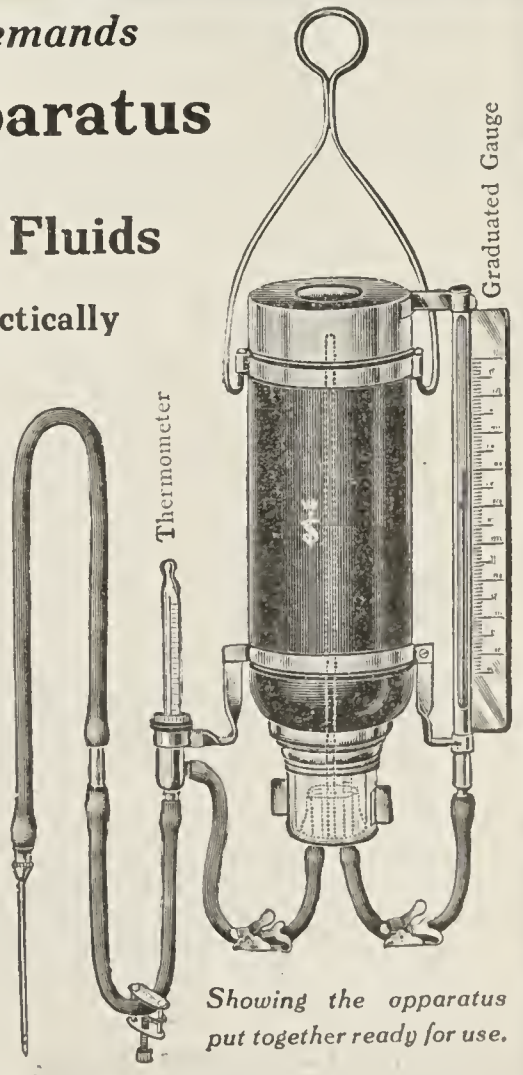
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Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

DISEASES OF CHILDREN FOR NURSES INCLUDING INFANT FEEDING, THERAPEUTIC MEASURES EMPLOYED IN CHILDHOOD, TREATMENT FOR EMERGENCIES, PROPHYLAXIS, HYGIENE, AND NURSING. By Robert S. McCombs, M.D., Instructor of Nurses at the Children's Hospital of Philadelphia. Fourth edition. Cloth. Price, $3 net. Pp. 538, with illustrations. Philadelphia: W. B. Saunders Company, 1921.

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians, and Health-Officers. By D. H. Bergey, A.M., M.D., Dr. P.H., Assistant Professor of Hygiene and Bacteriology, University of Pennsylvania. Seventh edition. Cloth. Price, $5.50 net. Pp. 556, with 63 illustrations. Philadelphia: W. B. Saunders Company, 1921.

A PRIMER FOR DIABETIC PATIENTS. A Brief Outline of the Principles of Diabetic Treatment, Sample Menus, Recipes and Food Tables. By Russell M. Wilder, Ph.D., M.D., Mary A. Foley, and Daisy Ellithorpe, Dietitians, the Mayo Clinic. Cloth. Price, $1.50 net. Pp. 76, with 2 illustrations. Philadelphia: W. B. Saunders Company, 1921.

MEDICAL ELECTRICTIY, RÖENTGEN RAYS AND RADIUM WITH A PRACTICAL CHAPTER ON PHOTOTHERAPY. By Sinclair Tousey, A.M., M.D., Consulting Physician to St. Bartholomew's Clinic, New York City. Third edition. Cloth. Price, $10 net. Pp. 1337, with 876 illustrations. Philadelphia: W. B. Saunders Company, 1921.

A COMPEND OF DISEASES OF THE SKIN. By J. Frank Schamberg, A.B., M.D., Professor of Dermatology, Graduate School of Medicine, University of Pennsylvania. Sixth edition. Cloth. Price, $2 net. Pp. 314, with 119 illustrations. Philadelphia: P. Blakiston's Son & Co., 1921.

EXTRA PHARMACOPOEIA OF MARTINDALE AND WESTCOTT. Revised by W. Harrison Martindale, Ph.D., F.C.S., and W. Wynn Westcott, M.B., D.P.H. Seventeenth edition. Volume II. Cloth. Price, 17 shillings, 6 pence, net. Pp. 688. London: H. K. Lewis & Co., 1921.

OPERATIVE SURGERY FOR STUDENTS AND PRACTITIONERS. By John J. McGrath, M.D., F.A.C.S., Professor of Surgery, Fordham University. Sixth edition. Cloth. Price, $8 net. Pp. 863, with 369 illustrations. Philadelphia: F. A. Davis Company, 1921.

NURSES' MANUAL OF THE SKIN IN HEALTH AND DISEASE. By L. Duncan Bulkley, A.M., M.D., Senior Physician to the New York Skin and Cancer Hospital. Cloth. Price, $2.25 net. Pp. 179, with illustrations. Philadelphia: W. B. Saunders Company, 1921.

THE TECHNIQUE OF PSYCHOANALYSIS. By Smith Ely Jelliffe, M.D., Ph.D. Nervous and Mental Disease Monograph Series No. 26. Second edition. Paper. Price, $2.50. Pp. 171. New York: Nervous and Mental Disease Publishing Company, 1920.

THE PRINCIPLES OF THERAPEUTICS. By Oliver T. Osborne, M.A., M.D., Professor of Therapeutics, Department of Medicine, Yale University. Cloth. Price, $7 net. Pp. 881. Philadelphia: W. B. Saunders Company, 1921.

L'ÉPREUVE DE LA PHÉNOLSULFONEPHTALÉINE CHEZ LES CARDIAQUES ET LES CARDIO-RÉNAUX. By Docteur C. Maroulis, de la FACULTÉ de Médecine de Paris. Paper. Pp. 83. Paris: Librairie le François, 1921.

THE HEART: OLD AND NEW VIEWS. By H. L. Flint, M.D., Physician to the Mansfield Hospital. Cloth. Price, 15 shillings net. Pp. 177, with illustrations. London: H. K. Lewis & Co. Ltd., 1921.

NEW JERSEY PHARMACEUTICAL ASSOCIATION. Proceedings of the Fifteenth Annual Session, 1920. Paper.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY FOR THE YEAR 1920. Volume 45. Cloth.

(*Continued from preceding page*)

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WANTED—POSITION BY WOMAN PHYsician (Protestant) in hospital for the insane, state or private; 4 years' experience in psychiatry; qualified in anesthetics; experienced in teaching nurses; can furnish highest recommendations. Add. 1551 I, % AMA.

WANTED—SITUATION — AGED 28, UNmarried, American, graduate Rush Medical College; also consider partnership or practice; registered Michigan and Illinois and reciprocating states. Add. 2761, % F. V. Kniest, Peters Trust Bldg., Omaha, Neb. I

WANTED — POSITION DESIRED—MARred; no children; aged 32; speak English and four or five modern languages; thoroughly experienced in internal medicine, psychiatry and institutional work; executive ability; highly recommended. Add. 2792, % F. V. Kniest, Peters Trust Bldg., Omaha, Neb. I

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WANTED — LOCATION IN NORTHERN or central Illinois in small town of 1,000 or so; am well qualified; will pay reasonable price. Add. 1520 E, % AMA.

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(*Continued on page 30*)



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(*Continued from page 28*)

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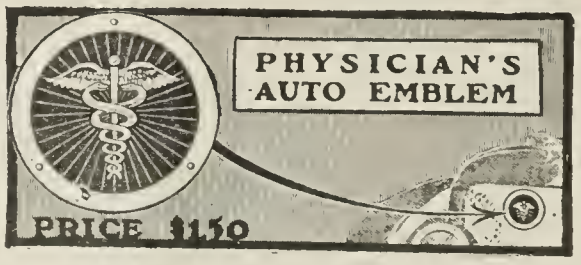
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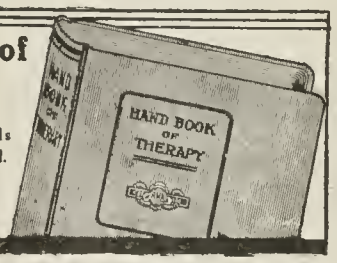
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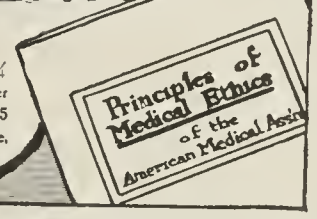
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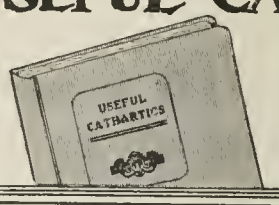
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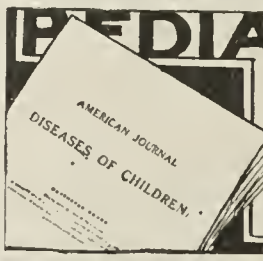
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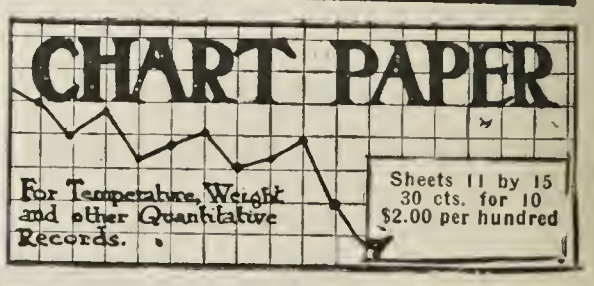
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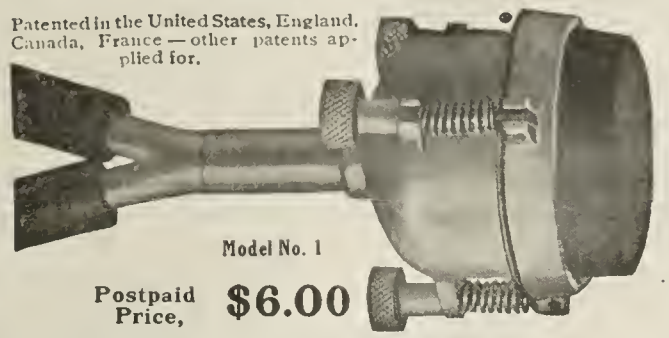
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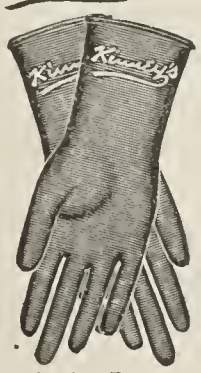
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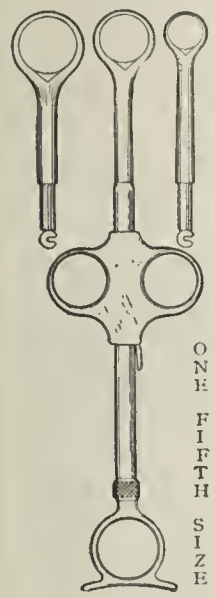
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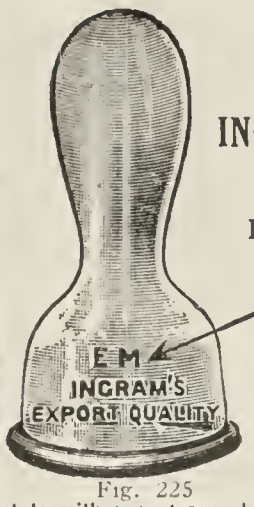


Fig. 225

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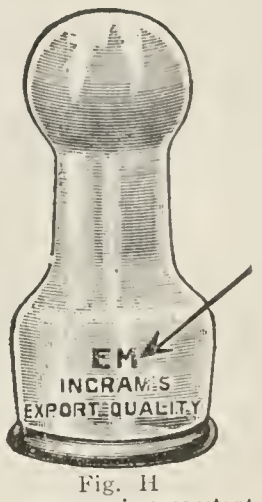


Fig. H

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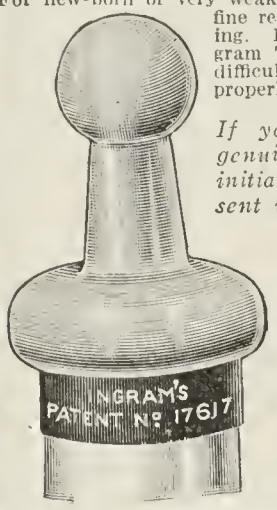


Fig. HB

ERNEST MONNIER

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Fig. 225 B



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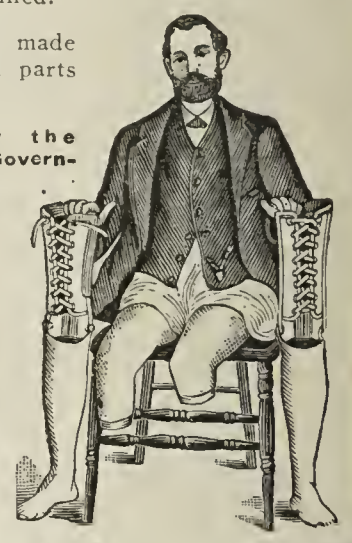


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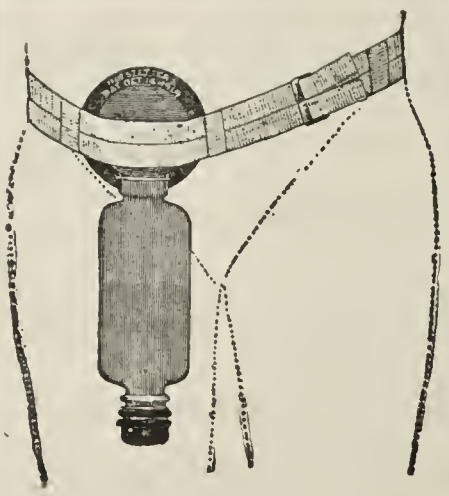
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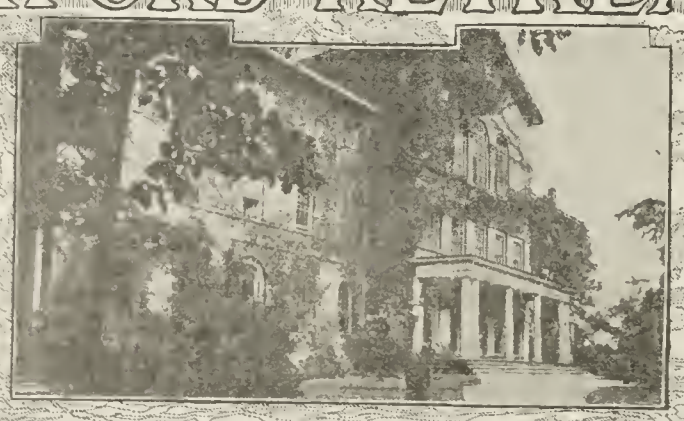
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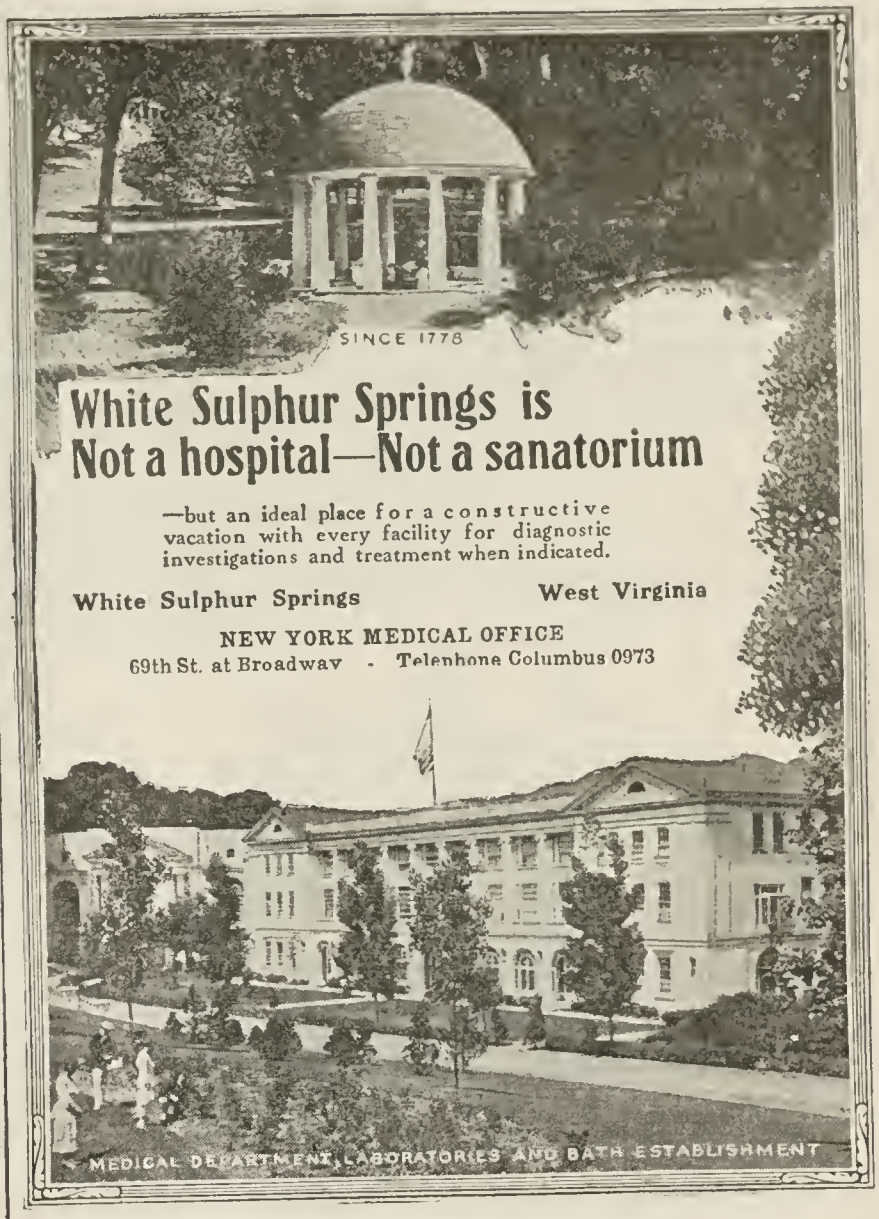


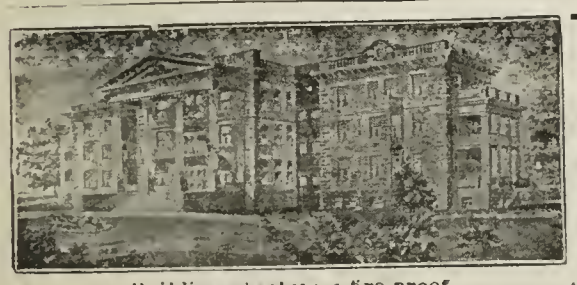
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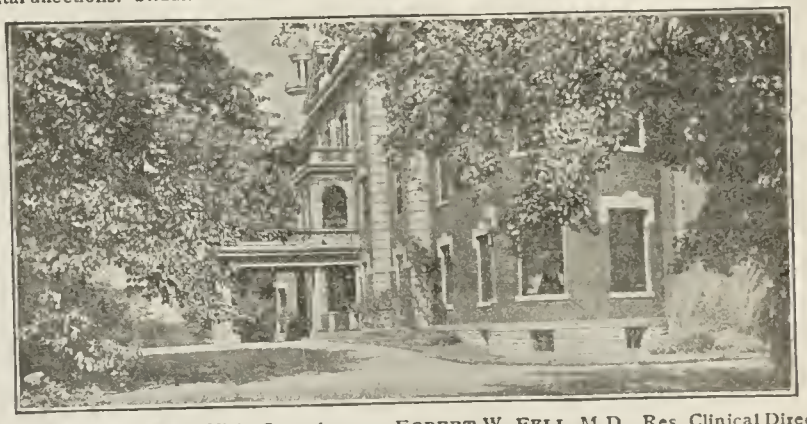
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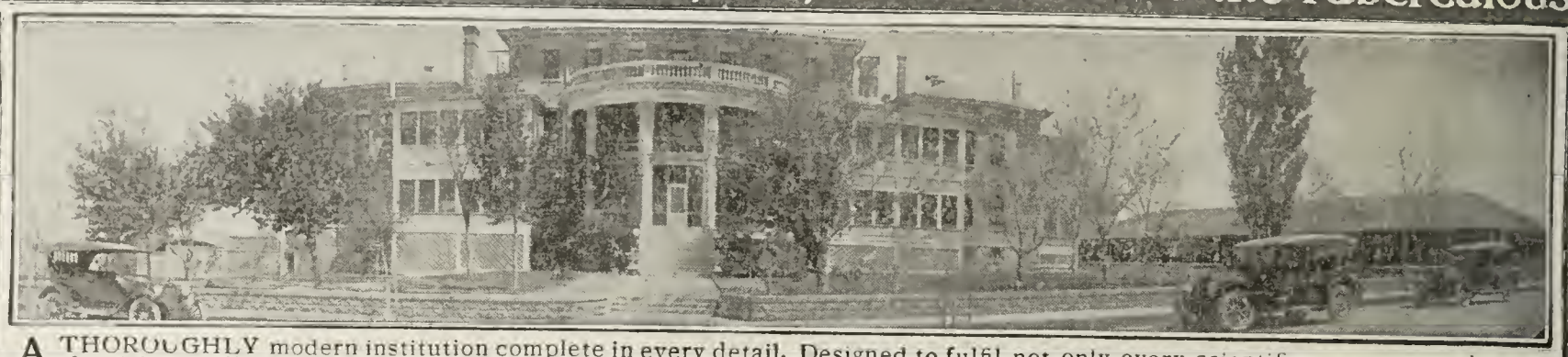
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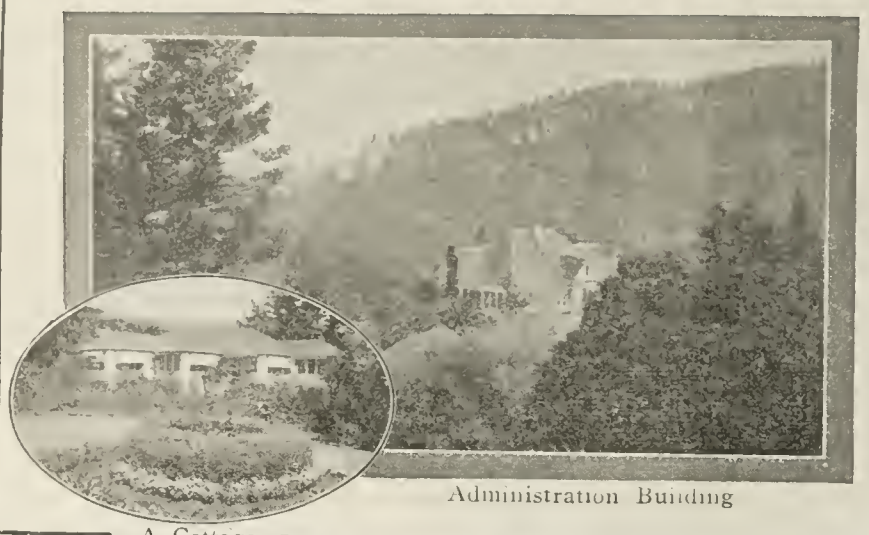
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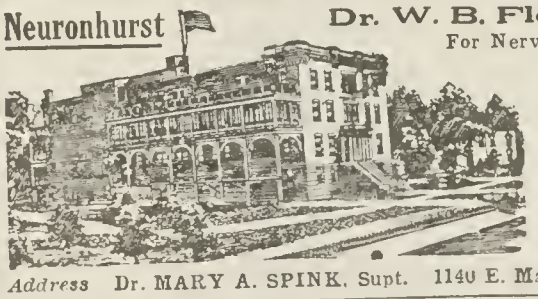
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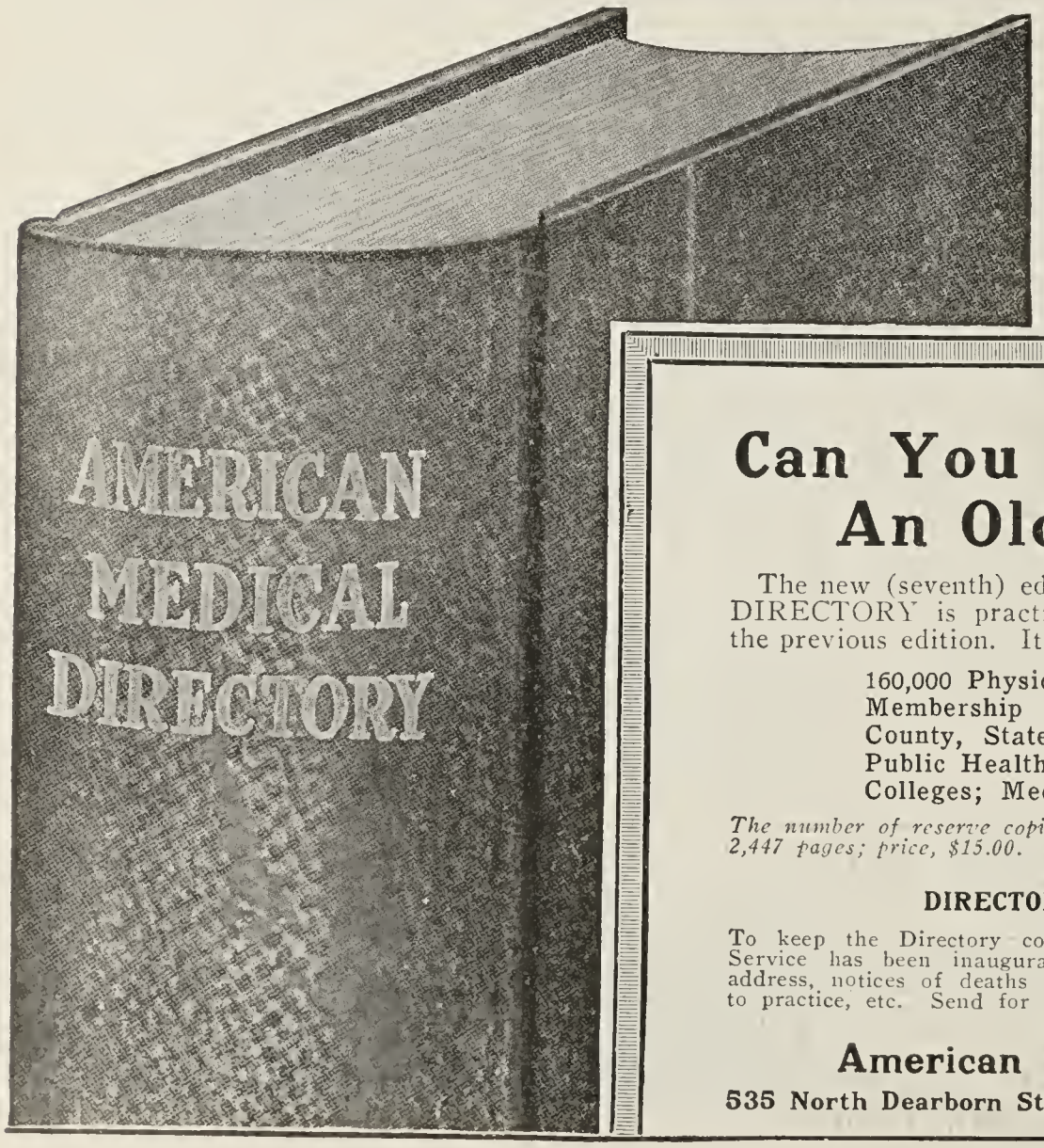
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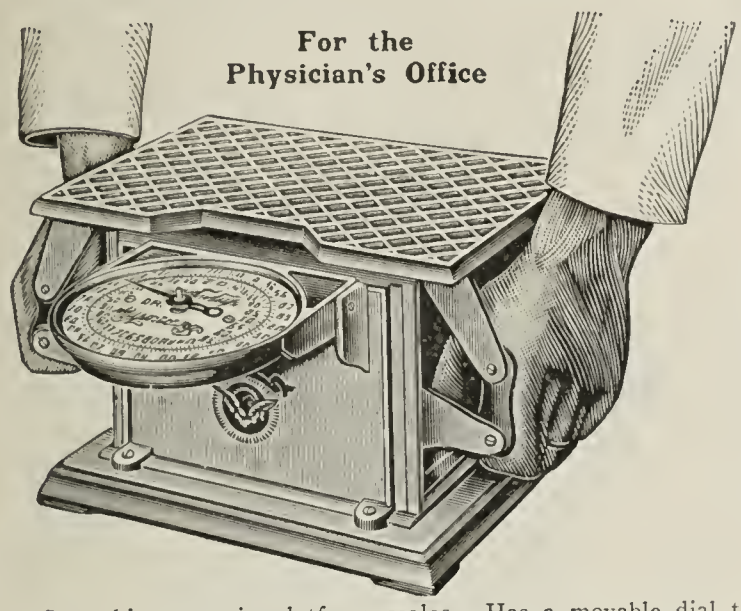
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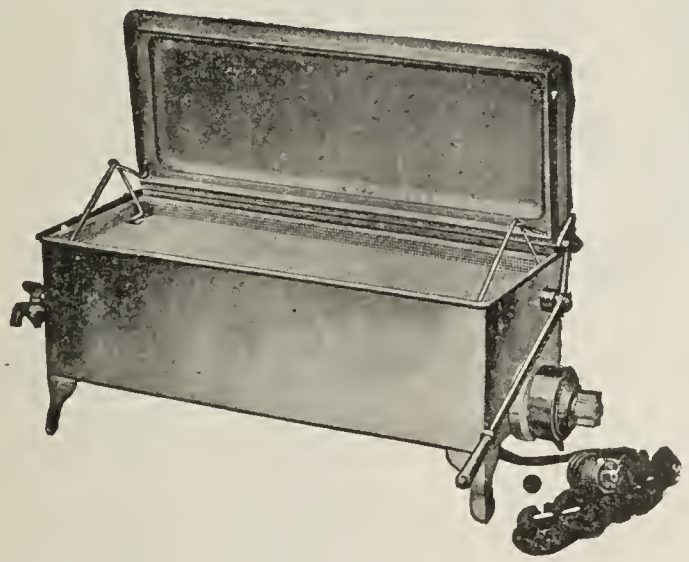
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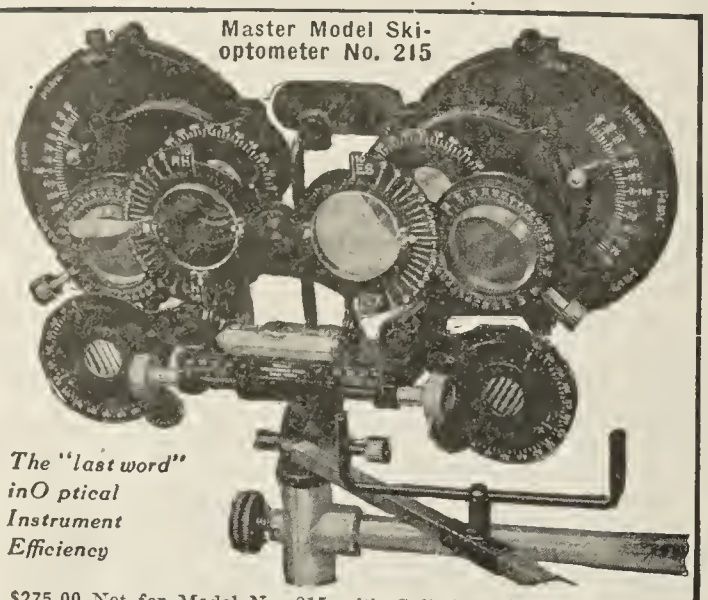
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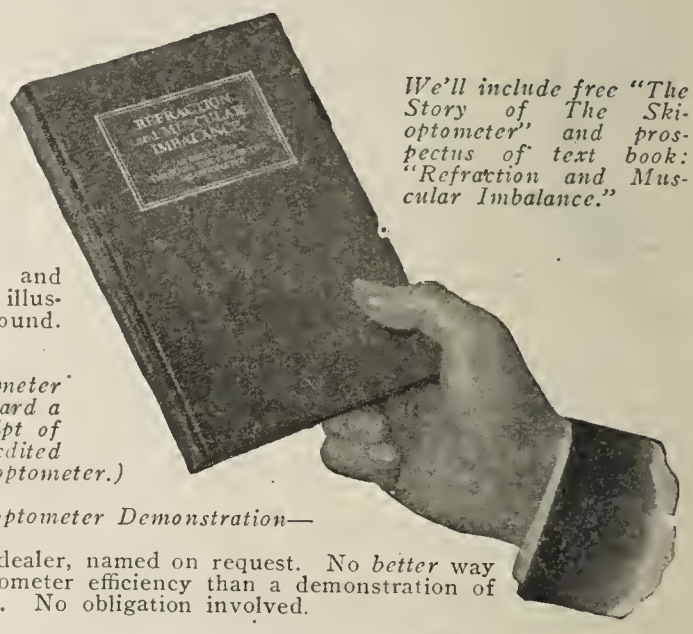


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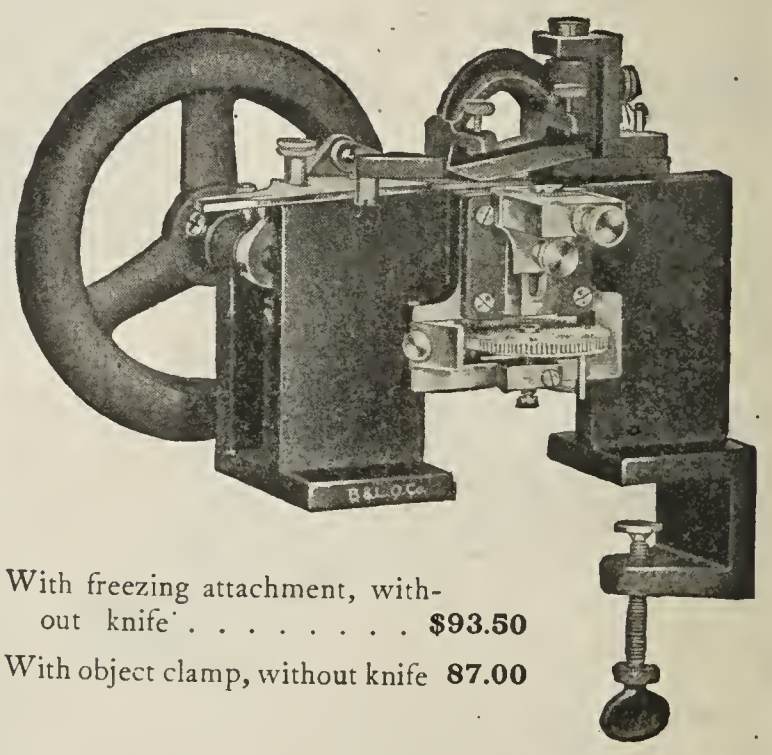
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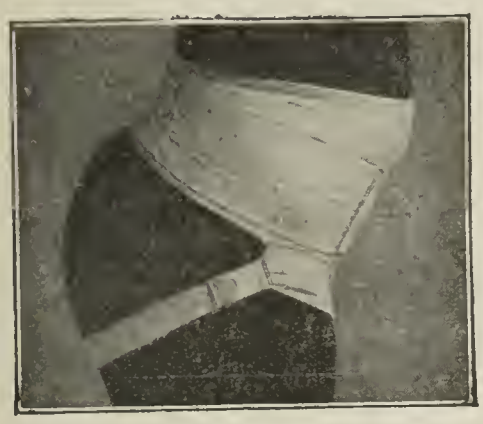
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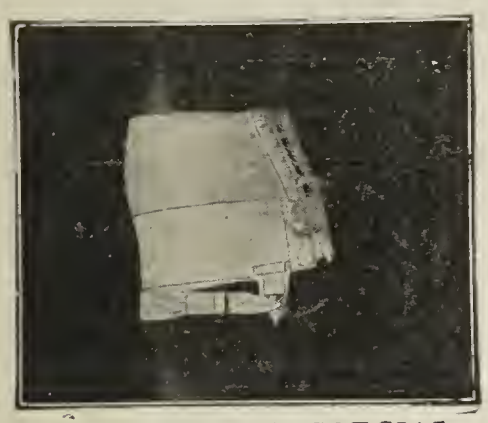
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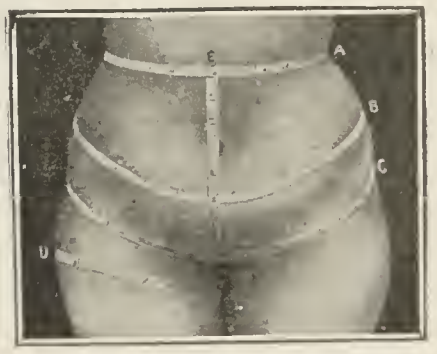
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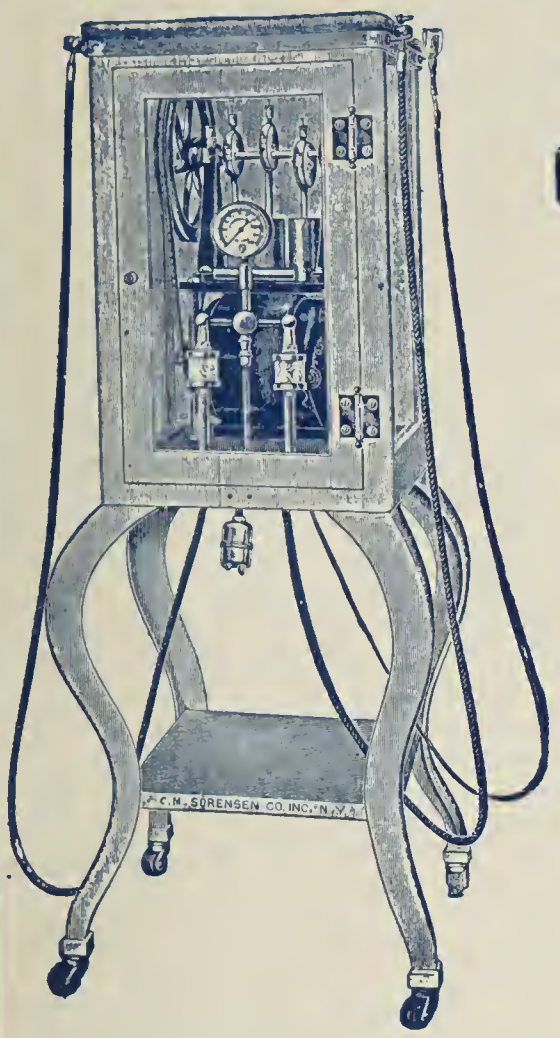
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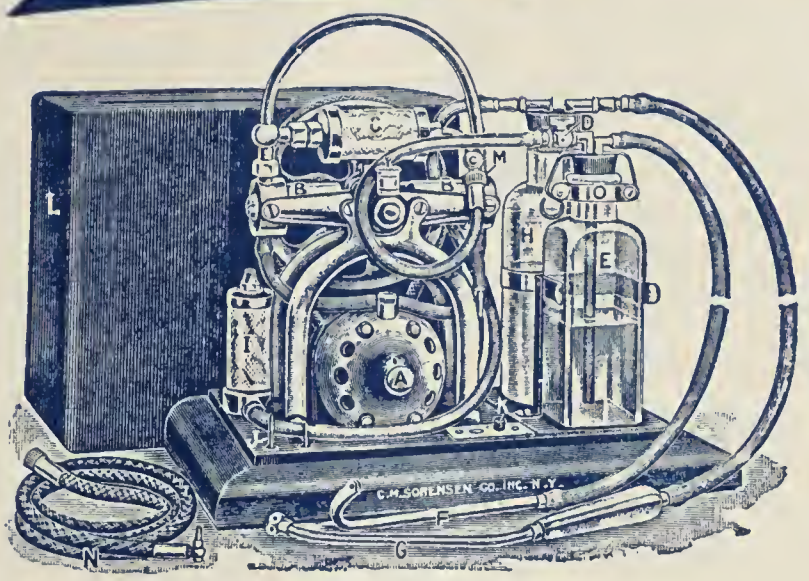


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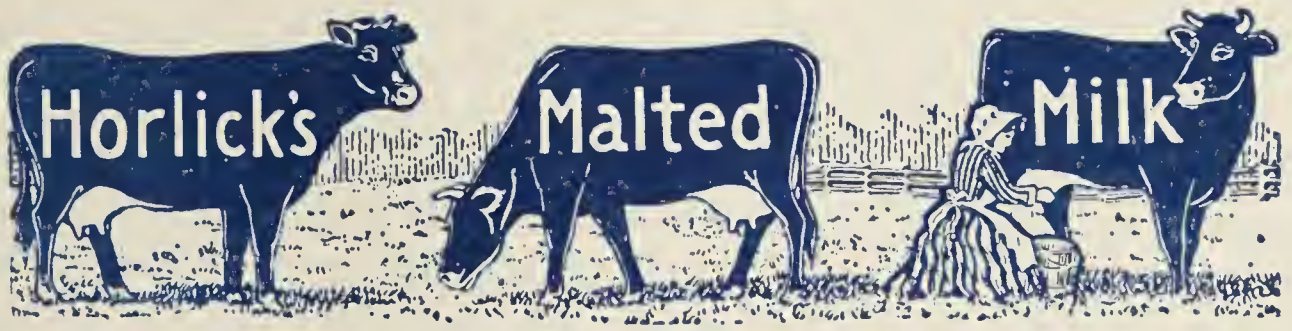
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